CRWMS/M&O

Design Analysis Cover Sheet

Complete only applicable items.

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2. DESIGN ANALYSIS TITLE			
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2. DESIGN ANALYSIS TITLE

Thermal Evaluation of the Conceptual 12 PWR Uncanistered Fuel (UCF) Tube Basket Design Disposal Container

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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 12 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 WP do not preclude UCF WP 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 applies to this analysis. The work reported in this document is part of the thermal analysis for the License Application Design phase. This activity can affect the proper functioning of the Mined Geologic Disposal System (MGDS) waste package; the waste package has been identified as an MGDS Q-List item important to safety and waste isolation (pp. 5.16, Ref. 5.4). The waste package is on the Q-List by direct inclusion by the Department of Energy (DOE), without conducting a QAP-2-3 evaluation. The work performed for this analysis is covered by a Waste Package Development (WPD) QAP-2-0 work control Activity Evaluation entitled "Perform Criticality, Thermal, Structural, and Shielding Analyses" (Ref. 5.2). The QAP-2-0 evaluation determined that such activities are subject to Quality Assurance Requirements and Description (QARD) (Ref. 5.3) controls. Applicable procedural controls are listed in the evaluation.

All design inputs which are identified in this document are for preliminary design and shall be treated as unqualified data; some or all of these design inputs will require subsequent qualification (or superseding inputs) as the waste package design proceeds. This document will not directly support any construction, fabrication, or procurement activity and therefore is not required to be procedurally controlled as TBV. However, use of any data from this analysis for input into documents supporting construction, fabrication, or procurement is required to be controlled as TBV in accordance with the appropriated procedures.

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 PWR Effective Thermal Conductivity Analysis (used in Ref. 5.11) 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 WP 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 (p. 2A-7, Ref. 5.12 and p. 26, Ref. 5.39) and the SNF effective thermal conductivity calculations (used in Ref. 5.11). 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 which are identified in this document are for preliminary design and shall be treated as unqualified data; some or all of these design inputs will require subsequent qualification (or superseding inputs) as the waste package design proceeds. This document will not directly support any construction, fabrication, or procurement activity and therefore is not required to be procedurally controlled as TBV. However, use of any data from this analysis for input into documents supporting construction, fabrication, or procurement is required to be controlled as TBV in accordance with the appropriated 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.

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

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

(Equation 4.1-1)

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 * 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 was 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 ·°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 system (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 (section 4.2.2) 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

- 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 EBD RD 3.7.G.2, p. 6-61, Ref. 5.7)
- Keep the emplacement drift wall temperature less than 200°C. (CDA EBD RD 3.7.G.2, p. 6-61, Ref. 5.7)
- Limit the TSw3 (basal vitrophyre) maximum temperature to less than 115°C. (CDA EBD RD 3.7.G.3, p. 6-62, Ref. 5.7)
- Limit the maximum ground surface temperature change in the vicinity of the repository to less than 2°C. (CDA EBD RD 3.7.G.4, p. 6-63, Ref. 5.7)
- Limit the emplacement drift maximum temperature for borehole emplacement to less than 100°C. (CDA EBD RD 3.7.G.5, p. 6-64, Ref. 5.7)
- Limit the access drift wall rock maximum temperature to less than 50°C during preclosure. (CDA EBD RD 3.7.G.6, p. 6-65, Ref. 5.7)
- Limit the CHn maximum temperature to less than 115°C. (CDA DCSS 025, p. 6-138, Ref. 5.7)
- Limit the PTn (Upper Paint Brush non-welded) maximum temperature to less than 115°C. (CDA DCSS 031, p. 6-143, Ref. 5.7)
- Limit the SNF cladding maximum temperature to less than 350°C. (CDA DCWP 001, p. 6-147, Ref. 5.7)
- Limit the high-level waste glass maximum temperature to less than 500°C. (CDA DCWP 002, p. 6-148, 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 EB-DRD 3.7.1.1.E, p. 23, Ref. 5.33)
- 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 include the range of thermal loadings (80 - 100 MTU/acre) given in the CDA (Key 019, p. 6-22, Ref. 5.7). System Engineering (p. 2, Ref. 5.23) recommended

thermal loadings of 25 and 83 MTU/acre be used for M&O design analysis in order to facilitate the comparison analysis results and 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 MPC WP 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 5.28 (Table 11, page 32) determined the thermal design basis PWR 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 page 2A-7 of reference 5.12, 0.464 MTU/assembly and an active fuel length of 141.8 inches were selected to conservatively bound the PWR assembly types given the wide variety of uranium loading configurations. This assumption is used throughout Section 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. This assumption is used throughout Sections 6 and 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 which are used in reference 5.11 (Attachment VII) 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 is 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 used in reference 5.11 is expected to predict the PWR SNF cladding temperatures with the same accuracy for any PWR assembly type. Also, the use of data in reference 5.11 requires 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 5.11 data in a consistent manner. This assumption is used throughout Section 7.

- 4.3.7 The UCF WP 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 engineering judgement 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 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 WP 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 DCWP 003, page 6- of reference 5.7. This assumption is used throughout Section 7.

- 4.3.13 The UCF WP 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 WP is assumed to use the same evacuation / backfilling operation as the MPC WP 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 convective 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 6-29, 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, 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 WP 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. The UCF WP will not have a third shell like the MPC WP design (Ref. 5.8). This assumption is used throughout Section 7.

4.3.21 Modeling the UCF WP 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 WP 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. Neglecting the gaps will result in an under-prediction of basket temperatures. However, the use of aluminum-boron thermal conductivities will mitigate the affects of this assumption. Reference 5.22, page 50, 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 assumptions 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 WP 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 WP 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 WP 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 WP 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 WP 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 WP 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 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 WP 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 value used for SNF density is $0.396004 \times 10^4 \text{ kg/m}^3$. The density value was determined using the PWR assembly mass from Table 5.1.1.2.1-2 on page 27 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 8.52 inches (0.216 m, pitch of 0.568 inches times 15 rods) 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 = $0.396004 \times 10^4 \text{ kg/m}^3$. 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 value used for SNF specific heat is 274.0 J/kg·K. The specific value was determined using: 1) the PWR assembly mass from Table 5.1.1.2.1-2 on page 27 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 J/kg·K (100°C) and Zirc2 of 330.0 J/kg·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 (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. mass $\text{UO}_2 = \text{mass U} \times (\text{atomic wt U} + 2 \cdot \text{atomic wt of O}^{16}) / \text{atomic wt of U} = 526.376 \text{ kg}$). 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: SNF $C_p = 274.0 \text{ J/kg·K}$. The

value used in each of the ANSYS input decks provided in Attachments XII through XVI is 274,0 J/kg-K. This assumption is used throughout Section 7.

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

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- 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, 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 02, 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.
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- 5.16 Introduction to Heat Transfer, F. P. Incropera and D. P. DeWitt, John Wiley & Sons Inc., 1985.
- 5.17 Marks' Standard Handbook for Mechanical Engineers, 9th Edition, E. A. Avallone, T. Baumeister, McGraw-Hill Book Co., 1987.
- 5.18 Metals Handbook, 8th Edition, Volume 1, Properties and Selection of Metals, American Society for Metals, 1961.
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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 Wooton-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 an 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. 6-147, 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 as presented 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. 6-22, 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/m^2), 83 MTU/acre (20.5 kg U/m^2), and 25 MTU/acre (6.2 kg U/m^2) 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. Small Waste Package Thermal Loading Scenarios
(From Table 7.5-2 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	9.237 m	22.5 m
83 (high #2)	94.4	11.129 m	22.5 m
25 (low #1)	28.4	18.475 m	45.0 m
25 (low #2)	28.4	12.317 m	67.5 m
25 (low #3)	28.4	9.237 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 of 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 the 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 5.28.

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 large waste packages, is a temperature of no more than 350°C at the SNF cladding. Several different design basis SNF types have been

used by the M&O 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 the assembly areas 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 Design Bases SNF

Organization	SNF Type	SNF Age	SNF Burnup	Initial Heat
MGDS (p. 32, Ref. 5.28)	PWR	10 years	48 GWd/MTU	850 watts
MGDS (p. 34, Ref. 5.28)	BWR	10 years	49 GWd/MTU	409 watts
MPC (p. 27, Ref. 5.39)	PWR	20 years	40 GWd/MTU	547 watts
MPC (p. 27, Ref. 5.39)	BWR	20 years	40 GWd/MTU	265 watts
MPC Historic (p. 2, Ref. 5.34)	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 WP 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 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 WP 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 WP 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 and XVI. 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 12 PWR UCF WP conceptual design shall follow 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 12 PWR UCF WP 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.

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 WP 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 WP. 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 conductivity of the SNF assembly model areas which was used in reference 5.11 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, 4.4.13, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21).

- 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 carries 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 each of the assumed 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 WP.

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 calculation performed in reference 5.13. The boundary conditions for each repository thermal loading scenario was applied to the waste package surface as a temperature requirement 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 BWR 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 a design thesis.

The outputs of each ANSYS execution are provided as Attachments XII through XVI. Discussion and summary of the ANSYS results is provided in Section 7.4 and conclusions are provided in Section 8.0. Notice that selected data was requested in the input file 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 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 effective conductivity method (used in ANSYS solution), the Wooton-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 Wooton-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 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 pins in a single row of a square spent fuel assemble
 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	1.714x10 ⁻⁹ (Btu/hr-ft ² -°R ⁴)
Cladding emissivity	0.806 (2 mill oxidation layer, used in Ref. 5.11)
Basket emissivity	0.600 (Stainless steel 316L)
Basket cell width	223.5 mm (8.8 inches)
SNF array size (N)	15 pins
Assembly active length	3601.7 mm (141.8 inches)
Axial peaking factor	1.25

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

Tables 7.4-1 through 7.4-5 summarize the temperature data for each of the cases analyzed. Both "conservative" estimates of peak cladding temperatures using the Wootton-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 Wootton-Epstein calculations for each time step in the ANSYS analysis were also performed for comparison.

The thermal history for each case is presented graphically in Figures 7.4-3 through 7.4-7 and Figures 7.4-1 and 7.4-2 graphically compares the peak cladding (best estimate) and waste package surface temperatures for each case. Figure 7.4-8 through 7.4-12 present the temperature profile from the center of the waste package to the drift wall at the time of peak cladding temperature. The peak cladding temperatures for all the cases were less than the thermal limit 350°C, and even the "conservative estimate" for the worst case (high thermal loading #1) was 253°C which can be compared to the thermal goal of 350°C. The WP surface temperature data presented in Figure 7.4-2 shows that a greater WP spacing results in lower near-field temperatures.

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 7.4-5, the time of peak temperatures varies depending on thermal loading, WP spacing, and the time-dependent WP decay heat (SNF type). For most design basis SNF types, peak WP internal temperatures will occur in less than 10 years after emplacement even though waste package surface temperatures do not peak for 10 years or more. By 100 years, however, the temperature drop across the WP (from center to edge) has dropped to less than 30°C for "best estimate".

While 83 MTU/acre is considered a more likely scenario for a high thermal loading, a higher thermal loading of 100 MTU/acre 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 253°C 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 7.4-5 displays the thermal history of the 12 PWR UCF WP 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 near those for the high thermal loading because the peaks occur in the first few years before any effects of thermal loading have been realized.

Figure 7.4-6 displays the thermal history of the 12 PWR UCF WP 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 7.4-7 displays the thermal history of the 12 PWR UCF WP 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 (9.237m) 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 close peak cladding temperature.

Table 7.4-1. High Thermal Load #1; 12 PWR UCF Waste Package Thermal Results

12 PWR UCF WP

100 MTU/acre with 9.237 m WP Spacing

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

Time (years)	Heat Load (W/assy)	PK Fuel Temp. (Deg. C)		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	D/MidPln
0	850.01	206	171	148	58	26	26	26	26
0.1	846.16	223	190	168	83	60	43	29	26
0.2	842.37	228	195	174	90	68	51	34	26
0.3	838.63	231	198	178	94	74	56	38	27
0.4	834.95	233	201	181	98	79	61	42	29
0.5	831.32	235	203	183	101	82	64	45	30
0.6	827.74	236	205	185	104	85	67	47	32
0.7	824.20	238	206	186	106	88	70	50	34
0.8	820.72	239	207	188	108	90	72	52	36
0.9	817.28	240	208	189	110	92	75	54	37
1	813.88	240	209	190	112	94	77	56	39
2	785.03	245	216	197	123	108	91	72	55
3	760.06	248	219	201	131	116	100	82	66
4	738.57	250	222	205	137	123	107	90	75
5	720.95	251	224	208	142	129	113	96	82
6	700.07	252	226	210	146	134	119	101	87
7	683.86	253	227	211	150	138	123	105	92
8	668.50	253	228	213	153	142	127	109	95
9	654.04	253	229	214	155	145	130	112	97
10	642.55	253	229	214	157	147	132	115	99
20	529.86	250	229	217	171	163	151	137	125
30	445.36	247	228	218	180	173	163	151	141
40	380.70	241	225	216	183	178	169	159	150
50	327.78	235	220	213	184	180	172	163	155
60	286.22	229	216	209	184	180	174	166	158
70	252.65	224	212	206	184	180	174	167	160
80	225.35	219	208	202	183	179	174	167	161
90	203.85	215	204	200	182	179	173	167	162
100	185.04	211	201	197	180	178	173	167	162
200	105.07	193	186	184	174	172	169	166	163
300	80.32	184	179	176	169	168	165	163	160
400	66.61	179	174	173	166	165	163	161	159
500	57.58	176	171	170	165	164	162	160	158
600	50.41	172	169	167	163	162	160	158	157
700	44.98	169	166	165	160	159	158	157	155
800	40.31	166	163	162	158	157	156	154	153
900	36.59	163	160	159	155	155	154	152	151
1000	33.52	160	157	156	153	153	152	150	149

Table 7.4-2. High Thermal Load #2; 12 PWR UCF Waste Package Thermal Results

12 PWR UCF WP

83 MTU/acre with 11.129 m WP Spacing

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

Time (years)	Heat Load (W/assy)	PK Fuel Temp. (Deg. C)		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	205	170	147	57	26	26	26	26
0.1	846.16	221	187	166	79	57	41	29	26
0.2	842.37	225	192	170	85	64	48	33	26
0.3	838.63	227	194	173	89	68	53	37	27
0.4	834.95	229	196	176	92	72	56	39	28
0.5	831.32	230	198	177	95	75	59	42	30
0.6	827.74	231	199	179	97	78	62	44	31
0.7	824.20	232	200	180	99	80	64	46	33
0.8	820.72	233	201	181	100	82	66	48	34
0.9	817.28	234	202	182	102	83	68	50	36
1	813.88	234	203	183	103	85	69	52	37
2	785.03	238	208	189	113	97	82	65	50
3	760.06	240	211	193	120	105	91	75	60
4	738.57	241	213	195	125	111	97	82	68
5	720.95	242	214	197	130	116	102	87	75
6	700.07	242	215	198	133	120	107	92	80
7	683.86	242	216	200	136	124	111	96	84
8	668.50	243	216	201	139	127	114	99	88
9	654.04	242	217	201	141	130	117	102	91
10	642.55	242	217	202	143	132	119	105	94
20	529.86	235	213	200	152	143	133	120	109
30	445.36	227	208	197	157	150	141	131	122
40	380.70	220	203	194	159	153	145	137	129
50	327.78	213	198	190	160	154	148	140	133
60	286.22	207	193	186	159	155	149	142	136
70	252.65	202	189	182	159	155	149	143	138
80	225.35	197	184	179	158	154	149	143	139
90	203.85	192	181	176	157	153	149	143	139
100	185.04	188	178	173	156	152	148	143	139
200	105.07	170	163	160	150	148	146	143	140
300	80.32	162	156	154	146	145	143	140	138
400	66.61	158	153	151	144	143	141	139	137
500	57.58	154	150	148	142	141	140	138	137
600	50.41	151	147	145	140	139	138	137	135
700	44.98	148	144	143	139	138	136	135	134
800	40.31	146	142	141	137	136	135	134	133
900	36.59	143	140	139	136	135	134	133	132
1000	33.52	142	139	138	134	134	133	132	131

Table 7.4-3. Low Thermal Load #1;12 PWR UCF Waste Package Thermal Results

12 PWR UCF WP

25 MTU/acre with 18.475 m WP Spacing

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

Time (years)	Heat Load (W/assy)	PK Fuel Temp. (Deg. C)		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	205	170	147	57	26	26	26	26
0.1	846.16	217	183	161	75	51	39	28	26
0.2	842.37	220	186	164	78	56	43	32	26
0.3	838.63	221	187	166	81	59	46	34	26
0.4	834.95	222	188	167	82	61	48	36	26
0.5	831.32	222	189	168	84	63	50	37	26
0.6	827.74	222	189	169	85	64	52	39	26
0.7	824.20	223	190	169	86	65	53	40	26
0.8	820.72	223	190	170	87	66	54	41	26
0.9	817.28	223	190	170	88	67	55	42	26
1	813.88	223	191	170	88	68	56	43	26
2	785.03	223	191	171	93	74	62	49	28
3	760.06	221	190	171	95	77	65	52	30
4	738.57	219	189	170	97	79	68	55	32
5	720.95	218	188	170	98	81	70	57	34
6	700.07	216	186	168	99	82	71	59	36
7	683.86	214	185	167	99	83	72	60	38
8	668.50	212	184	167	100	84	73	61	39
9	654.04	210	182	165	100	85	74	62	41
10	642.55	209	181	164	100	85	75	63	42
20	529.86	193	168	154	101	88	80	70	52
30	445.36	179	157	145	99	89	81	73	58
40	380.70	167	147	136	97	88	81	74	61
50	327.78	157	138	129	95	86	81	75	63
60	286.22	149	131	123	93	85	80	75	64
70	252.65	141	126	118	91	84	80	75	65
80	225.35	135	120	113	89	83	79	74	66
90	203.85	130	116	110	88	82	78	74	66
100	185.04	126	113	107	87	81	78	74	67
200	105.07	105	96	92	81	77	75	73	68
300	80.32	97	89	87	78	75	73	71	68
400	66.61	92	86	84	76	74	72	71	68
500	57.58	89	83	81	75	73	72	70	68
600	50.41	86	81	79	74	72	71	69	67
700	44.98	84	79	78	73	71	70	69	67
800	40.31	82	78	76	72	70	69	68	66
900	36.59	80	76	75	71	69	68	68	66
1000	33.52	79	75	74	70	69	68	67	65

Table 7.4-4. Low Thermal Load #2; 12 PWR UCF Waste Package Thermal Results

12 PWR UCF WP

25 MTU/acre with 12.317 m WP Spacing

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

Time (years)	Heat Load (W/assy)	PK Fuel Temp. (Deg. C)		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	205	170	147	57	26	26	26	26
0.1	846.16	220	186	164	78	55	40	29	26
0.2	842.37	223	190	169	83	62	47	33	26
0.3	838.63	225	192	171	87	66	51	36	26
0.4	834.95	227	194	173	90	69	54	38	26
0.5	831.32	228	195	175	92	72	57	41	26
0.6	827.74	229	196	176	94	74	59	43	26
0.7	824.20	229	197	177	95	76	61	44	26
0.8	820.72	230	198	178	97	78	62	46	26
0.9	817.28	230	198	178	98	79	64	47	26
1	813.88	231	199	179	99	80	65	48	26
2	785.03	233	202	183	106	89	75	57	26
3	760.06	232	202	184	110	94	80	63	27
4	738.57	231	202	184	113	97	83	67	28
5	720.95	230	202	184	115	100	86	69	29
6	700.07	229	200	183	116	101	88	72	30
7	683.86	227	199	182	117	103	89	73	31
8	668.50	226	198	182	118	104	90	75	33
9	654.04	224	197	181	118	104	91	76	34
10	642.55	222	195	180	118	104	92	77	35
20	529.86	206	182	168	116	105	94	82	46
30	445.36	191	169	157	113	103	94	83	52
40	380.70	178	158	147	109	100	92	83	56
50	327.78	166	148	139	105	97	91	82	59
60	286.22	157	140	132	102	95	89	81	61
70	252.65	149	133	126	100	93	88	81	62
80	225.35	142	128	121	97	91	86	80	63
90	203.85	137	123	117	95	90	85	79	64
100	185.04	132	119	113	94	88	84	79	64
200	105.07	108	100	96	85	81	79	75	67
300	80.32	100	93	90	81	78	76	74	67
400	66.61	95	89	86	79	76	75	73	67
500	57.58	91	86	84	77	75	74	72	67
600	50.41	88	83	81	76	74	73	71	67
700	44.98	86	81	79	74	73	72	70	66
800	40.31	84	79	78	73	72	71	69	66
900	36.59	82	78	76	72	71	70	69	65
1000	33.52	80	76	75	71	70	69	68	65

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Table 7.4-5. Low Thermal Load #3; 12 PWR UCF Waste Package Thermal Results

12 PWR UCF WP

25 MTU/acre with 9.237 m WP Spacing

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

Time (years)	Heat Load (W/assy)	PK Fuel Temp. (Deg. C)		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	205	170	147	58	26	26	26	26
0.1	846.16	223	189	168	83	60	43	29	26
0.2	842.37	228	195	174	90	69	51	34	26
0.3	838.63	231	198	178	95	74	56	38	26
0.4	834.95	233	201	180	98	79	61	41	26
0.5	831.32	235	203	182	101	82	64	44	26
0.6	827.74	236	204	184	104	85	67	47	26
0.7	824.20	237	206	186	106	88	70	49	26
0.8	820.72	238	207	187	108	90	72	51	26
0.9	817.28	239	208	188	110	92	74	53	26
1	813.88	240	209	189	111	94	76	55	26
2	785.03	243	213	195	121	105	88	67	26
3	760.06	244	215	197	126	111	94	73	26
4	738.57	244	215	198	129	115	98	78	26
5	720.95	243	215	198	132	118	101	81	27
6	700.07	242	215	198	133	120	104	84	27
7	683.86	241	214	198	135	122	106	86	28
8	668.50	240	214	198	136	124	108	88	29
9	654.04	238	212	197	136	124	109	90	29
10	642.55	237	211	196	137	125	110	91	30
20	529.86	221	198	185	135	125	112	96	39
30	445.36	205	184	173	130	121	110	96	46
40	380.70	191	171	161	124	117	107	95	51
50	327.78	178	160	151	119	112	103	93	55
60	286.22	168	151	143	115	108	100	91	57
70	252.65	159	144	136	111	105	98	89	59
80	225.35	151	137	130	107	101	95	87	60
90	203.85	145	132	125	104	99	93	86	61
100	185.04	139	127	121	102	97	92	85	62
200	105.07	113	105	101	90	87	83	79	65
300	80.32	104	97	94	85	82	80	76	66
400	66.61	98	92	90	82	80	78	75	66
500	57.58	94	89	87	80	78	76	74	66
600	50.41	91	86	84	78	76	75	73	66
700	44.98	88	83	82	77	75	74	72	66
800	40.31	86	81	80	75	74	72	71	65
900	36.59	84	79	78	74	73	71	70	65
1000	33.52	82	78	77	73	72	71	69	64

Figure 7.4-1. 12 PWR UCF WP Peak Cladding Temperature (Best Estimate)

Figure 7.4-2 12 PWR UCF WP, WP Surface Temperature

Figure 7.4-3. 12 PWR UCF WP, High Thermal Loading #1, Temperature History

Figure 7.4-4. 12 PWR UCF WP, High Thermal Loading #2, Temperature History

Figure 7.4-5. 12 PWR UCF WP, Low Thermal Loading #1, Temperature History

Figure 7.4-6. 12 PWR UCF WP, Low Thermal Loading #2, Temperature History

Figure 7.4-7. 12 PWR UCF WP, Low Thermal Loading #3, Temperature History

Figure 7.4-8. 12 PWR UCF WP, High Thermal Loading #1, WP Temperature Profile

Figure 7.4-9. 12 PWR UCF WP, High Thermal Loading #2, WP Temperature Profile

Figure 7.4-10. 12 PWR UCF WP, Low Thermal Loading #1, WP Temperature Profile

Figure 7.4-11. 12 PWR UCF WP, Low Thermal Loading #2, WP Temperature Profile

Figure 7.4-12. 12 PWR UCF WP, Low Thermal Loading #3, WP Temperature Profile

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 Wootton-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 Wootton-Epstein calculations for each time step in the ANSYS analysis were also performed for comparison.

Table 8-1. 12 PWR UCF WP 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	253	8	229	20	218	30	185	60
High #2	MGDS	243	8	217	10	202	10	160	50
Low #1	MGDS	223	1	191	2	171	2	101	20
Low #2	MGDS	233	2	202	3	184	4	118	10
Low #3	MGDS	244	3	215	5	198	5	137	10

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 12 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 12 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 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) In strict adherence to the M&O Quality Administrative Procedures (QAPs), the design results presented in this document can not be used for inputs into documents supporting procurement, fabrication, or construction unless properly controlled as TBV in accordance with the appropriate procedures. 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 this 12 PWR UCF WP 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: 9/7/95)	1
IV	Material Properties File for ANSYS; Data from Section 4.1. (File name: props01.dat date: 9/7/95)	3
V	Effective Thermal Conductivity File; Reference 5.11 (File name: pwr15e.parm date: 9/7/95)	3
VI	Model Mesh Plots Geometry; 1) Full Mesh, 2) Full Mesh/No He, 3) Radiation Surfaces (File name: ansysplot.doc date: 9/6/95)	3
VII	Boundary Condition File for High Thermal Load #1; Reference 5.13 (File name: c12x5a.parm used in Attachment XII date: 9/7/95)	11
VIII	Boundary Condition File for High Thermal Load #2; Reference 5.13 (File name: c12b5a.parm used in Attachment XIII date: 4/3/95)	11
IX	Boundary Condition File for Low Thermal Load #1; Reference 5.13 (File name: c12w5a.parm used in Attachment XIV date: 9/6/95)	11
X	Boundary Condition File for Low Thermal Load #2; Reference 5.13 (File name: c12j5a.parm used in Attachment XV date: 9/6/95)	11
XI	Boundary Condition File for Low Thermal Load #3; Reference 5.13 (File name: c12h5a.parm used in Attachment XVI date: 4/3/95)	11
XII	ANSYS Output for the 100 MTU/acre Thermal Loading for the 12 PWR UCF WP Loaded with the MGDS Design Basis SNF (WP Spacing: 9.237m; Drift Spacing: 22.5 m) (File name: ucf12x.old.out date: 9/7/95)	183
XIII	ANSYS Output for the 83 MTU/acre Thermal Loading for the 12 PWR UCF WP Loaded with the MGDS Design Basis SNF (WP Spacing: 11.129 m; Drift Spacing: 22.5 m) (File name: ucf12b.old.out date: 9/7/95)	189
XIV	ANSYS Output for the 25 MTU/acre Thermal Loading for the 12 PWR UCF WP Loaded with the MGDS Design Basis SNF (WP Spacing: 18.475 m; Drift Spacing: 45.0 m) (File name: ucf12w.old.out date: 9/7/95)	237
XV	ANSYS Output for the 25 MTU/acre Thermal Loading for the 12 PWR UCF WP Loaded with the MGDS Design Basis SNF (WP Spacing: 12.317 m; Drift Spacing: 67.5 m) (File name: ucf12j.old.out date: 9/7/95)	222
XVI	ANSYS Output for the 25 MTU/acre Thermal Loading for the 12 PWR UCF WP Loaded with the MGDS Design Basis SNF (WP Spacing: 9.237 m; Drift Spacing: 90.0 m) (File name: ucf12h.old.out date: 9/8/95)	207

```

/*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 %f %c %f",&age,&burnup,&a,&c,&mtupassy);
type=(tolower(c)=='b')?0:1;
x=icheck(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,"/COM, ");
    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));}
```

[illegible]

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

```

/COM, *****
/COM, ** History of SNF Assembly Heat Generation Rates **
/COM, ** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **
/COM, **
/COM, ** Executable File Name: PHIA00B.EXE **
/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 **
/COM, **
/COM, ** ASSY(#,1) is the SNF assembly heat in Watts. **
/COM, ** ASSY(#,0) is the time post emplacement in years. **
/COM, *****
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
/COM, *****
/EOF

```

```

/COM, *****
/COM, **      ANSYS 5.0 MPC MATERIAL PROPERTY TABLES      **
/COM, *****
/COM, **      Filename: props01.dat                        **
/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) **
/COM, *****
/COM,
/COM, Define densities for all materials except gases
MPTEMP
MPTEMP, 1, .00000E+00,
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,
/COM,
/COM, Define emissivities for all materials except gases
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,
/COM,
/COM, Define K and C for materials 1, 3
MPTEMP
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,

```

```
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,
```

/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,
```

/COM,

/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,
```

/COM,

/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,
```

```
MPDATA, KXX, 6, 7, 1.94, 1.95, 1.95, 1.95, 1.95, 1.95,
MPDATA, KXX, 6, 13, 1.95, 1.95, 1.96, 1.96, 1.96, 1.96,
MPDATA, KXX, 6, 19, 1.96, 1.96, 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,
```

/COM,

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

MPTEMP

```
MPTEMP, 1, -13.15, 6.85, 26.85, 76.85, 126.85, 176.85,
MPTEMP, 7, 226.85, 276.85, 326.85, 376.85, 426.85, 476.85,
MPTEMP, 13, 526.85, 626.85, 726.85,
```

```
MPDATA, DENS, 7, 1, 0.1875, 0.1750, 0.1625, 0.1422, 0.1219, 0.1097,
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,
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,
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,
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JUN 26 1995
13:26:19
PLOT NO. 1
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DIST = .713735
*XF = .076525

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

1

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JUN 26 1995
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MAT NUM

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

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12 PWR UCF/Waste Package - Radiation Matrix

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*SET,XXX , 1.734935157290
*SET,YYY , -1.527450000100
/GOPR

```

WELCOME TO THE ANSYS PROGRAM

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

JOB NAME = ucf12x
 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 Hongyan Wang
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf12x.inp
7 /COM, * 12 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: c12x5a.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 = 9.237 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, 12 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,c12x5a,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=1.2977/2.0
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, 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 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=TWALL/2.0
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=TWALL/2.0+PITCH
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=TWALL/2.0+PITCH+GWALL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 /COM,
117 /COM,          MI45=MIRAD/SQRT(2.0)
118 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
119 DI45=DCIRD/SQRT(2.0)
120 DM45=(DCRAD-OWALL)/SQRT(2.0)
121 DO45=DCRAD/SQRT(2.0)
122 /COM,
123 /COM,          Define Transient Time parameters based upon the following:
124 /COM,          Note: 1 year = 3.15576e7 seconds
125 /COM,          TM_START = start time (sec)
126 /COM,          TMI* = time increment for solution (sec)
127 /COM,          TME* = start and stop for time do-loops (sec)
128 /COM,          TMTMAX = time of maximum cladding temperature
129 /COM,
130 TM_START=(1.0E-6)*(3.15576E7)
131 TMI0=0.1*3.15576E7
132 TMI1=1.0*3.15576E7
133 TMI10=10.0*3.15576E7
134 TMI100=100.0*3.15576E7
135 TMI1000=1000.0*3.15576E7
136 TME0=0.9*3.15576E7+TM_START
137 TME1=TMI1+TM_START
138 TME9=9.0*3.15576E7+TM_START
139 TME10=TMI10+TM_START
140 TME50=50.0*3.15576E7+TM_START
141 TME90=90.0*3.15576E7+TM_START
142 TME100=TMI100+TM_START
143 TME1000=TMI1000+TM_START
144 /COM,
145 /COM,          *****
146 /COM,          Define different element types
147 /PREP7
148 ETYPE
149 ET, 1,55,
150 ET, 2,70,
151 ET, 7,32,
152 ET, 16,57,
153 ET, 17,32,
154 ET, 18,50,1,
155 ET, 19,31,
156 ET, 27,32,
157 /COM,          *****
158 /COM,          File props01.dat describes material properties

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

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

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299 L,25,32,
300 L,32,26,
301 L,24,33,
302 L,33,27,
303 L,30,31,
304 L,32,33,
305 /COM, Guide gaps
306 AL,29,16,30,
307 AL,33,34,23,
308 /COM, Guide steel
309 AL,35,38,33,22,
310 AL,36,24,34,38,
311 AL,37,31,17,29,
312 AL,15,32,37,30,
313 /COM, *****
314 /COM, Define thermal shunts
315 /COM, (K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)
316 /COM, (L's 39,40,41,42,43,44,45,46,47,48,49)
317 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69
318 /COM, (A's 11 - 22)
319 /COM,
320 /COM, horizontal thermal shunt
321 K,34, TWALL/2.0, TWALL/2.0,0.0,
322 K,35, TWALL/2.0, (0.0-TWALL/2.0),0.0,
323 K,36,(TWALL/2.0+1.0*PITCH), TWALL/2.0,0.0,
324 K,37,(TWALL/2.0+1.0*PITCH), (0.0-TWALL/2.0),0.0,
325 K,38,(TWALL/2.0+2.0*PITCH), TWALL/2.0,0.0,
326 K,39,(TWALL/2.0+2.0*PITCH), (0.0-TWALL/2.0),0.0,
327 K,1000,(TWALL/2.0+1.0*PITCH),0.0,0.0,
328 K,1001,(TWALL/2.0+2.0*PITCH),0.0,0.0,
329 L,34,1,
330 L,1,1000,
331 L,1000,36,
332 L,36,34,
333 L,1,35,
334 L,35,37,
335 L,37,1000,
336 L,1000,1001,
337 L,1001,38,
338 L,38,36,
339 L,37,39,
340 L,39,1001
341 L,23,39,
342 L,38,21,
343 L,1001,22,
344 /COM, vertical thermal shunt
345 K,40,TWALL/2.0, (TWALL/2.0+1.0*PITCH),0.0,
346 K,41, 0.0, (TWALL/2.0+1.0*PITCH),0.0,
347 K,42,TWALL/2.0, (TWALL/2.0+2.0*PITCH),0.0,
348 K,43, 0.0, (TWALL/2.0+2.0*PITCH),0.0,
349 K,44,TWALL/2.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
350 K,45, 0.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
351 K,46,TWALL/2.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
352 K,47, 0.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
353 L,34,40,
354 L,40,41,
355 L,41,1,
356 L,40,42,
357 L,42,43,
358 L,43,41,
359 L,16,42,
360 L,15,43,
361 L,1,45,
362 L,45,44,
363 L,44,35,
364 L,45,47,
365 L,47,46,
366 L,46,44,
367 L,47,29,
368 L,46,28,

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369 /COM,          Define areas for thermal shunts
370 /COM,          horizotal thermal shunts
371 AL,39,40,41,42,
372 AL,43,44,45,40,
373 AL,48,41,46,47,
374 AL,45,49,50,46,
375 AL,47,53,19,52,
376 AL,50,51,20,53,
377 /COM,          vertical thermal shunts
378 AL,39,54,55,56,
379 AL,57,58,59,55,
380 AL,60,13,61,58,
381 AL,43,62,63,64,
382 AL,65,66,67,63,
383 AL,68,26,69,66,
384 /COM,          *****
385 /COM,          Define shell gaps at the exterior of the tube array
386 /COM,          (L's 70 - 73)
387 /COM,          (A's 23 - 26)
388 L,42,17,
389 L,20,38,
390 L,39,24,
391 L,27,46,
392 AL,60,70,14,
393 AL,18,71,52,
394 AL,51,72,21,
395 AL,69,25,73,
396 /COM,          *****
397 /COM,          Create mesh in tube guides, thermal shunts
398 /COM,          Set mesh size for gaps.....
399 ESIZE,,2,
400 LSEL,S,LINE,,60,61,1,
401 LSEL,A,LINE,,68,69,1
402 LSEL,A,LINE,,51,53,1,
403 LESIZE,ALL,,, 4,
404 LSEL,S,LINE,,39,47,2,
405 LSEL,A,LINE,,19,20,1,
406 LSEL,A,LINE,,50,
407 LSEL,A,LINE,,13,
408 LSEL,A,LINE,,58,
409 LSEL,A,LINE,,55,
410 LSEL,A,LINE,,63,
411 LSEL,A,LINE,,66,
412 LSEL,A,LINE,,26,
413 LESIZE,ALL,,, 1,
414 LSEL,S,LINE,,40,48,2,
415 LSEL,A,LINE,,54,56,2,
416 LSEL,A,LINE,,57,59,2,
417 LSEL,A,LINE,,62,64,2,
418 LSEL,A,LINE,,65,67,2,
419 LSEL,A,LINE,,49,
420 LSEL,A,LINE,,33,34,1,
421 LSEL,A,LINE,,29,30,1,
422 LSEL,A,LINE,,70,73,1,
423 LESIZE,ALL,,, 14,
424 /COM,          Mesh thermal shunts
425 ESHAPE,2,
426 MAT,13,
427 TYPE,1,
428 AMESH,11,22,
429 /COM,          Mesh corn guides
430 ESHAPE,2,
431 MAT,2,
432 TYPE,1,
433 AMESH, 7,10,1,
434 /COM,          *****
435 /COM,          Define center tube
436 /COM,          (K's 48-51)
437 /COM,          (L's 74-83)
438 /COM,          (A's 27-31)

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439 K,48, (TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0,
440 K,49, (TWALL/2.0+SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
441 K,50, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
442 K,51, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+SWALL),0.0,
443 L,34,48,
444 L,48,49,
445 L,49,40,
446 L,49,50,
447 L,50,31,
448 L,31,40,
449 L,50,51,
450 L,51,36,
451 L,36,31,
452 L,51,48,
453 AL,76,79,78,77,
454 AL,54,74,75,76,
455 AL,74,42,81,83,
456 AL,81,82,78,80,
457 AL,75,83,80,77,
458 /COM, *****
459 /COM, Set element shapes and sizes for tubes
460 /COM, 14x14 mesh in fuel with 2
461 /COM, divisions per tube layer
462 ESHAPE,0,
463 ESIZE,,1,
464 LSEL,S,LINE,,74,83,1,
465 LSEL,U,LINE,,76,
466 LSEL,U,LINE,,78,
467 LSEL,U,LINE,,81,
468 LSEL,U,LINE,,74,
469 LESIZE,ALL,,,14,
470 LSEL,S,LINE,,76,
471 LSEL,A,LINE,,78,
472 LSEL,A,LINE,,81,
473 LSEL,A,LINE,,74,
474 LESIZE,ALL,,,2,
475 LSEL,ALL,
476 /COM,
477 /COM, Mesh areas
478 /COM, First fuel, then stainless tubes
479 MAT,14,
480 TYPE,1,
481 ASEL,ALL,
482 AMESH,31,
483 MAT,1,
484 TYPE,1,
485 AMESH,27,30,1,
486 /COM, *****
487 /COM, Copy tube mesh
488 /COM,
489 /COM, Center tubes above
490 /COM, (A's 32 - 36)
491 AGEN,2,27,31,1,0.0,PITCH,0.0,0.0,0,
492 /COM, Center tubes below
493 /COM, (A's 37 - 46)
494 ARSYM,Y,27,36,1,
495 /COM, (A's 47 - 51)
496 AGEN,2,27,31,1,PITCH,0.0,0.0,0.0,0,
497 /COM, (A's 52 - 56)
498 AGEN,2,47,51,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,0,
499 NUMMRG,NODE,
500 NUMMRG,KP,
501 /COM, *****
502 /COM, Create mesh in UCF inner shell
503 /COM, (L's 105,108)
504 ESHAP,2,
505 LSEL,S,LINE,,14,18,2,
506 LSEL,A,LINE,,21,25,2,
507 LSIZE,ALL,,,20,
508 LSEL,ALL,

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509 LSEL,S,LINE,,13,19,1,
510 LCCAT,ALL,
511 LSEL,S,LINE,,20,26,1,
512 LCCAT,ALL,
513 LSEL,ALL,
514 LESIZE,8,,,54,
515 LESIZE,9,,,54,
516 LESIZE,28,,,3,
517 LESIZE,12,,,3,
518 LESIZE,27,,,3,
519 LSEL,ALL,
520 MAT,2,
521 TYPE,1,
522 AMESH,3,4,1,
523 /COM,          Delete concatenatd lines
524 /COM,          (L's freed up 105,108)
525 /COM,  LDELE,105,108,1,  LEAVE THEM FOR NOW, WHO CARES
526 /COM,
527 LSEL,S,LINE,,6,7,1,
528 LESIZE,ALL,,,54,
529 LSEL,ALL,
530 LESIZE, 5,,, 4,
531 LESIZE,10,,, 4,
532 LESIZE,11,,, 4,
533 MAT,3,
534 TYPE,1,
535 AMESH,1,2,1,
536 NUMMRG,NODE,
537 NUMMRG,KP,
538 /COM, *****
539 /COM,          Create mesh in empty basket spaces
540 ESIZE,0.1,
541 ESHAPE,0,
542 MAT,7,
543 TYPE,1,
544 AMESH, 5,6,1
545 ESIZE,0.1,
546 ESHAPE,0,
547 AMESH,23,26,1,
548 NUMMRG,NODE,
549 NUMMRG,KP,
550 /COM, *****
551 /COM,          Create radiation surface elements
552 /COM,          Basket spaces
553 MAT,1,
554 TYPE,17,
555 LMESH,70,73,1,
556 LMESH,14,18,2,
557 LMESH,21,25,2,
558 MAT,2,
559 TYPE,17,
560 LMESH,29,30,1,
561 LMESH,33,34,1,
562 MAT,13,
563 TYPE,17,
564 LMESH,60,
565 LMESH,69,
566 LMESH,51,52,1,
567 /COM,
568 FINISH
569 /COM, *****
570 /COM,          Create element mesh plots to illustrate model
571 /COM,          View mesh for entire model
572 /RESET
573 /TRIAD,OFF,
574 /NUM, 1,
575 /PNUM,MAT, 1,
576 /TYPE,HIDP,
577 /GLINE,,0,
578 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,

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579 /TITLE, 12 PWR UCF/Waste Package - 1/2 FEM Model
580 /SHOW,meshfull,grph,1,8,
581 EPL0T
582 ESEL,U,MAT,, 7,
583 /SHOW,meshgap,grph,1,8,
584 EPL0T
585 ESEL,ALL,
586 /COM,          View mesh for radiation substructure
587 /PNUM,MAT, 0,
588 /PNUM,TYPE, 1,
589 ESEL,S,TYPE,,17,
590 /TITLE, 12 PWR UCF/Waste Package - Radiation Matrix
591 /SHOW,meshrad,grph,1,8,
592 EPL0T
593 ESEL,ALL,
594 /TITLE, 12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
595 /COM,          *****
596 /COM,          Generate super-elements
597 /AUX12,
598 ESEL,S,TYPE,,17,
599 NSLE,S,
600 STEF,5.67E-8,
601 GEOM,1,0,
602 VTYPE,0,800,
603 WRITE,spaces,
604 ESEL,ALL,
605 NSEL,ALL,
606 FINISH
607 /PREP7,
608 TYPE,18,
609 SE,spaces,
610 /COM,          Delete radiation edge elements
611 LSEL,S,TYPE,,17,
612 LCLEAR,ALL,
613 LSEL,ALL,
614 FINISH
615 /COM,          *****
616 /COM,          Set solution parameters and apply B.C.'s
617 /COM,
618 /COM,          Solve steady-state for initial conditions
619 /COM,          with WP surface equal to drift ambient
620 /COM,          temperature from repository model.
621 /SOLU
622 ANTYPE,TRAN,NEW,
623 NROPT,AUTO,
624 TRNOPT,FULL,
625 TOFFST,273.15,
626 LSEL,S,LINE,,6,
627 LSEL,A,LINE,,7,
628 NSLL,S,1,
629 D,ALL,TEMP,DFAMBT,
630 LSEL,ALL,
631 NSEL,ALL,
632 ASEL,S,MAT,,14,
633 ESLA,S,
634 BFE,ALL,HGEN,,(FUEL(TM_START)),
635 ASEL,ALL,
636 ESEL,ALL,
637 TIMINT,OFF,
638 TIME,1e-6,
639 AUTOTS,ON,
640 KBC,0,
641 SOLVE
642 /COM,          Solve steady-state for initial conditions
643 /COM,          with WP surface temperatures from repository
644 /COM,          steady-state solution.
645 LSEL,S,LINE,,6,
646 LSEL,A,LINE,,7,
647 NSLL,S,1,
648 DDELE,ALL,TEMP,

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649 LSEL,ALL,
650 NSEL,ALL,
651 DK,11,TEMP,(WPTOP(TM_START)),,1,
652 DK,10,TEMP,(WPSID(TM_START)),,1,
653 DK, 9,TEMP,(WPBOT(TM_START)),,1,
654 ASEL,S,MAT,,14,
655 ESLA,S,
656 BFE,ALL,HGEN,,(FUEL(TM_START)),
657 ASEL,ALL,
658 ESEL,ALL,
659 TIMINT,OFF,
660 TIME,2e-6,
661 AUTOTS,ON,
662 KBC,0,
663 SOLVE
664 /COM, *****
665 /COM, Set time integration parameters
666 TIMINT,ON,
667 AUTOTS,ON,
668 /COM, Time substep ranges from 10 sec to 1/4 loadstep
669 NSUBST,10,40,5,ON
670 /COM, Begin Transient
671 /COM, Apply loads and solve for 0 to .9 years
672 *DO,TM,TM_START,TME0,TM10
673 TIME,TM,
674 ASEL,S,MAT,,14,
675 ESLA,S,
676 BFE,ALL,HGEN,,(FUEL(TM)),
677 ASEL,ALL
678 ESEL,ALL
679 DK,11,TEMP,(WPTOP(TM)),,1,
680 DK,10,TEMP,(WPSID(TM)),,1,
681 DK, 9,TEMP,(WPBOT(TM)),,1,
682 SOLVE
683 *ENDDO
684 /COM, Apply loads and solve for 1 to 9 years
685 *DO,TM,TME1,TME9,TM11
686 TIME,TM,
687 ASEL,S,MAT,,14,
688 ESLA,S,
689 BFE,ALL,HGEN,,(FUEL(TM)),
690 ASEL,ALL
691 ESEL,ALL
692 DK,11,TEMP,(WPTOP(TM)),,1,
693 DK,10,TEMP,(WPSID(TM)),,1,
694 DK, 9,TEMP,(WPBOT(TM)),,1,
695 SOLVE
696 *ENDDO
697 /COM, Apply loads and solve for 10 to 90 years
698 *DO,TM,TME10,TME90,TM110
699 TIME,TM,
700 ASEL,S,MAT,,14,
701 ESLA,S,
702 BFE,ALL,HGEN,,(FUEL(TM)),
703 ASEL,ALL
704 ESEL,ALL
705 DK,11,TEMP,(WPTOP(TM)),,1,
706 DK,10,TEMP,(WPSID(TM)),,1,
707 DK, 9,TEMP,(WPBOT(TM)),,1,
708 SOLVE
709 *ENDDO
710 /COM, Apply loads and solve for 100 to 1000 years
711 *DO,TM,TME100,TME1000,TM1100
712 TIME,TM,
713 ASEL,S,MAT,,14,
714 ESLA,S,
715 BFE,ALL,HGEN,,(FUEL(TM)),
716 ASEL,ALL
717 ESEL,ALL
718 DK,11,TEMP,(WPTOP(TM)),,1,

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719      DK,10,TEMP,(WPSID(TM)),,1,
720      DK, 9,TEMP,(WPBOT(TM)),,1,
721      SOLVE
722 *ENDDO
723 FINISH
724 SAVE,
725 /COM, *****
726 /COM,      Create element contour plots of solution results
727 /COM,
728 /COM,      Sort through solution results for time of max temp.
729 /POST26,
730 NSOL,2,(NODE((SCCELL+TWALL/2.0),(-SCCELL-TWALL/2.0),0.0)),TEMP,,peakclad,
731 STORE,NEW,
732 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
733 FINISH
734 /POST1,
735 /COM,      Create temperature contour plots of WP at peak
736 /RESET
737 /TRIAD,OFF,
738 /NUM, 1,
739 /PNUM,MAT, 1,
740 /TYPE,HIDP,
741 /GLINE,, -1,
742 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
743 ESEL,U,MAT,,7,
744 SET,NEAR,,,TMTMAX,
745 /TITLE, 12 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
746 /SHOW,solupk,grph,0,8,
747 /CONTOUR,1,128,AUTO,
748 PLNSOL,TEMP,
749 /COM,      Create temperature contour plots at 10, 50, and 100 yrs
750 SET,NEAR,,,TME10,
751 /TITLE, 12 PWR UCF/WP at 10 years
752 /SHOW,solu10,grph,0,8,
753 /CONTOUR,1,128,USER,
754 PLNSOL,TEMP,
755 SET,NEAR,,,TME50,
756 /TITLE, 12 PWR UCF/WP at 50 years
757 /SHOW,solu50,grph,0,8,
758 /CONTOUR,1,128,USER,
759 PLNSOL,TEMP,
760 SET,NEAR,,,TME100,
761 /TITLE, 12 PWR UCF/WP at 100 years
762 /SHOW,solu100,grph,0,8,
763 /CONTOUR,1,128,USER,
764 PLNSOL,TEMP,
765 ESEL,ALL,
766 FINISH
767 /COM, *****
768 /COM,      Print time/temperature output at specific locations
769 /COM,      Save profile from center to edge
770 /COM,
771 /COM,      Variable Legend: A01i000
772 /COM,      c = center of assembly
773 /COM,      h = halfway between center and tube
774 /COM,      s = inside structural stainless tube layer
775 /COM,      t = stainless tube cladding
776 /COM,      g = tube guide
777 /COM,      i = inner barrier of DC
778 /COM,      o = outer barrier of DC
779 /COM,      ## = ID number of assembly (01 is center)
780 /COM,      i = side of assembly toward center of WP
781 /COM,      o = side of assembly toward edge of WP
782 /COM,      000 = profile center down
783 /COM,      045 = profile 45 deg down
784 /COM,      090 = profile center side
785 /COM,      135 = profile 45 deg up
786 /COM,      180 = profile center up
787 /POST26,
788 NUMVAR,30,

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789 /COM,
790 /COM,
791 /COM, *****
792 /COM, * Temperature Profile from center to lower right (45 deg.) *
793 /COM, *****
794 NSOL, 2, (NODE(0.0, 0.0, 0.0)), TEMP, ,t010045,
795 NSOL, 3, (NODE(TWALL/2.0, (0.0-TWALL/2.0), 0.0)), TEMP, ,s01o145,
796 NSOL, 4, (NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL), 0.0)), TEMP, ,s01i145,
797 NSOL, 5, (NODE((TWALL/2+SWALL+QCELL), (-TWALL/2-SWALL-QCELL), 0.0)), TEMP, ,c01i045,
798 NSOL, 6, (NODE((SCELL+TWALL/2.0), (-SCELL-TWALL/2.0), 0.0)), TEMP, ,c01c045,
799 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL), 0.0)), TEMP, ,c01o045,
800 NSOL, 8, (NODE((PITCH+TWALL/2-SWALL), (-PITCH-TWALL/2+SWALL), 0.0)), TEMP, ,s01i145,
801 NSOL, 9, (NODE((TWALL/2+PITCH), (-TWALL/2.0-PITCH), 0.0)), TEMP, ,s01o145,
802 NSOL, 10, (NODE((TWALL/2+PITCH+GWALL), (-TWALL/2-PITCH-GWALL), 0.0)), TEMP, ,g01o045,
803 NSOL, 11, (NODE( DI45, (-1.0*DI45), 0.0)), TEMP, ,i01i045,
804 NSOL, 12, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, ,i01o045,
805 NSOL, 13, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, ,o08o045,
806 /COM, Add centers of assemblies 3 and 5
807 NSOL, 14, (NODE( (SCELL+TWALL/2.0+PITCH), -(SCELL+TWALL/2.0), 0.0)), TEMP, ,c03c045,
808 NSOL, 15, (NODE( (SCELL+TWALL/2.0), (-SCELL-TWALL/2.0-PITCH), 0.0)), TEMP, ,c05c045,
809 PRVAR, 2, 3, 4, 5, 6,
810 PRVAR, 7, 8, 9, 10, 11,
811 PRVAR, 12, 13, 14, 15,
812 /COM,
813 /COM,
814 /COM, *****
815 /COM, * Temperature Profile from center to upper right (135 deg.) *
816 /COM, *****
817 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,t0200135,
818 NSOL, 3, (NODE(TWALL/2.0, TWALL/2.0, 0.0)), TEMP, ,s02o0135,
819 NSOL, 4, (NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL), 0.0)), TEMP, ,s02i0135,
820 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.+SWALL+QCELL), 0.0)), TEMP, ,c02i0135,
821 NSOL, 6, (NODE((SCELL+TWALL/2.0), (SCELL+TWALL/2.0), 0.0)), TEMP, ,c02c0135,
822 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (TWALL/2+SWALL+3*QCELL), 0.0)), TEMP, ,c02o0135,
823 NSOL, 8, (NODE((PITCH+TWALL/2.-SWALL), (PITCH+TWALL/2.-SWALL), 0.0)), TEMP, ,s02i135,
824 NSOL, 9, (NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH), 0.0)), TEMP, ,s02o135,
825 NSOL, 10, (NODE((TWALL/2.0+PITCH+GWALL), (TWALL/2+PITCH+GWALL), 0.0)), TEMP, ,g02o0135,
826 NSOL, 11, (NODE( DI45, DI45, 0.0)), TEMP, ,i02i0135,
827 NSOL, 12, (NODE( DM45, DM45, 0.0)), TEMP, ,i02o0135,
828 NSOL, 13, (NODE( DO45, DO45, 0.0)), TEMP, ,o02o0135,
829 /COM, Add centers of assemblies 4 and 6
830 NSOL, 14, (NODE( (SCELL+TWALL/2.0+PITCH), (SCELL+TWALL/2.0), 0.0)), TEMP, ,c04c0135,
831 NSOL, 15, (NODE( (SCELL+TWALL/2.0), (SCELL+TWALL/2.0+PITCH), 0.0)), TEMP, ,c06c0135,
832 PRVAR, 2, 3, 4, 5, 6,
833 PRVAR, 7, 8, 9, 10, 11,
834 PRVAR, 12, 13, 14, 15,
835 FINISH
836 /COM, *****
837 /COM, End of batch input file
838 /COM, *****
839 /EXIT,
840 /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 Hongyan Wang

 *
 * File name: ucf12x.inp *
 * 12 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:   c12x5a.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 = 9.237 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=

12 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=      .620   TIME= 13:23:57
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=      .850   TIME= 13:23:58
Restore ANSYS parameters from file= c12x5a.parm.

```

/INPUT FILE= c12x5a.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 required)

```

MIRAD = inner radius of UCF He Backfill shell (m) (NOT USED)
MWALL = UCF He Backfill shell thickness (m) (NOT USED)
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 = .6488500

PARAMETER OWALL = .1000000

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .5288500

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 SCCELL = .1167500
ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .5000000E-02

PARAMETER GY22 = .5288264

PARAMETER GX23 = .2385000

PARAMETER GY23 = .4720170

PARAMETER GX24 = .2480000

PARAMETER GY24 = .4670956

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

PARAMETER DI45 = .3739534

PARAMETER DM45 = .3880956

PARAMETER DO45 = .4588062

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 13:24:01 JUN 26, 1995 CP= 1.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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. Rahney 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: 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
	330.7000	352.1900		
PARAMETER ASSY(55,1) =	327.7800	305.8800	286.2200	268.5700
	252.6500	238.3100		
PARAMETER ASSY(61,1) =	225.3500	213.6600	203.8500	193.7500
	185.0400	130.6600		
PARAMETER ASSY(67,1) =	105.0700	90.10000	80.32000	72.66000
	66.61000	61.74000		
PARAMETER ASSY(73,1) =	57.58000	53.71000	50.41000	47.54000
	44.98000	42.50000		

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	-.648850	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.648850	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.648850	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.548850	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.548850	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.548850	.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=	.64885			
LINE NO.=	6	KP1=	10	TAN1=
		KP2=	9	TAN2=

ARC BETWEEN KEYPOINTS	11 AND	10	ORIENTATION KEYPOINT=	1
RADIUS=	.64885			
LINE NO.=	7	KP1=	11	TAN1=

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      KP2=      10 TAN2=      .0000 -1.0000      .0000
ARC BETWEEN KEYPOINTS      13 AND      12 ORIENTATION KEYPOINT=      1
RADIUS=      .54885
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=      .54885
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,)
(L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
(A's 3,4)

KEYPOINT      15 X,Y,Z=      .000000E+00      .528850      .000000E+00 IN CSYS=      0
KEYPOINT      16 X,Y,Z=      .500000E-02      .528826      .000000E+00 IN CSYS=      0
KEYPOINT      17 X,Y,Z=      .238500      .472017      .000000E+00 IN CSYS=      0
KEYPOINT      18 X,Y,Z=      .248000      .467096      .000000E+00 IN CSYS=      0
KEYPOINT      19 X,Y,Z=      .467096      .248000      .000000E+00 IN CSYS=      0
KEYPOINT      20 X,Y,Z=      .472017      .238500      .000000E+00 IN CSYS=      0
KEYPOINT      21 X,Y,Z=      .528826      .500000E-02      .000000E+00 IN CSYS=      0
KEYPOINT      22 X,Y,Z=      .528850      .000000E+00      .000000E+00 IN CSYS=      0
KEYPOINT      23 X,Y,Z=      .528826      -.500000E-02      .000000E+00 IN CSYS=      0
KEYPOINT      24 X,Y,Z=      .472017      -.238500      .000000E+00 IN CSYS=      0
KEYPOINT      25 X,Y,Z=      .467096      -.248000      .000000E+00 IN CSYS=      0
KEYPOINT      26 X,Y,Z=      .248000      -.467096      .000000E+00 IN CSYS=      0
KEYPOINT      27 X,Y,Z=      .238500      -.472017      .000000E+00 IN CSYS=      0
KEYPOINT      28 X,Y,Z=      .500000E-02      -.528826      .000000E+00 IN CSYS=      0
KEYPOINT      29 X,Y,Z=      .000000E+00      -.528850      .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=	.52885			
LINE NO.=	13	KP1= 16	TAN1= 1.0000	-.0095 .0000
		KP2= 15	TAN2= -1.0000	.0000 .0000
ARC BETWEEN KEYPOINTS	17 AND	16	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	14	KP1= 17	TAN1= .8925	-.4510 .0000
		KP2= 16	TAN2= -1.0000	.0095 .0000
ARC BETWEEN KEYPOINTS	18 AND	17	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	15	KP1= 18	TAN1= .8832	-.4689 .0000
		KP2= 17	TAN2= -.8925	.4510 .0000
ARC BETWEEN KEYPOINTS	19 AND	18	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	16	KP1= 19	TAN1= .4689	-.8832 .0000
		KP2= 18	TAN2= -.8832	.4689 .0000
ARC BETWEEN KEYPOINTS	20 AND	19	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	17	KP1= 20	TAN1= .4510	-.8925 .0000
		KP2= 19	TAN2= -.4689	.8832 .0000
ARC BETWEEN KEYPOINTS	21 AND	20	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	18	KP1= 21	TAN1= .0095	-1.0000 .0000
		KP2= 20	TAN2= -.4510	.8925 .0000
ARC BETWEEN KEYPOINTS	22 AND	21	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	19	KP1= 22	TAN1= .0000	-1.0000 .0000
		KP2= 21	TAN2= -.0095	1.0000 .0000
ARC BETWEEN KEYPOINTS	23 AND	22	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	20	KP1= 23	TAN1= -.0095	-1.0000 .0000
		KP2= 22	TAN2= .0000	1.0000 .0000
ARC BETWEEN KEYPOINTS	24 AND	23	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	21	KP1= 24	TAN1= -.4510	-.8925 .0000
		KP2= 23	TAN2= .0095	1.0000 .0000
ARC BETWEEN KEYPOINTS	25 AND	24	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	22	KP1= 25	TAN1= -.4689	-.8832 .0000
		KP2= 24	TAN2= .4510	.8925 .0000
ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	23	KP1= 26	TAN1= -.8832	-.4689 .0000
		KP2= 25	TAN2= .4689	.8832 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	24	KP1= 27	TAN1= -.8925	-.4510 .0000
		KP2= 26	TAN2= .8832	.4689 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	25	KP1= 28	TAN1= -1.0000	-.0095 .0000
		KP2= 27	TAN2= .8925	.4510 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.52885			
LINE NO.=	26	KP1= 29	TAN1= -1.0000	.0000 .0000
		KP2= 28	TAN2= 1.0000	.0095 .0000

LINE CONNECTS KEYPOINTS 29 12
 LINE NO.= 27 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 22 13
 LINE NO.= 28 KP1= 22 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 19 STEP 1

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

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

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

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 28 TO 28 STEP 1

10 LINES (OF 28 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 20 TO 28 STEP 1

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

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

10 LINES (OF 28 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 28 STEP 1

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

Define tube guides
 (K's 30,31,32,33)
 (L's 29,30,31,32,33,34,35,36,37,38)
 (A's 5,6,7,8,9,10)

top guide

KEYPOINT 31 X,Y,Z= .238500 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 30 X,Y,Z= .248000 .248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 30 19
 LINE NO.= 29 KP1= 30 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 18 30
 LINE NO.= 30 KP1= 18 TAN1= .0000 1.0000 .0000
 KP2= 30 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 31 20
 LINE NO.= 31 KP1= 31 TAN1= -1.0000 .0000 .0000
 KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 17 31
 LINE NO.= 32 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 bottom guide

KEYPOINT 33 X,Y,Z= .238500 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 32 X,Y,Z= .248000 -.248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 25 32
 LINE NO.= 33 KP1= 25 TAN1= 1.0000 .0000 .0000
 KP2= 32 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 32 26
 LINE NO.= 34 KP1= 32 TAN1= .0000 1.0000 .0000
 KP2= 26 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 33
 LINE NO.= 35 KP1= 24 TAN1= 1.0000 .0000 .0000
 KP2= 33 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 27
 LINE NO.= 36 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 27 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 31
 LINE NO.= 37 KP1= 30 TAN1= .7071 .7071 .0000
 KP2= 31 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 32 33
 LINE NO.= 38 KP1= 32 TAN1= .7071 -.7071 .0000
 KP2= 33 TAN2= -.7071 .7071 .0000
 Guide gaps

DEFINE AREA BY LIST OF LINES
 LINE LIST = 29 16 30
 (TRAVERSED IN SAME DIRECTION AS LINE 29)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
 LINE LIST = 33 34 23
 (TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 6
 Guide steel

DEFINE AREA BY LIST OF LINES
 LINE LIST = 35 38 33 22
 (TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
 LINE LIST = 36 24 34 38
 (TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 37 31 17 29
 (TRAVERSED IN SAME DIRECTION AS LINE 37)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 32 37 30
(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 10

Define thermal shunts

(K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)

(L's 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

(A's 11 - 22)

horizontal thermal shunt

KEYPOINT	34	X,Y,Z=	.500000E-02	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	35	X,Y,Z=	.500000E-02	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	36	X,Y,Z=	.238500	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	37	X,Y,Z=	.238500	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	38	X,Y,Z=	.472000	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.472000	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	1000	X,Y,Z=	.238500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	1001	X,Y,Z=	.472000	.000000E+00	.000000E+00	IN CSYS= 0
LINE CONNECTS KEYPOINTS	34	1				
LINE NO.= 39	KP1=	34	TAN1=	.7071	.7071	.0000
	KP2=	1	TAN2=	-.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS	1	1000				
LINE NO.= 40	KP1=	1	TAN1=	-1.0000	.0000	.0000
	KP2=	1000	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	1000	36				
LINE NO.= 41	KP1=	1000	TAN1=	.0000	-1.0000	.0000
	KP2=	36	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	36	34				
LINE NO.= 42	KP1=	36	TAN1=	1.0000	.0000	.0000
	KP2=	34	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	1	35				
LINE NO.= 43	KP1=	1	TAN1=	-.7071	.7071	.0000
	KP2=	35	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS	35	37				
LINE NO.= 44	KP1=	35	TAN1=	-1.0000	.0000	.0000
	KP2=	37	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	37	1000				
LINE NO.= 45	KP1=	37	TAN1=	.0000	-1.0000	.0000
	KP2=	1000	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	1000	1001				
LINE NO.= 46	KP1=	1000	TAN1=	-1.0000	.0000	.0000
	KP2=	1001	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	1001	38				
LINE NO.= 47	KP1=	1001	TAN1=	.0000	-1.0000	.0000
	KP2=	38	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	38	36				
LINE NO.= 48	KP1=	38	TAN1=	1.0000	.0000	.0000
	KP2=	36	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	37	39				

LINE NO.= 49 KP1= 37 TAN1= -1.0000 .0000 .0000
 KP2= 39 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 39 1001
 LINE NO.= 50 KP1= 39 TAN1= .0000 -1.0000 .0000
 KP2= 1001 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 23 39
 LINE NO.= 51 KP1= 23 TAN1= 1.0000 .0000 .0000
 KP2= 39 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 38 21
 LINE NO.= 52 KP1= 38 TAN1= -1.0000 .0000 .0000
 KP2= 21 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 22
 LINE NO.= 53 KP1= 1001 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

vertical thermal shunt

KEYPOINT 40 X,Y,Z= .500000E-02 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 41 X,Y,Z= .000000E+00 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 42 X,Y,Z= .500000E-02 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 43 X,Y,Z= .000000E+00 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 44 X,Y,Z= .500000E-02 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 45 X,Y,Z= .000000E+00 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 46 X,Y,Z= .500000E-02 -.472000 .000000E+00 IN CSYS= 0

KEYPOINT 47 X,Y,Z= .000000E+00 -.472000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 40
 LINE NO.= 54 KP1= 34 TAN1= .0000 -1.0000 .0000
 KP2= 40 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 55 KP1= 40 TAN1= 1.0000 .0000 .0000
 KP2= 41 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 1
 LINE NO.= 56 KP1= 41 TAN1= .0000 1.0000 .0000
 KP2= 1 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 40 42
 LINE NO.= 57 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 42 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
 LINE NO.= 58 KP1= 42 TAN1= 1.0000 .0000 .0000
 KP2= 43 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 43 41
 LINE NO.= 59 KP1= 43 TAN1= .0000 1.0000 .0000
 KP2= 41 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 16 42
 LINE NO.= 60 KP1= 16 TAN1= .0000 1.0000 .0000
 KP2= 42 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 43
 LINE NO.= 61 KP1= 15 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 1 45
 LINE NO.= 62 KP1= 1 TAN1= .0000 1.0000 .0000

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      KP2=      45 TAN2=      .0000 -1.0000      .0000
LINE CONNECTS KEYPOINTS      45      44
LINE NO.=      63 KP1=      45 TAN1=     -1.0000      .0000      .0000
      KP2=      44 TAN2=      1.0000      .0000      .0000

LINE CONNECTS KEYPOINTS      44      35
LINE NO.=      64 KP1=      44 TAN1=      .0000 -1.0000      .0000
      KP2=      35 TAN2=      .0000      1.0000      .0000

LINE CONNECTS KEYPOINTS      45      47
LINE NO.=      65 KP1=      45 TAN1=      .0000      1.0000      .0000
      KP2=      47 TAN2=      .0000 -1.0000      .0000

LINE CONNECTS KEYPOINTS      47      46
LINE NO.=      66 KP1=      47 TAN1=     -1.0000      .0000      .0000
      KP2=      46 TAN2=      1.0000      .0000      .0000

LINE CONNECTS KEYPOINTS      46      44
LINE NO.=      67 KP1=      46 TAN1=      .0000 -1.0000      .0000
      KP2=      44 TAN2=      .0000      1.0000      .0000

LINE CONNECTS KEYPOINTS      47      29
LINE NO.=      68 KP1=      47 TAN1=      .0000      1.0000      .0000
      KP2=      29 TAN2=      .0000 -1.0000      .0000

LINE CONNECTS KEYPOINTS      46      28
LINE NO.=      69 KP1=      46 TAN1=      .0000      1.0000      .0000
      KP2=      28 TAN2=      .0000 -1.0000      .0000

```

Define areas for thermal shunts
horizontal thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 40 41 42
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 44 45 40
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 41 46 47
(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 49 50 46
(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 53 19 52
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 51 20 53
(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 16
vertical thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 54 55 56
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
LINE LIST = 57 58 59 55
(TRAVERSED IN SAME DIRECTION AS LINE 57)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 13 61 58
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
LINE LIST = 43 62 63 64
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES
LINE LIST = 65 66 67 63
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES
LINE LIST = 68 26 69 66
(TRAVERSED IN SAME DIRECTION AS LINE 68)

AREA NUMBER = 22

Define shell gaps at the exterior of the tube array
(L's 70 - 73)
(A's 23 - 26)

LINE CONNECTS KEYPOINTS	42	17			
LINE NO.= 70	KP1= 42	TAN1=	-1.0000	-.0001	.0000
	KP2= 17	TAN2=	1.0000	.0001	.0000

LINE CONNECTS KEYPOINTS	20	38			
LINE NO.= 71	KP1= 20	TAN1=	.0001	1.0000	.0000
	KP2= 38	TAN2=	-.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	39	24			
LINE NO.= 72	KP1= 39	TAN1=	-.0001	1.0000	.0000
	KP2= 24	TAN2=	.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	27	46			
LINE NO.= 73	KP1= 27	TAN1=	1.0000	-.0001	.0000
	KP2= 46	TAN2=	-1.0000	.0001	.0000

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 70 14
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
LINE LIST = 18 71 52
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES
LINE LIST = 51 72 21
(TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 69 25 73
(TRAVERSED IN SAME DIRECTION AS LINE 69)

AREA NUMBER = 26

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 60 TO 61 STEP 1

2 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 68 TO 69 STEP 1

4 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 51 TO 53 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 39 TO 47 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 19 TO 20 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 50 TO 50 STEP 1

8 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 58 STEP 1

10 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 55 TO 55 STEP 1

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

12 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 26 TO 26 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 1, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 40 TO 48 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 56 STEP 2

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 57 TO 59 STEP 2

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 62 TO 64 STEP 2

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 65 TO 67 STEP 2

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 49 TO 49 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 34 STEP 1

16 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 30 STEP 1

18 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 70 TO 73 STEP 1

22 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

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

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 22 IN STEPS OF 1

NUMBER OF AREAS MESHED = 12

MAXIMUM NODE NUMBER = 227
 MAXIMUM ELEMENT NUMBER = 128
 Mesh corr: guides

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

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 = 401
 MAXIMUM ELEMENT NUMBER = 240

Define center tube
 (K's 48-51)
 (L's 74-83)
 (A's 27-31)

KEYPOINT 48 X,Y,Z= .100000E-01 .100000E-01 .000000E+00 IN CSYS= 0
 KEYPOINT 49 X,Y,Z= .100000E-01 .233500 .000000E+00 IN CSYS= 0
 KEYPOINT 50 X,Y,Z= .233500 .233500 .000000E+00 IN CSYS= 0
 KEYPOINT 51 X,Y,Z= .233500 .100000E-01 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 48
 LINE NO.= 74 KP1= 34 TAN1= -.7071 -.7071 .0000
 KP2= 48 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 75 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 49 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 49 40
 LINE NO.= 76 KP1= 49 TAN1= .7071 -.7071 .0000
 KP2= 40 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 77 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 31
 LINE NO.= 78 KP1= 50 TAN1= -.7071 -.7071 .0000
 KP2= 31 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 31 40
 LINE NO.= 79 KP1= 31 TAN1= 1.0000 .0000 .0000
 KP2= 40 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 80 KP1= 50 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 51 36
 LINE NO.= 81 KP1= 51 TAN1= -.7071 .7071 .0000
 KP2= 36 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 36 31
 LINE NO.= 82 KP1= 36 TAN1= .0000 -1.0000 .0000
 KP2= 31 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 51 48
 LINE NO.= 83 KP1= 51 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 76 79 78 77
(TRAVERSED IN SAME DIRECTION AS LINE 76)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES

LINE LIST = 54 74 75 76
(TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 74 42 81 83
(TRAVERSED IN SAME DIRECTION AS LINE 74)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 81 82 78 80
(TRAVERSED IN SAME DIRECTION AS LINE 81)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES

LINE LIST = 75 83 80 77
(TRAVERSED IN SAME DIRECTION AS LINE 75)

AREA NUMBER = 31

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 MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 83 STEP 1

10 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 76 TO 76 STEP 1

9 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 78 TO 78 STEP 1

8 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

7 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 74 STEP 1

6 LINES (OF 83 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 76 TO 76 STEP 1

1 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

3 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

4 LINES (OF 83 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 83 STEP 1

83 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
First fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 31 STEP 1

31 AREAS (OF 31 DEFINED) SELECTED BY ASEL COMMAND.

GENERATE NODES AND ELEMENTS
IN AREAS 31 TO 31 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 626
MAXIMUM ELEMENT NUMBER = 436

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 27 TO 30 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 708
MAXIMUM ELEMENT NUMBER = 548

Copy tube mesh

Center tubes above
(A's 32 - 36)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .000E+00 .234 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1045
MAXIMUM ELEMENT NUMBER = 856

Center tubes below
(A's 37 - 46)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
SET IS FROM 27 TO 36 IN STEPS OF 1

MAXIMUM NODE NUMBER = 1719
MAXIMUM ELEMENT NUMBER = 1472
(A's 47 - 51)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2056
MAXIMUM ELEMENT NUMBER = 1780
(A's 52 - 56)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 47 TO 51 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2393
MAXIMUM ELEMENT NUMBER = 2088

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 140	USED FOR NODES	766
NODE 217	USED FOR NODES	1431
NODE 141	USED FOR NODES	767
NODE 216	USED FOR NODES	1432
NODE 215	USED FOR NODES	1433
NODE 214	USED FOR NODES	1434
NODE 213	USED FOR NODES	1435
NODE 212	USED FOR NODES	1436
NODE 211	USED FOR NODES	1437
NODE 210	USED FOR NODES	1438
NODE 209	USED FOR NODES	1439
NODE 208	USED FOR NODES	1440
NODE 207	USED FOR NODES	1441
NODE 177	USED FOR NODES	1092
NODE 139	USED FOR NODES	765
NODE 206	USED FOR NODES	1384
NODE 128	USED FOR NODES	710
NODE 31	USED FOR NODES	1091
NODE 176	USED FOR NODES	1093
NODE 175	USED FOR NODES	1094
NODE 174	USED FOR NODES	1095
NODE 173	USED FOR NODES	1096
NODE 172	USED FOR NODES	1097
NODE 171	USED FOR NODES	1098
NODE 170	USED FOR NODES	1099
NODE 169	USED FOR NODES	1100
NODE 168	USED FOR NODES	1101
NODE 167	USED FOR NODES	1102
NODE 166	USED FOR NODES	1103
NODE 218	USED FOR NODES	1430
NODE 219	USED FOR NODES	1429
NODE 165	USED FOR NODES	1104
NODE 164	USED FOR NODES	1047
NODE 114	USED FOR NODES	754
NODE 129	USED FOR NODES	755
NODE 130	USED FOR NODES	756
NODE 131	USED FOR NODES	757
NODE 132	USED FOR NODES	758
NODE 133	USED FOR NODES	759
NODE 134	USED FOR NODES	760
NODE 135	USED FOR NODES	761
NODE 136	USED FOR NODES	762
NODE 137	USED FOR NODES	763
NODE 138	USED FOR NODES	764
NODE 640	USED FOR NODES	824
NODE 1062	USED FOR NODES	1498

NODE	33	USED FOR NODES	1161		
NODE	34	USED FOR NODES	1160		
NODE	639	USED FOR NODES	823		
NODE	1061	USED FOR NODES	1497		
NODE	1060	USED FOR NODES	1496		
NODE	638	USED FOR NODES	822		
NODE	35	USED FOR NODES	1159		
NODE	1059	USED FOR NODES	1495		
NODE	36	USED FOR NODES	1158		
NODE	637	USED FOR NODES	821		
NODE	37	USED FOR NODES	1157		
NODE	636	USED FOR NODES	820		
NODE	1058	USED FOR NODES	1494		
NODE	38	USED FOR NODES	1156		
NODE	635	USED FOR NODES	819		
NODE	1057	USED FOR NODES	1493		
NODE	39	USED FOR NODES	1155		
NODE	634	USED FOR NODES	818		
NODE	1056	USED FOR NODES	1492		
NODE	40	USED FOR NODES	1154		
NODE	633	USED FOR NODES	817		
NODE	1055	USED FOR NODES	1491		
NODE	632	USED FOR NODES	816		
NODE	1054	USED FOR NODES	1490		
NODE	41	USED FOR NODES	1153		
NODE	42	USED FOR NODES	1152		
NODE	631	USED FOR NODES	815		
NODE	1053	USED FOR NODES	1489		
NODE	43	USED FOR NODES	1151		
NODE	630	USED FOR NODES	814		
NODE	1052	USED FOR NODES	1488		
NODE	44	USED FOR NODES	1150		
NODE	629	USED FOR NODES	813		
NODE	1051	USED FOR NODES	1487		
NODE	45	USED FOR NODES	1149		
NODE	628	USED FOR NODES	812		
NODE	1050	USED FOR NODES	1486		
NODE	683	USED FOR NODES	1766		
NODE	370	USED FOR NODES	843		
NODE	369	USED FOR NODES	844		
NODE	684	USED FOR NODES	1767		
NODE	368	USED FOR NODES	845		
NODE	688	USED FOR NODES	1771		
NODE	316	USED FOR NODES	810	1721	
NODE	367	USED FOR NODES	846		
NODE	685	USED FOR NODES	1768		
NODE	366	USED FOR NODES	847		
NODE	229	USED FOR NODES	1049	1484	2102
NODE	365	USED FOR NODES	848		
NODE	1187	USED FOR NODES	2103		
NODE	364	USED FOR NODES	849		
NODE	363	USED FOR NODES	850		
NODE	692	USED FOR NODES	1775		
NODE	1186	USED FOR NODES	2104		
NODE	1185	USED FOR NODES	2105		
NODE	1184	USED FOR NODES	2106		
NODE	1183	USED FOR NODES	2107		
NODE	1182	USED FOR NODES	2108		
NODE	1181	USED FOR NODES	2109		
NODE	1180	USED FOR NODES	2110		
NODE	1179	USED FOR NODES	2111		
NODE	1178	USED FOR NODES	2112		
NODE	1177	USED FOR NODES	2113		
NODE	375	USED FOR NODES	838		
NODE	1176	USED FOR NODES	2114		
NODE	689	USED FOR NODES	1772		
NODE	690	USED FOR NODES	1773		
NODE	687	USED FOR NODES	1770		
NODE	691	USED FOR NODES	1774		
NODE	1175	USED FOR NODES	2115		

NODE	693	USED FOR NODES	1776
NODE	694	USED FOR NODES	1777
NODE	686	USED FOR NODES	1769
NODE	273	USED FOR NODES	1386
NODE	695	USED FOR NODES	1778
NODE	274	USED FOR NODES	1512
NODE	275	USED FOR NODES	1513
NODE	276	USED FOR NODES	1514
NODE	32	USED FOR NODES	1147
NODE	17	USED FOR NODES	1765
NODE	277	USED FOR NODES	1515
NODE	278	USED FOR NODES	1516
NODE	279	USED FOR NODES	1517
NODE	280	USED FOR NODES	1518
NODE	361	USED FOR NODES	712
NODE	281	USED FOR NODES	1519
NODE	282	USED FOR NODES	1520
NODE	283	USED FOR NODES	1521
NODE	284	USED FOR NODES	1522
NODE	285	USED FOR NODES	1523
NODE	286	USED FOR NODES	1524
NODE	371	USED FOR NODES	842
NODE	374	USED FOR NODES	839
NODE	372	USED FOR NODES	841
NODE	373	USED FOR NODES	840
NODE	75	USED FOR NODES	2073
NODE	59	USED FOR NODES	1835
NODE	319	USED FOR NODES	1736
NODE	242	USED FOR NODES	2172
NODE	320	USED FOR NODES	1735
NODE	58	USED FOR NODES	1834
NODE	76	USED FOR NODES	2072
NODE	241	USED FOR NODES	2171
NODE	321	USED FOR NODES	1734
NODE	57	USED FOR NODES	1833
NODE	77	USED FOR NODES	2071
NODE	240	USED FOR NODES	2170
NODE	322	USED FOR NODES	1733
NODE	56	USED FOR NODES	1832
NODE	78	USED FOR NODES	2070
NODE	239	USED FOR NODES	2169
NODE	79	USED FOR NODES	2069
NODE	238	USED FOR NODES	2168
NODE	323	USED FOR NODES	1732
NODE	55	USED FOR NODES	1831
NODE	80	USED FOR NODES	2068
NODE	54	USED FOR NODES	1830
NODE	237	USED FOR NODES	2167
NODE	324	USED FOR NODES	1731
NODE	81	USED FOR NODES	2067
NODE	53	USED FOR NODES	1829
NODE	236	USED FOR NODES	2166
NODE	325	USED FOR NODES	1730
NODE	52	USED FOR NODES	1828
NODE	235	USED FOR NODES	2165
NODE	82	USED FOR NODES	2066
NODE	326	USED FOR NODES	1729
NODE	83	USED FOR NODES	2065
NODE	51	USED FOR NODES	1827
NODE	327	USED FOR NODES	1728
NODE	234	USED FOR NODES	2164
NODE	84	USED FOR NODES	2064
NODE	50	USED FOR NODES	1826
NODE	233	USED FOR NODES	2163
NODE	328	USED FOR NODES	1727
NODE	85	USED FOR NODES	2063
NODE	49	USED FOR NODES	1825
NODE	329	USED FOR NODES	1726
NODE	232	USED FOR NODES	2162
NODE	86	USED FOR NODES	2062

NODE 330 USED FOR NODES 1725
 NODE 48 USED FOR NODES 1824
 NODE 231 USED FOR NODES 2161
 NODE 87 USED FOR NODES 2061
 NODE 47 USED FOR NODES 1823
 NODE 230 USED FOR NODES 2160
 NODE 331 USED FOR NODES 1724
 NODE 46 USED FOR NODES 1821
 NODE 228 USED FOR NODES 2158
 NODE 74 USED FOR NODES 2060
 NODE 318 USED FOR NODES 1723

*** WARNING *** CP= 10.110 TIME= 13:25:07
 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= 10.420 TIME= 13:25:10
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.430 TIME= 13:25:10
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.430 TIME= 13:25:10
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.440 TIME= 13:25:10
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

KEYPOINT 31 USED FOR KEYPOINT(S) 59 77
 KEYPOINT 33 USED FOR KEYPOINT(S) 62 75 88
 KEYPOINT 35 USED FOR KEYPOINT(S) 64
 KEYPOINT 36 USED FOR KEYPOINT(S) 80
 KEYPOINT 37 USED FOR KEYPOINT(S) 67 85
 KEYPOINT 38 USED FOR KEYPOINT(S) 83
 KEYPOINT 39 USED FOR KEYPOINT(S) 86
 KEYPOINT 40 USED FOR KEYPOINT(S) 56
 KEYPOINT 42 USED FOR KEYPOINT(S) 53
 KEYPOINT 44 USED FOR KEYPOINT(S) 61 72
 KEYPOINT 46 USED FOR KEYPOINT(S) 69
 LINE 44 USED FOR LINE(S) 105
 LINE 48 USED FOR LINE(S) 129
 LINE 49 USED FOR LINE(S) 133
 LINE 57 USED FOR LINE(S) 88
 LINE 64 USED FOR LINE(S) 100
 LINE 67 USED FOR LINE(S) 112
 LINE 79 USED FOR LINE(S) 93
 LINE 82 USED FOR LINE(S) 124
 LINE 97 USED FOR LINE(S) 117
 LINE 106 USED FOR LINE(S) 136

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

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

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 18 STEP 2

3 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 25 STEP 2

6 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

*** WARNING *** CP= 10.590 TIME= 13:25:11
LSIZE is not a recognized PREP7 command, abbreviation, or macro.
This command will be ignored.

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

133 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 19 STEP 1

7 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 88 KP1= 15 KP2= 22

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 20 TO 26 STEP 1

7 LINES (OF 134 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 93 KP1= 22 KP2= 29

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 2810
 MAXIMUM ELEMENT NUMBER = 2412
 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 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 54, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, 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 = 3246
 MAXIMUM ELEMENT NUMBER = 2844

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 14.740 TIME= 13:25:46
 Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 14.760 TIME= 13:25:46
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.760 TIME= 13:25:46
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.770 TIME= 13:25:46
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.770 TIME= 13:25:46
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (1.702564632E-05) 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
** AREA 5 MESHED WITH 132 QUADRILATERALS, 4 TRIANGLES **
** AREA 6 MESHED WITH 132 QUADRILATERALS, 4 TRIANGLES **

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 3470
MAXIMUM ELEMENT NUMBER = 3116

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.)

GENERATE NODES AND ELEMENTS

IN AREAS 23 TO 26 IN STEPS OF 1
** AREA 23 MESHED WITH 38 QUADRILATERALS, 9 TRIANGLES **
** AREA 24 MESHED WITH 40 QUADRILATERALS, 7 TRIANGLES **
** AREA 25 MESHED WITH 38 QUADRILATERALS, 9 TRIANGLES **
** AREA 26 MESHED WITH 41 QUADRILATERALS, 7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3305

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 725 USED FOR NODES 3471
NODE 1399 USED FOR NODES 3604
NODE 724 USED FOR NODES 3472
NODE 1398 USED FOR NODES 3603
NODE 723 USED FOR NODES 3473
NODE 1397 USED FOR NODES 3602
NODE 722 USED FOR NODES 3474
NODE 1396 USED FOR NODES 3601
NODE 721 USED FOR NODES 3475
NODE 1395 USED FOR NODES 3600
NODE 720 USED FOR NODES 3476
NODE 1394 USED FOR NODES 3599
NODE 719 USED FOR NODES 3477
NODE 1393 USED FOR NODES 3598
NODE 718 USED FOR NODES 3478
NODE 1392 USED FOR NODES 3597
NODE 717 USED FOR NODES 3479
NODE 1391 USED FOR NODES 3596
NODE 716 USED FOR NODES 3480
NODE 1390 USED FOR NODES 3595
NODE 715 USED FOR NODES 3481
NODE 1389 USED FOR NODES 3594
NODE 714 USED FOR NODES 3482
NODE 1388 USED FOR NODES 3593
NODE 713 USED FOR NODES 3483
NODE 1387 USED FOR NODES 3592
NODE 2190 USED FOR NODES 3560
NODE 1853 USED FOR NODES 3519

NODE 1856 USED FOR NODES 3516
 NODE 1849 USED FOR NODES 3523
 NODE 2195 USED FOR NODES 3555
 NODE 1861 USED FOR NODES 3511
 NODE 2186 USED FOR NODES 3564
 NODE 1855 USED FOR NODES 3517
 NODE 2188 USED FOR NODES 3562
 NODE 1851 USED FOR NODES 3521
 NODE 1852 USED FOR NODES 3520
 NODE 2197 USED FOR NODES 3553
 NODE 2193 USED FOR NODES 3557
 NODE 1860 USED FOR NODES 3512
 NODE 2189 USED FOR NODES 3561
 NODE 1854 USED FOR NODES 3518
 NODE 2198 USED FOR NODES 3552
 NODE 1858 USED FOR NODES 3514
 NODE 2191 USED FOR NODES 3559
 NODE 2192 USED FOR NODES 3558
 NODE 2196 USED FOR NODES 3554
 NODE 2194 USED FOR NODES 3556
 NODE 1859 USED FOR NODES 3513
 NODE 2187 USED FOR NODES 3563
 NODE 1850 USED FOR NODES 3522
 NODE 1857 USED FOR NODES 3515

*** WARNING *** CP= 17.970 TIME= 13:26:14
 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= 18.200 TIME= 13:26:17
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.210 TIME= 13:26:17
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.210 TIME= 13:26:17
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.210 TIME= 13:26:17
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

 Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 70 TO 73 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3361

GENERATE NODES AND ELEMENTS
ON LINES 14 TO 18 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3409

GENERATE NODES AND ELEMENTS
ON LINES 21 TO 25 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3457

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 29 TO 30 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3485

GENERATE NODES AND ELEMENTS
ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3513

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 60 TO 60 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3517

GENERATE NODES AND ELEMENTS
ON LINES 69 TO 69 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3521

GENERATE NODES AND ELEMENTS
ON LINES 51 TO 52 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3529

***** ROUTINE COMPLETED ***** CP = 18.410

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 .76525E-01 .00000E+00 .00000E+00

TITLE=

12 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=

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

UNSELECT FOR ITEM=MAT COMPONENT=

IN RANGE 7 TO 7 STEP 1

3068 ELEMENTS (OF 3529 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=

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

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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=

12 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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/ 13:26:51 JUN 26, 1995 CP= 22.060
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

224 NODES (OF 3379 DEFINED) SELECTED FROM
224 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= 22.240 TIME= 13:26:53
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= 224 NUMBER OF NODES= 224

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.000

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX/ 13:28:22 JUN 26, 1995 CP= 32.010
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 3530 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 3530

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 3530
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

18 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 32.050 TIME= 13:28:22
Nodes cannot be cleared from line 14 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.060 TIME= 13:28:22
Nodes cannot be cleared from line 16 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.070 TIME= 13:28:22
Nodes cannot be cleared from line 18 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.070 TIME= 13:28:22
Nodes cannot be cleared from line 21 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.080 TIME= 13:28:23
Nodes cannot be cleared from line 23 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.090 TIME= 13:28:23
Nodes cannot be cleared from line 25 because area 26 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.090 TIME= 13:28:23
Nodes cannot be cleared from line 29 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.100 TIME= 13:28:23
Nodes cannot be cleared from line 30 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.100 TIME= 13:28:23
Nodes cannot be cleared from line 33 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.110 TIME= 13:28:23
Nodes cannot be cleared from line 34 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 13:28:23
Nodes cannot be cleared from line 51 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 13:28:23
Nodes cannot be cleared from line 52 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 13:28:23
Nodes cannot be cleared from line 60 because area 19 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 13:28:23
Nodes cannot be cleared from line 69 because area 22 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.130 TIME= 13:28:23
Nodes cannot be cleared from line 70 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.130 TIME= 13:28:23
Nodes cannot be cleared from line 71 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.140 TIME= 13:28:23
Nodes cannot be cleared from line 72 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.150 TIME= 13:28:23
Nodes cannot be cleared from line 73 because area 26 is meshed. Only
elements are deleted.

CLEARED 18 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.160

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= 32.160 TIME= 13:28:23
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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM

2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 3633 BY 1
 REAL= 26.1379688 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
 IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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= 33.100 TIME= 13:28:32

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.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:28:32 JUN 26, 1995 CP= 33.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 33.770 TIME= 13:28:38
This load step will be a static (steady-state) step.

*** NOTE *** CP= 34.090 TIME= 13:28:41
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 = 3309.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .29741	IXX = 403.9	IXX = 403.9
YC = -.29273E-11	IYY = 403.9	IYY = 111.1
ZC = .00000E+00	IZZ = 807.7	IZZ = 515.0
	IXY = -.1209E-08	IXY = -.4090E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
1 3309.65

Range of element maximum matrix coefficients in global coordinates
Maximum= 329.296048 at element 97.
Minimum= 4.296058466E-09 at element 3530.

*** WARNING *** CP= 46.650 TIME= 13:30:43
Coefficient ratio exceeds .0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	3305	PLANE55	8.560	.003
18	1	MATRIX50	.070	.070

Time at end of element matrix formulation CP= 46.65.
HT FLOW CONVERGENCE VALUE= 8196. CRITERION= 8.196

Estimated number of active DOF= 3270.
Maximum wavefront= 271.

Time at end of matrix triangularization CP= 58.47.

Equation solver maximum pivot= 614.242326 at node 4 TEMP.
 Equation solver minimum pivot= 0.317532408 at node 3348 TEMP.
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 170.8
 HT FLOW CONVERGENCE VALUE= 46.05 CRITERION= .1951
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -26.93
 HT FLOW CONVERGENCE VALUE= 3.233 CRITERION= .1925
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.408
 HT FLOW CONVERGENCE VALUE= .1724 CRITERION= .1916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	4.810	.001
18	1	MATRIX50	.100	.100

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	.740	.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 = 3270
 R.M.S. WAVEFRONT SIZE = 128.5

*** ANSYS BINARY FILE STATISTICS
 BUFFER SIZE USED= 4096
 1.563 MB WRITTEN ON ELEMENT MATRIX FILE: ucf12x.emat
 1.484 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf12x.esav
 3.203 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf12x.tri
 .016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf12x.dsub
 1.813 MB WRITTEN ON RESULTS FILE: ucf12x.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 135 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 7 STEP 1
 2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
 RELATED TO SELECTED LINE SET.
 109 NODES (OF 3379 DEFINED) SELECTED FROM
 2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
 RANGE 1 TO 3633 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 109

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
 IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.856 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.780 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.675 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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 = 109

*** WARNING *** CP= 126.360 TIME= 13:43:21
This load step will be a static (steady-state) step.

*** NOTE *** CP= 126.660 TIME= 13:43:24
The step data was checked and warning messages were found.
Please review output or errors file (ucf12x.err) for these warning
messages.

*** NOTE *** CP= 126.660 TIME= 13:43:24
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 13:43:24 JUN 26, 1995 CP= 126.660
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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
  
```

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HT FLOW CONVERGENCE VALUE= 9959. CRITERION= 9.961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 31.81
HT FLOW CONVERGENCE VALUE= 17.53 CRITERION= .1942
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.729
HT FLOW CONVERGENCE VALUE= 1.103 CRITERION= .1903
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6905
HT FLOW CONVERGENCE VALUE= .5509E-01 CRITERION= .1899 <<< 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.856 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.780 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.675 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 205.570 TIME= 13:55:32
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 13:55:32 JUN 26, 1995 CP= 205.570
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .5509E-01 CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1159E-03
HT FLOW CONVERGENCE VALUE= .2171E-05 CRITERION= .1899 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1432 OSCILLATION LIMIT = .1130
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1340E-03
HT FLOW CONVERGENCE VALUE= .3250E-05 CRITERION= .1900 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940

```

*** RESPONSE EIGENVALUE = .7262E-01  OSCILLATION LIMIT = .5730E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668  INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .1025  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2540E-03
HT FLOW CONVERGENCE VALUE= .6213E-05  CRITERION= .1900  <<< 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 = .1559E-01  OSCILLATION LIMIT = .3691E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115  INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .9976E-01  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2401E-03
HT FLOW CONVERGENCE VALUE= .1293E-04  CRITERION= .1900  <<< 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 = .2580E-02  OSCILLATION LIMIT = .1628E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115  UNCHANGED

HT FLOW CONVERGENCE VALUE= .9851E-01  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7609E-04
HT FLOW CONVERGENCE VALUE= .1157E-04  CRITERION= .1900  <<< 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 = .1129E-02  OSCILLATION LIMIT = .7126E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115  UNCHANGED

HT FLOW CONVERGENCE VALUE= .9790E-01  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7593E-04
HT FLOW CONVERGENCE VALUE= .1093E-04  CRITERION= .1900  <<< 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 = .9500E-03  OSCILLATION LIMIT = .5996E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115  UNCHANGED

HT FLOW CONVERGENCE VALUE= .9734E-01  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7578E-04
HT FLOW CONVERGENCE VALUE= .1055E-04  CRITERION= .1900  <<< 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 = .8862E-03  OSCILLATION LIMIT = .5593E-02
*** AUTO TIME STEP: NEXT TIME INC = 2.3668  DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .9683E-01  CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2838E-04
HT FLOW CONVERGENCE VALUE= .3876E-05  CRITERION= .1900  <<< 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 = .8656E-03  OSCILLATION LIMIT = .2049E-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 14:29:34 JUN 26, 1995 CP= 524.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 199.9  CRITERION= .2757
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6590

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HT FLOW CONVERGENCE VALUE= .2844 CRITERION= .1885
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6798E-01
 HT FLOW CONVERGENCE VALUE= .1220E-01 CRITERION= .1885 <<< 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 = .4863E-05 OSCILLATION LIMIT = .3837
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 200.5 CRITERION= .2750
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6811
 HT FLOW CONVERGENCE VALUE= .3398 CRITERION= .1895
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9394E-01
 HT FLOW CONVERGENCE VALUE= .1388E-01 CRITERION= .1895 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4024E-06 OSCILLATION LIMIT = .3175E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 599.9 CRITERION= .6291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.977
 HT FLOW CONVERGENCE VALUE= .9682 CRITERION= .1885
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3195
 HT FLOW CONVERGENCE VALUE= .5147E-01 CRITERION= .1884 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .7968E-06 OSCILLATION LIMIT = .1886
 *** AUTO TIME STEP: NEXT TIME INC = .62751E+06 INCREASED (FACTOR = 2.6513)

HT FLOW CONVERGENCE VALUE= 1592. CRITERION= 1.603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.242
 HT FLOW CONVERGENCE VALUE= 2.579 CRITERION= .1894
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9382
 HT FLOW CONVERGENCE VALUE= .1512 CRITERION= .1890 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = .102201E+07 TIME INC = 627507.
 *** RESPONSE EIGENVALUE = .6218E-06 OSCILLATION LIMIT = .3902
 *** AUTO STEP TIME: NEXT TIME INC = .62751E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1595. CRITERION= 1.606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.242
 HT FLOW CONVERGENCE VALUE= 2.562 CRITERION= .1879
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9177
 HT FLOW CONVERGENCE VALUE= .1493 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .164952E+07 TIME INC = 627507.
 *** RESPONSE EIGENVALUE = .6270E-06 OSCILLATION LIMIT = .3934
 *** AUTO STEP TIME: NEXT TIME INC = .62751E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1598. CRITERION= 1.609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.242
 HT FLOW CONVERGENCE VALUE= 2.417 CRITERION= .1884
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9131
 HT FLOW CONVERGENCE VALUE= .1483 CRITERION= .1881 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .227702E+07 TIME INC = 627507.
 *** RESPONSE EIGENVALUE = .5637E-06 OSCILLATION LIMIT = .3537
 *** AUTO STEP TIME: NEXT TIME INC = .62751E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1600. CRITERION= 1.611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.242
 HT FLOW CONVERGENCE VALUE= 2.260 CRITERION= .1871
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8953
 HT FLOW CONVERGENCE VALUE= .1457 CRITERION= .1868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .290453E+07 TIME INC = 627507.
 *** RESPONSE EIGENVALUE = .6051E-06 OSCILLATION LIMIT = .3797
 *** AUTO TIME STEP: NEXT TIME INC = .25126E+06 DECREASED (FACTOR = .4004)

HT FLOW CONVERGENCE VALUE= 642.2 CRITERION= .6685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.099
 HT FLOW CONVERGENCE VALUE= .9783 CRITERION= .1876
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3364
 HT FLOW CONVERGENCE VALUE= .5506E-01 CRITERION= .1875 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .315579E+07 TIME INC = 251260.
 *** RESPONSE EIGENVALUE = .4926E-06 OSCILLATION LIMIT = .1238

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:18:19 JUN 26, 1995 CP= 990.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 185.4 CRITERION= .2637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7269
 HT FLOW CONVERGENCE VALUE= .3175 CRITERION= .1877
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
 HT FLOW CONVERGENCE VALUE= .1728E-01 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 32
 *** TIME = .340705E+07 TIME INC = 251260.
 *** RESPONSE EIGENVALUE = .3555E-06 OSCILLATION LIMIT = .8933E-01
 *** AUTO STEP TIME: NEXT TIME INC = .25126E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 185.6 CRITERION= .2639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5747
 HT FLOW CONVERGENCE VALUE= .2631 CRITERION= .1875
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7790E-01
 HT FLOW CONVERGENCE VALUE= .1480E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 34
 *** TIME = .365831E+07 TIME INC = 251260.
 *** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .7060
 *** AUTO TIME STEP: NEXT TIME INC = .17795E+06 DECREASED (FACTOR = .7082)

HT FLOW CONVERGENCE VALUE= 131.4 CRITERION= .2289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4680
 HT FLOW CONVERGENCE VALUE= .2177 CRITERION= .1874
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7272E-01
 HT FLOW CONVERGENCE VALUE= .1135E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 36
 *** TIME = .383626E+07 TIME INC = 177945.
 *** RESPONSE EIGENVALUE = .3837E-06 OSCILLATION LIMIT = .6827E-01
 *** AUTO STEP TIME: NEXT TIME INC = .17795E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 131.5 CRITERION= .2289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4073
 HT FLOW CONVERGENCE VALUE= .1897 CRITERION= .1874
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5508E-01
 HT FLOW CONVERGENCE VALUE= .1022E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 38
 *** TIME = .401420E+07 TIME INC = 177945.
 *** RESPONSE EIGENVALUE = .1966E-05 OSCILLATION LIMIT = .3499
 *** AUTO STEP TIME: NEXT TIME INC = .17795E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 131.4 CRITERION= .2289

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4147
 HT FLOW CONVERGENCE VALUE= .2105 CRITERION= .1872
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6611E-01
 HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .1872 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 40
 *** TIME = .419215E+07 TIME INC = 177945.
 *** RESPONSE EIGENVALUE = .5425E-06 OSCILLATION LIMIT = .9653E-01
 *** AUTO TIME STEP: NEXT TIME INC = .53384E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 394.4 CRITERION= .4365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.223
 HT FLOW CONVERGENCE VALUE= .5855 CRITERION= .1872
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2063
 HT FLOW CONVERGENCE VALUE= .3628E-01 CRITERION= .1871 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 42
 *** TIME = .472598E+07 TIME INC = 533836.
 *** RESPONSE EIGENVALUE = .9219E-06 OSCILLATION LIMIT = .4922
 *** AUTO STEP TIME: NEXT TIME INC = .53384E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 394.4 CRITERION= .4365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.221
 HT FLOW CONVERGENCE VALUE= .5918 CRITERION= .1869
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2129
 HT FLOW CONVERGENCE VALUE= .3694E-01 CRITERION= .1868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 44
 *** TIME = .525982E+07 TIME INC = 533836.
 *** RESPONSE EIGENVALUE = .6757E-06 OSCILLATION LIMIT = .3607
 *** AUTO STEP TIME: NEXT TIME INC = .53384E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 394.7 CRITERION= .4366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.222
 HT FLOW CONVERGENCE VALUE= .5827 CRITERION= .1868
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2070
 HT FLOW CONVERGENCE VALUE= .3635E-01 CRITERION= .1867 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 46
 *** TIME = .579366E+07 TIME INC = 533836.
 *** RESPONSE EIGENVALUE = .8363E-06 OSCILLATION LIMIT = .4465
 *** AUTO TIME STEP: NEXT TIME INC = .51789E+06 DECREASED (FACTOR = .9701)

HT FLOW CONVERGENCE VALUE= 382.9 CRITERION= .4260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.185
 HT FLOW CONVERGENCE VALUE= .5805 CRITERION= .1865
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2040
 HT FLOW CONVERGENCE VALUE= .3563E-01 CRITERION= .1864 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 48
 *** TIME = .631155E+07 TIME INC = 517894.
 *** RESPONSE EIGENVALUE = .6891E-06 OSCILLATION LIMIT = .3569

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:11:43 JUN 26, 1995 CP= 1517.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 253.7 CRITERION= .3147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7868
 HT FLOW CONVERGENCE VALUE= .3800 CRITERION= .1866
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1329
 HT FLOW CONVERGENCE VALUE= .2334E-01 CRITERION= .1865 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 50

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*** TIME = .682945E+07   TIME INC = 517894.
*** RESPONSE EIGENVALUE = .7851E-06   OSCILLATION LIMIT = .4066
*** AUTO STEP TIME: NEXT TIME INC = .51789E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 253.5   CRITERION= .3148
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7841
    HT FLOW CONVERGENCE VALUE= .3690   CRITERION= .1861
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
    HT FLOW CONVERGENCE VALUE= .2317E-01 CRITERION= .1861   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 52
*** TIME = .734734E+07   TIME INC = 517894.
*** RESPONSE EIGENVALUE = .1016E-05   OSCILLATION LIMIT = .5263
*** AUTO STEP TIME: NEXT TIME INC = .51789E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 253.8   CRITERION= .3146
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7869
    HT FLOW CONVERGENCE VALUE= .3641   CRITERION= .1862
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1313
    HT FLOW CONVERGENCE VALUE= .2321E-01 CRITERION= .1862   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 54
*** TIME = .786523E+07   TIME INC = 517894.
*** RESPONSE EIGENVALUE = .8249E-06   OSCILLATION LIMIT = .4272
*** AUTO STEP TIME: NEXT TIME INC = .51789E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 253.6   CRITERION= .3147
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7841
    HT FLOW CONVERGENCE VALUE= .3643   CRITERION= .1858
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1284
    HT FLOW CONVERGENCE VALUE= .2303E-01 CRITERION= .1857   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 56
*** TIME = .838313E+07   TIME INC = 517894.
*** RESPONSE EIGENVALUE = .9872E-06   OSCILLATION LIMIT = .5113
*** AUTO STEP TIME: NEXT TIME INC = .51789E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 253.9   CRITERION= .3145
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7868
    HT FLOW CONVERGENCE VALUE= .3649   CRITERION= .1859
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1300
    HT FLOW CONVERGENCE VALUE= .2300E-01 CRITERION= .1859   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 58
*** TIME = .890102E+07   TIME INC = 517894.
*** RESPONSE EIGENVALUE = .8312E-06   OSCILLATION LIMIT = .4305
*** AUTO STEP TIME: NEXT TIME INC = .28315E+06 DECREASED (FACTOR = .5467)

    HT FLOW CONVERGENCE VALUE= 138.7   CRITERION= .2319
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4287
    HT FLOW CONVERGENCE VALUE= .1985   CRITERION= .1855
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6583E-01
    HT FLOW CONVERGENCE VALUE= .1184E-01 CRITERION= .1855   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 60
*** TIME = .918417E+07   TIME INC = 283145.
*** RESPONSE EIGENVALUE = .1016E-05   OSCILLATION LIMIT = .2875
*** AUTO STEP TIME: NEXT TIME INC = .28315E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 138.9   CRITERION= .2317
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4312
    HT FLOW CONVERGENCE VALUE= .1986   CRITERION= .1857
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6706E-01
    HT FLOW CONVERGENCE VALUE= .1185E-01 CRITERION= .1857   <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 62
*** TIME = .946731E+07   TIME INC = 283145.
*** RESPONSE EIGENVALUE = .8548E-06   OSCILLATION LIMIT = .2420

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:53:25 JUN 26, 1995 CP= 1930.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 107.2 CRITERION= .2144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3317
 HT FLOW CONVERGENCE VALUE= .1542 CRITERION= .1854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 63
 *** TIME = .975046E+07 TIME INC = 283145.
 *** RESPONSE EIGENVALUE = .2840E-06 OSCILLATION LIMIT = .8041E-01
 *** AUTO STEP TIME: NEXT TIME INC = .28315E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.4 CRITERION= .2142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3344
 HT FLOW CONVERGENCE VALUE= .1477 CRITERION= .1855 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 64
 *** TIME = .100336E+08 TIME INC = 283145.
 *** RESPONSE EIGENVALUE = .1073E-05 OSCILLATION LIMIT = .3039
 *** AUTO STEP TIME: NEXT TIME INC = .28315E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.2 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3317
 HT FLOW CONVERGENCE VALUE= .1479 CRITERION= .1852 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 65
 *** TIME = .103167E+08 TIME INC = 283145.
 *** RESPONSE EIGENVALUE = .1264E-05 OSCILLATION LIMIT = .3580
 *** AUTO STEP TIME: NEXT TIME INC = .28315E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.4 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3342
 HT FLOW CONVERGENCE VALUE= .1477 CRITERION= .1853 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 66
 *** TIME = .105999E+08 TIME INC = 283145.
 *** RESPONSE EIGENVALUE = .1021E-05 OSCILLATION LIMIT = .2891
 *** AUTO TIME STEP: NEXT TIME INC = .48972E+06 INCREASED (FACTOR = 1.7296)

HT FLOW CONVERGENCE VALUE= 185.5 CRITERION= .2622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5737
 HT FLOW CONVERGENCE VALUE= .2588 CRITERION= .1849
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8588E-01
 HT FLOW CONVERGENCE VALUE= .1606E-01 CRITERION= .1849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 68
 *** TIME = .110896E+08 TIME INC = 489722.
 *** RESPONSE EIGENVALUE = .1866E-05 OSCILLATION LIMIT = .9139
 *** AUTO TIME STEP: NEXT TIME INC = .26792E+06 DECREASED (FACTOR = .5471)

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3154
 HT FLOW CONVERGENCE VALUE= .1429 CRITERION= .1851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 69
 *** TIME = .113575E+08 TIME INC = 267924.
 *** RESPONSE EIGENVALUE = .4610E-06 OSCILLATION LIMIT = .1235
 *** AUTO STEP TIME: NEXT TIME INC = .26792E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.5 CRITERION= .2111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3139
 HT FLOW CONVERGENCE VALUE= .1414 CRITERION= .1848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 70

*** TIME = .116255E+08 TIME INC = 267924.
 *** RESPONSE EIGENVALUE = .9761E-06 OSCILLATION LIMIT = .2615
 *** AUTO TIME STEP: NEXT TIME INC = .51224E+06 INCREASED (FACTOR = 1.9119)

HT FLOW CONVERGENCE VALUE= 194.2 CRITERION= .2680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6022
 HT FLOW CONVERGENCE VALUE= .2682 CRITERION= .1848
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8965E-01
 HT FLOW CONVERGENCE VALUE= .1674E-01 CRITERION= .1848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 72
 *** TIME = .121377E+08 TIME INC = 512243.
 *** RESPONSE EIGENVALUE = .1792E-05 OSCILLATION LIMIT = .9178
 *** AUTO TIME STEP: NEXT TIME INC = .27907E+06 DECREASED (FACTOR = .5448)

HT FLOW CONVERGENCE VALUE= 105.7 CRITERION= .2129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3269
 HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .1845 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 73
 *** TIME = .124168E+08 TIME INC = 279075.
 *** RESPONSE EIGENVALUE = .2878E-06 OSCILLATION LIMIT = .8032E-01
 *** AUTO TIME STEP: NEXT TIME INC = .20629E+06 DECREASED (FACTOR = .7392)

HT FLOW CONVERGENCE VALUE= 78.29 CRITERION= .2004
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2444
 HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .1847 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 74
 *** TIME = .126231E+08 TIME INC = 206292.
 *** RESPONSE EIGENVALUE = .1321E-05 OSCILLATION LIMIT = .2725

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:38:41 JUN 26, 1995 CP= 2366.950.
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 64.14 CRITERION= .1955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1984
 HT FLOW CONVERGENCE VALUE= .8741E-01 CRITERION= .1844 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 75
 *** TIME = .128294E+08 TIME INC = 206292.
 *** RESPONSE EIGENVALUE = .1806E-05 OSCILLATION LIMIT = .3726
 *** AUTO STEP TIME: NEXT TIME INC = .20629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.29 CRITERION= .1953
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2001
 HT FLOW CONVERGENCE VALUE= .8729E-01 CRITERION= .1846 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 76
 *** TIME = .130357E+08 TIME INC = 206292.
 *** RESPONSE EIGENVALUE = .1305E-05 OSCILLATION LIMIT = .2692
 *** AUTO TIME STEP: NEXT TIME INC = .38309E+06 INCREASED (FACTOR = 1.8570)

HT FLOW CONVERGENCE VALUE= 119.1 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3685
 HT FLOW CONVERGENCE VALUE= .1654 CRITERION= .1843 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 77
 *** TIME = .134187E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .7852E-06 OSCILLATION LIMIT = .3008
 *** AUTO STEP TIME: NEXT TIME INC = .38309E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.3 CRITERION= .2195

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3704
 HT FLOW CONVERGENCE VALUE= .1626 CRITERION= .1844 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 78
 *** TIME = .138018E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .1104E-05 OSCILLATION LIMIT = .4231
 *** AUTO STEP TIME: NEXT TIME INC = .38309E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.1 CRITERION= .2195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3685
 HT FLOW CONVERGENCE VALUE= .1625 CRITERION= .1840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 79
 *** TIME = .141849E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .1294E-05 OSCILLATION LIMIT = .4957
 *** AUTO STEP TIME: NEXT TIME INC = .38309E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.3 CRITERION= .2193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3703
 HT FLOW CONVERGENCE VALUE= .1624 CRITERION= .1841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 80
 *** TIME = .145680E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .1086E-05 OSCILLATION LIMIT = .4162
 *** AUTO STEP TIME: NEXT TIME INC = .38309E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.1 CRITERION= .2193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3685
 HT FLOW CONVERGENCE VALUE= .1620 CRITERION= .1838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 81
 *** TIME = .149511E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .1265E-05 OSCILLATION LIMIT = .4844
 *** AUTO STEP TIME: NEXT TIME INC = .38309E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.3 CRITERION= .2191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3703
 HT FLOW CONVERGENCE VALUE= .1621 CRITERION= .1839 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 82
 *** TIME = .153342E+08 TIME INC = 383089.
 *** RESPONSE EIGENVALUE = .1095E-05 OSCILLATION LIMIT = .4195
 *** AUTO STEP TIME: NEXT TIME INC = .22232E+06 DECREASED (FACTOR = .5803)

HT FLOW CONVERGENCE VALUE= 69.13 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2139
 HT FLOW CONVERGENCE VALUE= .9235E-01 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 83
 *** TIME = .155565E+08 TIME INC = 222321.
 *** RESPONSE EIGENVALUE = .2344E-05 OSCILLATION LIMIT = .5212
 *** AUTO STEP TIME: NEXT TIME INC = .22232E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.28 CRITERION= .1962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2153
 HT FLOW CONVERGENCE VALUE= .9439E-01 CRITERION= .1838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 84
 *** TIME = .157788E+08 TIME INC = 222321.
 *** RESPONSE EIGENVALUE = .1313E-05 OSCILLATION LIMIT = .2920

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:17:28 JUN 26, 1995 CP= 2763.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 58.81 CRITERION= .1929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1820
 HT FLOW CONVERGENCE VALUE= .8190E-01 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 85
 *** TIME = .160012E+08 TIME INC = 222321.
 *** RESPONSE EIGENVALUE = .1410E-05 OSCILLATION LIMIT = .3134
 *** AUTO STEP TIME: NEXT TIME INC = .22232E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 58.95 CRITERION= .1927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1833
 HT FLOW CONVERGENCE VALUE= .8004E-01 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 86
 *** TIME = .162235E+08 TIME INC = 222321.
 *** RESPONSE EIGENVALUE = .1685E-05 OSCILLATION LIMIT = .3745
 *** AUTO STEP TIME: NEXT TIME INC = .22232E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 58.81 CRITERION= .1928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1820
 HT FLOW CONVERGENCE VALUE= .8179E-01 CRITERION= .1834 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 87
 *** TIME = .164458E+08 TIME INC = 222321.
 *** RESPONSE EIGENVALUE = .1304E-05 OSCILLATION LIMIT = .2899
 *** AUTO STEP TIME: NEXT TIME INC = .38348E+06 INCREASED (FACTOR = 1.7249)

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .2096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3151
 HT FLOW CONVERGENCE VALUE= .1407 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 88
 *** TIME = .168293E+08 TIME INC = 383480.
 *** RESPONSE EIGENVALUE = .9463E-06 OSCILLATION LIMIT = .3629
 *** AUTO STEP TIME: NEXT TIME INC = .38348E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.5 CRITERION= .2097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3140
 HT FLOW CONVERGENCE VALUE= .1404 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 89
 *** TIME = .172128E+08 TIME INC = 383480.
 *** RESPONSE EIGENVALUE = .1237E-05 OSCILLATION LIMIT = .4743
 *** AUTO STEP TIME: NEXT TIME INC = .38348E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .2095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3152
 HT FLOW CONVERGENCE VALUE= .1388 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 90
 *** TIME = .175962E+08 TIME INC = 383480.
 *** RESPONSE EIGENVALUE = .1383E-05 OSCILLATION LIMIT = .5302
 *** AUTO STEP TIME: NEXT TIME INC = .38348E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.5 CRITERION= .2095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3140
 HT FLOW CONVERGENCE VALUE= .1401 CRITERION= .1830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 91
 *** TIME = .179797E+08 TIME INC = 383480.
 *** RESPONSE EIGENVALUE = .1235E-05 OSCILLATION LIMIT = .4736
 *** AUTO STEP TIME: NEXT TIME INC = .38348E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .2093
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3152
 HT FLOW CONVERGENCE VALUE= .1388 CRITERION= .1830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 92
 *** TIME = .183632E+08 TIME INC = 383480.

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*** RESPONSE EIGENVALUE = .1335E-05  OSCILLATION LIMIT = .5119
*** AUTO STEP TIME: NEXT TIME INC = .38348E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 101.5  CRITERION= .2093
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3140
  HT FLOW CONVERGENCE VALUE= .1393  CRITERION= .1827  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 93
*** TIME = .187467E+08  TIME INC = 383480.
*** RESPONSE EIGENVALUE = .1261E-05  OSCILLATION LIMIT = .4835
*** AUTO TIME STEP: NEXT TIME INC = .18792E+06  DECREASED (FACTOR = .4900)

  HT FLOW CONVERGENCE VALUE= 49.85  CRITERION= .1894
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1554
  HT FLOW CONVERGENCE VALUE= .6791E-01  CRITERION= .1829  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 94
*** TIME = .189346E+08  TIME INC = 187920.
*** RESPONSE EIGENVALUE = .2793E-05  OSCILLATION LIMIT = .5249

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX 18:56:42 JUN 26, 1995 CP= 3158.790
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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  HT FLOW CONVERGENCE VALUE= 43.60  CRITERION= .1880
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1349
  HT FLOW CONVERGENCE VALUE= .6161E-01  CRITERION= .1826  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 95
*** TIME = .191225E+08  TIME INC = 187920.
*** RESPONSE EIGENVALUE = .1897E-05  OSCILLATION LIMIT = .3565
*** AUTO STEP TIME: NEXT TIME INC = .18792E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.73  CRITERION= .1878
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1361
  HT FLOW CONVERGENCE VALUE= .6160E-01  CRITERION= .1827  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 96
*** TIME = .193104E+08  TIME INC = 187920.
*** RESPONSE EIGENVALUE = .1528E-05  OSCILLATION LIMIT = .2871
*** AUTO TIME STEP: NEXT TIME INC = .32726E+06  INCREASED (FACTOR = 1.7415)

  HT FLOW CONVERGENCE VALUE= 75.95  CRITERION= .1979
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2350
  HT FLOW CONVERGENCE VALUE= .1090  CRITERION= .1825  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 97
*** TIME = .196377E+08  TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1066E-05  OSCILLATION LIMIT = .3490
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 76.08  CRITERION= .1977
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2361
  HT FLOW CONVERGENCE VALUE= .1091  CRITERION= .1826  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 98
*** TIME = .199650E+08  TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1339E-05  OSCILLATION LIMIT = .4381
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 75.95  CRITERION= .1977
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2350
  HT FLOW CONVERGENCE VALUE= .1087  CRITERION= .1823  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 99
*** TIME = .202922E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1579E-05 OSCILLATION LIMIT = .5166
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.08 CRITERION= .1975
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2360
HT FLOW CONVERGENCE VALUE= .1089 CRITERION= .1824 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 100
*** TIME = .206195E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1335E-05 OSCILLATION LIMIT = .4368
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.95 CRITERION= .1976
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2350
HT FLOW CONVERGENCE VALUE= .1087 CRITERION= .1821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 101
*** TIME = .209468E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1539E-05 OSCILLATION LIMIT = .5035
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.08 CRITERION= .1974
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2360
HT FLOW CONVERGENCE VALUE= .1087 CRITERION= .1822 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 102
*** TIME = .212740E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1352E-05 OSCILLATION LIMIT = .4423
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.95 CRITERION= .1974
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2350
HT FLOW CONVERGENCE VALUE= .1086 CRITERION= .1820 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 103
*** TIME = .216013E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1509E-05 OSCILLATION LIMIT = .4939
*** AUTO STEP TIME: NEXT TIME INC = .32726E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.08 CRITERION= .1972
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2360
HT FLOW CONVERGENCE VALUE= .1085 CRITERION= .1820 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 104
*** TIME = .219285E+08 TIME INC = 327264.
*** RESPONSE EIGENVALUE = .1361E-05 OSCILLATION LIMIT = .4453
*** AUTO STEP TIME: NEXT TIME INC = .16180E+06 DECREASED (FACTOR = .4944)

HT FLOW CONVERGENCE VALUE= 37.53 CRITERION= .1859
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1162
HT FLOW CONVERGENCE VALUE= .5234E-01 CRITERION= .1818 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 105
*** TIME = .220904E+08 TIME INC = 161804.
*** RESPONSE EIGENVALUE = .3170E-05 OSCILLATION LIMIT = .5129

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 19:11:34 JUN 26, 1995 CP= 3593.250
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 33.76 CRITERION= .1849
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1052

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HT FLOW CONVERGENCE VALUE= .4760E-01 CRITERION= .1819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 106
 *** TIME = .222522E+08 TIME INC = 161804.
 *** RESPONSE EIGENVALUE = .1976E-05 OSCILLATION LIMIT = .3198
 *** AUTO STEP TIME: NEXT TIME INC = .16180E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.63 CRITERION= .1850
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1041
 HT FLOW CONVERGENCE VALUE= .4795E-01 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 107
 *** TIME = .224140E+08 TIME INC = 161804.
 *** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = .2930
 *** AUTO TIME STEP: NEXT TIME INC = .27607E+06 INCREASED (FACTOR = 1.7062)

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1906
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787
 HT FLOW CONVERGENCE VALUE= .8251E-01 CRITERION= .1818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 108
 *** TIME = .226900E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1153E-05 OSCILLATION LIMIT = .3184
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.40 CRITERION= .1907
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777
 HT FLOW CONVERGENCE VALUE= .8181E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 109
 *** TIME = .229661E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1546E-05 OSCILLATION LIMIT = .4267
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1905
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787
 HT FLOW CONVERGENCE VALUE= .8126E-01 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 110
 *** TIME = .232422E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1631E-05 OSCILLATION LIMIT = .4503
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.40 CRITERION= .1905
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777
 HT FLOW CONVERGENCE VALUE= .8171E-01 CRITERION= .1814 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 111
 *** TIME = .235182E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1543E-05 OSCILLATION LIMIT = .4259
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1903
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787
 HT FLOW CONVERGENCE VALUE= .8255E-01 CRITERION= .1815 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 112
 *** TIME = .237943E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1584E-05 OSCILLATION LIMIT = .4373
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.40 CRITERION= .1904
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777
 HT FLOW CONVERGENCE VALUE= .8346E-01 CRITERION= .1813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 113
 *** TIME = .240704E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1566E-05 OSCILLATION LIMIT = .4323
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787
 HT FLOW CONVERGENCE VALUE= .8358E-01 CRITERION= .1814 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 114
 *** TIME = .243465E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1558E-05 OSCILLATION LIMIT = .4302
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.40 CRITERION= .1902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777
 HT FLOW CONVERGENCE VALUE= .8339E-01 CRITERION= .1811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 115
 *** TIME = .246225E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1575E-05 OSCILLATION LIMIT = .4349
 *** AUTO STEP TIME: NEXT TIME INC = .27607E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787
 HT FLOW CONVERGENCE VALUE= .8341E-01 CRITERION= .1812 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 116
 *** TIME = .248986E+08 TIME INC = 276071.
 *** RESPONSE EIGENVALUE = .1541E-05 OSCILLATION LIMIT = .4254
 *** AUTO TIME STEP: NEXT TIME INC = .17376E+06 DECREASED (FACTOR = .6294)

HT FLOW CONVERGENCE VALUE= 36.12 CRITERION= .1848
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1118
 HT FLOW CONVERGENCE VALUE= .5162E-01 CRITERION= .1810 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 117
 *** TIME = .250724E+08 TIME INC = 173759.
 *** RESPONSE EIGENVALUE = .2462E-05 OSCILLATION LIMIT = .4278
 *** AUTO STEP TIME: NEXT TIME INC = .17376E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.24 CRITERION= .1846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1128
 HT FLOW CONVERGENCE VALUE= .5227E-01 CRITERION= .1811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 118
 *** TIME = .252461E+08 TIME INC = 173759.
 *** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = .3130

***** ANSYS SOLVE COMMAND *****
 1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:29:11 JUN 26, 1995 CP= 4106.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 32.83 CRITERION= .1841
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
 HT FLOW CONVERGENCE VALUE= .4770E-01 CRITERION= .1809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 119
 *** TIME = .254199E+08 TIME INC = 173759.
 *** RESPONSE EIGENVALUE = .1681E-05 OSCILLATION LIMIT = .2922
 *** AUTO STEP TIME: NEXT TIME INC = .17376E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.95 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1025
 HT FLOW CONVERGENCE VALUE= .4726E-01 CRITERION= .1810 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 120
 *** TIME = .255936E+08 TIME INC = 173759.
 *** RESPONSE EIGENVALUE = .2038E-05 OSCILLATION LIMIT = .3541

*** AUTO STEP TIME: NEXT TIME INC = .17376E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.83 CRITERION= .1840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
 HT FLOW CONVERGENCE VALUE= .4756E-01 CRITERION= .1808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 121
 *** TIME = .257674E+08 TIME INC = 173759.
 *** RESPONSE EIGENVALUE = .1699E-05 OSCILLATION LIMIT = .2952
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 INCREASED (FACTOR = 1.6940)

HT FLOW CONVERGENCE VALUE= 55.77 CRITERION= .1892
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1729
 HT FLOW CONVERGENCE VALUE= .8116E-01 CRITERION= .1809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 122
 *** TIME = .260617E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1267E-05 OSCILLATION LIMIT = .3730
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.64 CRITERION= .1893
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1722
 HT FLOW CONVERGENCE VALUE= .8047E-01 CRITERION= .1807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 123
 *** TIME = .263561E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1580E-05 OSCILLATION LIMIT = .4652
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.77 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1729
 HT FLOW CONVERGENCE VALUE= .8012E-01 CRITERION= .1807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 124
 *** TIME = .266504E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = .5169
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.64 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1722
 HT FLOW CONVERGENCE VALUE= .8030E-01 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 125
 *** TIME = .269448E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1590E-05 OSCILLATION LIMIT = .4679
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.76 CRITERION= .1889
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1729
 HT FLOW CONVERGENCE VALUE= .8016E-01 CRITERION= .1806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 126
 *** TIME = .272391E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1703E-05 OSCILLATION LIMIT = .5014
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.64 CRITERION= .1890
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1722
 HT FLOW CONVERGENCE VALUE= .8169E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 127
 *** TIME = .275335E+08 TIME INC = 294348.
 *** RESPONSE EIGENVALUE = .1621E-05 OSCILLATION LIMIT = .4771
 *** AUTO STEP TIME: NEXT TIME INC = .29435E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.76 CRITERION= .1888
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1729
 HT FLOW CONVERGENCE VALUE= .8356E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 128

```

*** TIME = .278278E+08    TIME INC = 294348.
*** RESPONSE EIGENVALUE = .1673E-05    OSCILLATION LIMIT = .4924
*** AUTO STEP TIME: NEXT TIME INC = .29435E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 55.64    CRITERION= .1888
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1722
    HT FLOW CONVERGENCE VALUE= .8339E-01    CRITERION= .1802    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 129
*** TIME = .281222E+08    TIME INC = 294348.
*** RESPONSE EIGENVALUE = .1641E-05    OSCILLATION LIMIT = .4831
*** AUTO TIME STEP: NEXT TIME INC = .27970E+06    DECREASED (FACTOR = .9502)

    HT FLOW CONVERGENCE VALUE= 52.99    CRITERION= .1878
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1644
    HT FLOW CONVERGENCE VALUE= .7895E-01    CRITERION= .1803    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 130
*** TIME = .284019E+08    TIME INC = 279701.
*** RESPONSE EIGENVALUE = .1724E-05    OSCILLATION LIMIT = .4823
    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

```

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

```

SELECT    ELEMENTS CREATED FROM SELECTED AREAS.

```

```

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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    56 STEP    1

```

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

```

ALL SELECT    FOR ITEM=ELEM COMPONENT=
IN RANGE    1 TO    3530 STEP    1

```

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

```

CONSTRAINT AT KEYPOINT    11
LOAD LABELS = TEMP
VALUES =    110.94    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT    10
LOAD LABELS = TEMP
VALUES =    111.59    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT    9
LOAD LABELS = TEMP
VALUES =    113.08    .00000E+00    EXPANSION KEY = 1

```

***** ANSYS SOLVE COMMAND *****

```

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS    TRANSFERRED FROM KEYPOINTS    = 109

```

```

*** NOTE ***    CP= 4579.990    TIME= 19:45:13
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 19:45:13 JUN 26, 1995 CP= 4579.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 48.80 CRITERION= .1868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511
 HT FLOW CONVERGENCE VALUE= .7406E-01 CRITERION= .1801 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 131
 *** TIME = .286816E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1809E-05 OSCILLATION LIMIT = .5059
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.91 CRITERION= .1866
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1517
 HT FLOW CONVERGENCE VALUE= .7398E-01 CRITERION= .1801 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 132
 *** TIME = .289613E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1864E-05 OSCILLATION LIMIT = .5214
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.80 CRITERION= .1866
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511
 HT FLOW CONVERGENCE VALUE= .7415E-01 CRITERION= .1799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 133
 *** TIME = .292410E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1721E-05 OSCILLATION LIMIT = .4812
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.91 CRITERION= .1865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1517
 HT FLOW CONVERGENCE VALUE= .7396E-01 CRITERION= .1800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 134
 *** TIME = .295207E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1819E-05 OSCILLATION LIMIT = .5089
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.80 CRITERION= .1865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511

HT FLOW CONVERGENCE VALUE= .7387E-01 CRITERION= .1798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 135
 *** TIME = .298004E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1749E-05 OSCILLATION LIMIT = .4891
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.91 CRITERION= .1863
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1517
 HT FLOW CONVERGENCE VALUE= .7403E-01 CRITERION= .1798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 136
 *** TIME = .300801E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1788E-05 OSCILLATION LIMIT = .5002
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.80 CRITERION= .1864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511
 HT FLOW CONVERGENCE VALUE= .7384E-01 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 137
 *** TIME = .303598E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1762E-05 OSCILLATION LIMIT = .4929
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.91 CRITERION= .1862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1517
 HT FLOW CONVERGENCE VALUE= .7411E-01 CRITERION= .1797 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 138
 *** TIME = .306395E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1769E-05 OSCILLATION LIMIT = .4947
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.80 CRITERION= .1862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511
 HT FLOW CONVERGENCE VALUE= .7384E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 139
 *** TIME = .309192E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1768E-05 OSCILLATION LIMIT = .4945
 *** AUTO STEP TIME: NEXT TIME INC = .27970E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.91 CRITERION= .1860
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1517
 HT FLOW CONVERGENCE VALUE= .7405E-01 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 140
 *** TIME = .311989E+08 TIME INC = 279701.
 *** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = .4912
 *** AUTO STEP TIME: NEXT TIME INC = .17938E+06 DECREASED (FACTOR = .6413)

HT FLOW CONVERGENCE VALUE= 31.28 CRITERION= .1823
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9688E-01
 HT FLOW CONVERGENCE VALUE= .4666E-01 CRITERION= .1794 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 141
 *** TIME = .313783E+08 TIME INC = 179377.
 *** RESPONSE EIGENVALUE = .2585E-05 OSCILLATION LIMIT = .4637
 *** AUTO STEP TIME: NEXT TIME INC = .17938E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.40 CRITERION= .1821
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9754E-01
 HT FLOW CONVERGENCE VALUE= .4733E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 142
 *** TIME = .315576E+08 TIME INC = 179377.
 *** RESPONSE EIGENVALUE = .1987E-05 OSCILLATION LIMIT = .3564

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:01:35 JUN 26, 1995 CP= 5053.980
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1431 CRITERION= .1792 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 143
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1177E-05 OSCILLATION LIMIT = .9285
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1400 CRITERION= .1791 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 144
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2464E-05 OSCILLATION LIMIT = 1.944
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1413 CRITERION= .1789 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 145
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2026E-05 OSCILLATION LIMIT = 1.599
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1403 CRITERION= .1788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 146
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2349E-05 OSCILLATION LIMIT = 1.854
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .2017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1410 CRITERION= .1785 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 147
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2055E-05 OSCILLATION LIMIT = 1.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1404 CRITERION= .1784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 148
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2313E-05 OSCILLATION LIMIT = 1.825
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1408 CRITERION= .1782 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 149

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*** TIME = .370802E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2075E-05    OSCILLATION LIMIT = 1.637
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.45    CRITERION= .2012
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
    HT FLOW CONVERGENCE VALUE= .1419    CRITERION= .1781    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 150
*** TIME = .378692E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2281E-05    OSCILLATION LIMIT = 1.800
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.35    CRITERION= .2011
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
    HT FLOW CONVERGENCE VALUE= .1452    CRITERION= .1778    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 151
*** TIME = .386581E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2088E-05    OSCILLATION LIMIT = 1.648
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.45    CRITERION= .2009
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
    HT FLOW CONVERGENCE VALUE= .1449    CRITERION= .1778    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 152
*** TIME = .394470E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2255E-05    OSCILLATION LIMIT = 1.779
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.35    CRITERION= .2008
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
    HT FLOW CONVERGENCE VALUE= .1461    CRITERION= .1775    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 153
*** TIME = .402360E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2099E-05    OSCILLATION LIMIT = 1.656
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.45    CRITERION= .2006
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
    HT FLOW CONVERGENCE VALUE= .1456    CRITERION= .1774    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 154
*** TIME = .410249E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2231E-05    OSCILLATION LIMIT = 1.760
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.35    CRITERION= .2005
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
    HT FLOW CONVERGENCE VALUE= .1458    CRITERION= .1772    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 155
*** TIME = .418139E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2107E-05    OSCILLATION LIMIT = 1.662
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.45    CRITERION= .2003
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
    HT FLOW CONVERGENCE VALUE= .1470    CRITERION= .1771    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 156
*** TIME = .426028E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2210E-05    OSCILLATION LIMIT = 1.743
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 93.35    CRITERION= .2002
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
    HT FLOW CONVERGENCE VALUE= .1471    CRITERION= .1768    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 157
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2112E-05 OSCILLATION LIMIT = 1.666
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .2000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
HT FLOW CONVERGENCE VALUE= .1475 CRITERION= .1767 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 158
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2193E-05 OSCILLATION LIMIT = 1.730
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1999
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
HT FLOW CONVERGENCE VALUE= .1476 CRITERION= .1765 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 159
*** TIME = .449696E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2115E-05 OSCILLATION LIMIT = 1.668
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1997
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
HT FLOW CONVERGENCE VALUE= .1473 CRITERION= .1764 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 160
*** TIME = .457586E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2178E-05 OSCILLATION LIMIT = 1.718
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1996
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
HT FLOW CONVERGENCE VALUE= .1473 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 161
*** TIME = .465475E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2117E-05 OSCILLATION LIMIT = 1.670
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
HT FLOW CONVERGENCE VALUE= .1474 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 162
*** TIME = .473364E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2164E-05 OSCILLATION LIMIT = 1.708
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1993
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
HT FLOW CONVERGENCE VALUE= .1475 CRITERION= .1758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 163
*** TIME = .481254E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2115E-05 OSCILLATION LIMIT = 1.668
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1991
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
HT FLOW CONVERGENCE VALUE= .1478 CRITERION= .1757 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 164
*** TIME = .489143E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2150E-05 OSCILLATION LIMIT = 1.696
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1990

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1476 CRITERION= .1755 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 165
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2113E-05 OSCILLATION LIMIT = 1.667
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1474 CRITERION= .1754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 166
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2138E-05 OSCILLATION LIMIT = 1.687
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1474 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 167
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2111E-05 OSCILLATION LIMIT = 1.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1478 CRITERION= .1750 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 168
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2128E-05 OSCILLATION LIMIT = 1.679
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1481 CRITERION= .1748 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 169
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2108E-05 OSCILLATION LIMIT = 1.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1480 CRITERION= .1747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 170
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2118E-05 OSCILLATION LIMIT = 1.671
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1479 CRITERION= .1744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 171
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2104E-05 OSCILLATION LIMIT = 1.660
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1482 CRITERION= .1744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 172
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2107E-05 OSCILLATION LIMIT = 1.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1481 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 173
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2098E-05 OSCILLATION LIMIT = 1.655
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1503 CRITERION= .1740 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 174
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2097E-05 OSCILLATION LIMIT = 1.654
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1506 CRITERION= .1738 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 175
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2090E-05 OSCILLATION LIMIT = 1.649
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1520 CRITERION= .1737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 176
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2085E-05 OSCILLATION LIMIT = 1.645
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1516 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 177
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2083E-05 OSCILLATION LIMIT = 1.643
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1516 CRITERION= .1733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 178
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2075E-05 OSCILLATION LIMIT = 1.637
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1512 CRITERION= .1731 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 179
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2076E-05 OSCILLATION LIMIT = 1.638
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1511 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 180
 *** TIME = .615374E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2066E-05 OSCILLATION LIMIT = 1.630
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.35 CRITERION= .1966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2885
 HT FLOW CONVERGENCE VALUE= .1506 CRITERION= .1727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 181
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2069E-05 OSCILLATION LIMIT = 1.633
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.45 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2886
 HT FLOW CONVERGENCE VALUE= .1507 CRITERION= .1727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 182
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2058E-05 OSCILLATION LIMIT = 1.623

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:55:37 JUN 26, 1995 CP= 6624.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1827
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9432E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 183
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3796E-05 OSCILLATION LIMIT = 2.995
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1826
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9439E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 184
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3419E-05 OSCILLATION LIMIT = 2.697
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1825
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9469E-01 CRITERION= .1722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 185
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2726E-05 OSCILLATION LIMIT = 2.151
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1823
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9339E-01 CRITERION= .1721 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 186
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3402E-05 OSCILLATION LIMIT = 2.684
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1822
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9404E-01 CRITERION= .1719 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 187
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2778E-05 OSCILLATION LIMIT = 2.192
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1820
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9304E-01 CRITERION= .1718 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 188
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3330E-05 OSCILLATION LIMIT = 2.627
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1819
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9331E-01 CRITERION= .1716 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 189
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2823E-05 OSCILLATION LIMIT = 2.227
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1817
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9271E-01 CRITERION= .1715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 190
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3270E-05 OSCILLATION LIMIT = 2.580
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1816
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9311E-01 CRITERION= .1713 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 191
*** TIME = .702157E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2859E-05 OSCILLATION LIMIT = 2.256
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1815
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9263E-01 CRITERION= .1712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 192
*** TIME = .710046E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3220E-05 OSCILLATION LIMIT = 2.540
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9291E-01 CRITERION= .1710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 193
*** TIME = .717936E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2887E-05 OSCILLATION LIMIT = 2.278
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1812
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
HT FLOW CONVERGENCE VALUE= .9248E-01 CRITERION= .1709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 194
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3178E-05 OSCILLATION LIMIT = 2.507
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1811
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854

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HT FLOW CONVERGENCE VALUE= .9270E-01 CRITERION= .1707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 195
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2910E-05 OSCILLATION LIMIT = 2.296
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9236E-01 CRITERION= .1706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 196
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3143E-05 OSCILLATION LIMIT = 2.479
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9250E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 197
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2926E-05 OSCILLATION LIMIT = 2.309
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9219E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 198
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3112E-05 OSCILLATION LIMIT = 2.455
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9218E-01 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 199
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2939E-05 OSCILLATION LIMIT = 2.319
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9202E-01 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 200
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3085E-05 OSCILLATION LIMIT = 2.434
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1803
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9208E-01 CRITERION= .1699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 201
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 2.326
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1801
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9183E-01 CRITERION= .1698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 202
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 2.416
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1800
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9186E-01 CRITERION= .1696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 203
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2954E-05 OSCILLATION LIMIT = 2.331
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1798
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9170E-01 CRITERION= .1695 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 204
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3041E-05 OSCILLATION LIMIT = 2.399
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1797
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9167E-01 CRITERION= .1693 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 205
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 2.334
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9152E-01 CRITERION= .1692 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 206
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3024E-05 OSCILLATION LIMIT = 2.386
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1795
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9148E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 207
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2960E-05 OSCILLATION LIMIT = 2.336
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1793
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9137E-01 CRITERION= .1689 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 208
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3008E-05 OSCILLATION LIMIT = 2.373
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9135E-01 CRITERION= .1687 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 209
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2961E-05 OSCILLATION LIMIT = 2.336
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9259E-01 CRITERION= .1686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 210
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2994E-05 OSCILLATION LIMIT = 2.362

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9250E-01 CRITERION= .1684 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 211
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2959E-05 OSCILLATION LIMIT = 2.334
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9243E-01 CRITERION= .1683 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 212
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2980E-05 OSCILLATION LIMIT = 2.351
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9217E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 213
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 2.333
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9229E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 214
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2968E-05 OSCILLATION LIMIT = 2.341
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9218E-01 CRITERION= .1678 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 215
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2953E-05 OSCILLATION LIMIT = 2.330
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9205E-01 CRITERION= .1678 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 216
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2956E-05 OSCILLATION LIMIT = 2.332
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .1781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9196E-01 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 217
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 2.327
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .1779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
 HT FLOW CONVERGENCE VALUE= .9194E-01 CRITERION= .1675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 218

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*** TIME = .915171E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2945E-05    OSCILLATION LIMIT = 2.323
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.83    CRITERION= .1778
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
    HT FLOW CONVERGENCE VALUE= .9180E-01    CRITERION= .1673    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 219
*** TIME = .923060E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2944E-05    OSCILLATION LIMIT = 2.323
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.92    CRITERION= .1777
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
    HT FLOW CONVERGENCE VALUE= .9176E-01    CRITERION= .1672    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 220
*** TIME = .930950E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2935E-05    OSCILLATION LIMIT = 2.315
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.83    CRITERION= .1776
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
    HT FLOW CONVERGENCE VALUE= .9160E-01    CRITERION= .1670    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 221
*** TIME = .938839E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2939E-05    OSCILLATION LIMIT = 2.319
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.92    CRITERION= .1774
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1854
    HT FLOW CONVERGENCE VALUE= .9157E-01    CRITERION= .1669    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 222
*** TIME = .946728E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2925E-05    OSCILLATION LIMIT = 2.308

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    21:49:09 JUN 26, 1995 CP= 8196.140
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702)-794-5337    FAX (702) 794-1844

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

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    HT FLOW CONVERGENCE VALUE= 48.76    CRITERION= .1739
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
    HT FLOW CONVERGENCE VALUE= .7410E-01    CRITERION= .1667    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 223
*** TIME = .954618E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3430E-05    OSCILLATION LIMIT = 2.706
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.84    CRITERION= .1737
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
    HT FLOW CONVERGENCE VALUE= .7411E-01    CRITERION= .1667    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 224
*** TIME = .962507E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3288E-05    OSCILLATION LIMIT = 2.594
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.76    CRITERION= .1736
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
    HT FLOW CONVERGENCE VALUE= .7428E-01    CRITERION= .1665    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 225
*** TIME = .970397E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3051E-05 OSCILLATION LIMIT = 2.407
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7413E-01 CRITERION= .1664 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 226
*** TIME = .978286E+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= 48.76 CRITERION= .1734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7612E-01 CRITERION= .1662 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 227
*** TIME = .986175E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3068E-05 OSCILLATION LIMIT = 2.420
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7587E-01 CRITERION= .1662 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 228
*** TIME = .994065E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3247E-05 OSCILLATION LIMIT = 2.561
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7596E-01 CRITERION= .1660 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 229
*** TIME = .100195E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3080E-05 OSCILLATION LIMIT = 2.430
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1730
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7614E-01 CRITERION= .1659 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 230
*** TIME = .100984E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3222E-05 OSCILLATION LIMIT = 2.542
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7679E-01 CRITERION= .1657 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 231
*** TIME = .101773E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3090E-05 OSCILLATION LIMIT = 2.438
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7660E-01 CRITERION= .1657 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 232
*** TIME = .102562E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3200E-05 OSCILLATION LIMIT = 2.525
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1727

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7662E-01 CRITERION= .1655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 233
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3098E-05 OSCILLATION LIMIT = 2.444
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7648E-01 CRITERION= .1654 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 234
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3181E-05 OSCILLATION LIMIT = 2.510
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7648E-01 CRITERION= .1652 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 235
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3103E-05 OSCILLATION LIMIT = 2.448
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7637E-01 CRITERION= .1652 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 236
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3164E-05 OSCILLATION LIMIT = 2.496
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7634E-01 CRITERION= .1650 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 237
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3106E-05 OSCILLATION LIMIT = 2.450
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7623E-01 CRITERION= .1649 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 238
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3150E-05 OSCILLATION LIMIT = 2.485
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7619E-01 CRITERION= .1647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 239
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3107E-05 OSCILLATION LIMIT = 2.451
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7611E-01 CRITERION= .1647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 240
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3136E-05 OSCILLATION LIMIT = 2.474
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7608E-01 CRITERION= .1645 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 241
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3107E-05 OSCILLATION LIMIT = 2.451
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7601E-01 CRITERION= .1644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 242
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3125E-05 OSCILLATION LIMIT = 2.465
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1715
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7595E-01 CRITERION= .1643 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 243
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3106E-05 OSCILLATION LIMIT = 2.451
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7589E-01 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 244
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3114E-05 OSCILLATION LIMIT = 2.457
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7584E-01 CRITERION= .1640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 245
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3105E-05 OSCILLATION LIMIT = 2.450
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1711
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7580E-01 CRITERION= .1639 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 246
 *** TIME = .113607E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3105E-05 OSCILLATION LIMIT = 2.449
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1710
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7573E-01 CRITERION= .1638 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 247
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3103E-05 OSCILLATION LIMIT = 2.448
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7568E-01 CRITERION= .1637 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 248
 *** TIME = .115185E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .3096E-05 OSCILLATION LIMIT = 2.442
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7561E-01 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 249
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3100E-05 OSCILLATION LIMIT = 2.446
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7556E-01 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 250
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3087E-05 OSCILLATION LIMIT = 2.436
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7546E-01 CRITERION= .1633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 251
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3096E-05 OSCILLATION LIMIT = 2.443
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7543E-01 CRITERION= .1632 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 252
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3079E-05 OSCILLATION LIMIT = 2.429
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7533E-01 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 253
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3092E-05 OSCILLATION LIMIT = 2.440
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1702
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7531E-01 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 254
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3071E-05 OSCILLATION LIMIT = 2.423
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7521E-01 CRITERION= .1628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 255
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3088E-05 OSCILLATION LIMIT = 2.436
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1699
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
 HT FLOW CONVERGENCE VALUE= .7518E-01 CRITERION= .1627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 256
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3063E-05 OSCILLATION LIMIT = 2.417
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1699
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7507E-01 CRITERION= .1625 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 257
*** TIME = .122286E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3083E-05 OSCILLATION LIMIT = 2.432
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7506E-01 CRITERION= .1625 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 258
*** TIME = .123075E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3056E-05 OSCILLATION LIMIT = 2.411
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7495E-01 CRITERION= .1623 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 259
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3078E-05 OSCILLATION LIMIT = 2.428
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1695
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7493E-01 CRITERION= .1622 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 260
*** TIME = .124653E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3049E-05 OSCILLATION LIMIT = 2.406
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.76 CRITERION= .1694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7481E-01 CRITERION= .1620 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 261
*** TIME = .125441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3072E-05 OSCILLATION LIMIT = 2.424
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.84 CRITERION= .1692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1514
HT FLOW CONVERGENCE VALUE= .7479E-01 CRITERION= .1620 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 262
*** TIME = .126230E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3042E-05 OSCILLATION LIMIT = 2.400

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:42:10 JUN 26, 1995 CP= 9768.730
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1673
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294

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HT FLOW CONVERGENCE VALUE= .6390E-01 CRITERION= .1618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 263
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3047E-05 OSCILLATION LIMIT = 2.404
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6393E-01 CRITERION= .1618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 264
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2929E-05 OSCILLATION LIMIT = 2.311
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6401E-01 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 265
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2812E-05 OSCILLATION LIMIT = 2.219
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1669
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6385E-01 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 266
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2923E-05 OSCILLATION LIMIT = 2.306
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1669
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6391E-01 CRITERION= .1614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 267
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2820E-05 OSCILLATION LIMIT = 2.225
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6379E-01 CRITERION= .1614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 268
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2906E-05 OSCILLATION LIMIT = 2.292
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6383E-01 CRITERION= .1612 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 269
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 2.229
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6372E-01 CRITERION= .1612 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 270
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2890E-05 OSCILLATION LIMIT = 2.280
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6372E-01 CRITERION= .1610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 271
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2830E-05 OSCILLATION LIMIT = 2.233
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6363E-01 CRITERION= .1610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 272
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2877E-05 OSCILLATION LIMIT = 2.270
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6363E-01 CRITERION= .1608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 273
 *** TIME = .134909E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2833E-05 OSCILLATION LIMIT = 2.235
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6355E-01 CRITERION= .1608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 274
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2865E-05 OSCILLATION LIMIT = 2.260
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6353E-01 CRITERION= .1606 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 275
 *** TIME = .136487E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2834E-05 OSCILLATION LIMIT = 2.236
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6346E-01 CRITERION= .1606 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 276
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2855E-05 OSCILLATION LIMIT = 2.252
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6342E-01 CRITERION= .1604 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 277
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2835E-05 OSCILLATION LIMIT = 2.236
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6337E-01 CRITERION= .1604 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 278
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2845E-05 OSCILLATION LIMIT = 2.245

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6333E-01 CRITERION= .1602 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 279
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2834E-05 OSCILLATION LIMIT = 2.236
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6328E-01 CRITERION= .1602 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 280
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2837E-05 OSCILLATION LIMIT = 2.238
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6323E-01 CRITERION= .1600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 281
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2833E-05 OSCILLATION LIMIT = 2.235
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1654
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6319E-01 CRITERION= .1600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 282
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2829E-05 OSCILLATION LIMIT = 2.232
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6313E-01 CRITERION= .1598 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 283
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2831E-05 OSCILLATION LIMIT = 2.234
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6309E-01 CRITERION= .1598 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 284
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2822E-05 OSCILLATION LIMIT = 2.226
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1651
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6303E-01 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 285
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2829E-05 OSCILLATION LIMIT = 2.232
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6300E-01 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 286

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*** TIME = .145165E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2815E-05    OSCILLATION LIMIT = 2.221
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.69    CRITERION= .1649
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6293E-01    CRITERION= .1594    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 25 COMPLETED.    CUM ITER = 287
*** TIME = .145954E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2826E-05    OSCILLATION LIMIT = 2.229
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.77    CRITERION= .1648
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6290E-01    CRITERION= .1594    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 26 COMPLETED.    CUM ITER = 288
*** TIME = .146743E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2808E-05    OSCILLATION LIMIT = 2.215
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.69    CRITERION= .1647
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6282E-01    CRITERION= .1592    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 27 COMPLETED.    CUM ITER = 289
*** TIME = .147532E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2822E-05    OSCILLATION LIMIT = 2.227
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.77    CRITERION= .1646
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6280E-01    CRITERION= .1592    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 28 COMPLETED.    CUM ITER = 290
*** TIME = .148321E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2802E-05    OSCILLATION LIMIT = 2.210
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.69    CRITERION= .1645
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6274E-01    CRITERION= .1590    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 29 COMPLETED.    CUM ITER = 291
*** TIME = .149110E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2819E-05    OSCILLATION LIMIT = 2.224
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.77    CRITERION= .1644
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6273E-01    CRITERION= .1589    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED.    CUM ITER = 292
*** TIME = .149899E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2795E-05    OSCILLATION LIMIT = 2.205
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.69    CRITERION= .1643
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6267E-01    CRITERION= .1588    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED.    CUM ITER = 293
*** TIME = .150688E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2815E-05    OSCILLATION LIMIT = 2.221
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.77    CRITERION= .1642
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
    HT FLOW CONVERGENCE VALUE= .6266E-01    CRITERION= .1587    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 294
*** TIME = .151477E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2789E-05 OSCILLATION LIMIT = 2.201
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1641
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6260E-01 CRITERION= .1586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 295
*** TIME = .152265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = 2.217
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6261E-01 CRITERION= .1585 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 296
*** TIME = .153054E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2783E-05 OSCILLATION LIMIT = 2.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1639
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6261E-01 CRITERION= .1584 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 297
*** TIME = .153843E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2806E-05 OSCILLATION LIMIT = 2.214
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6261E-01 CRITERION= .1583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 298
*** TIME = .154632E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2777E-05 OSCILLATION LIMIT = 2.191
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6254E-01 CRITERION= .1582 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 299
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2801E-05 OSCILLATION LIMIT = 2.210
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1636
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6255E-01 CRITERION= .1581 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 300
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2772E-05 OSCILLATION LIMIT = 2.187
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.69 CRITERION= .1635
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
HT FLOW CONVERGENCE VALUE= .6250E-01 CRITERION= .1580 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 301
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2797E-05 OSCILLATION LIMIT = 2.206
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.77 CRITERION= .1634

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1294
 HT FLOW CONVERGENCE VALUE= .6251E-01 CRITERION= .1579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 302
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2767E-05 OSCILLATION LIMIT = 2.183

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:35:07 JUN 26, 1995 CP= 11340.970
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1618
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5140E-01 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 303
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5007E-05 OSCILLATION LIMIT = 3.950
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1617
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5133E-01 CRITERION= .1577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 304
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4922E-05 OSCILLATION LIMIT = 3.883
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1616
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5148E-01 CRITERION= .1575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 305
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4546E-05 OSCILLATION LIMIT = 3.587
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1614
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5126E-01 CRITERION= .1575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 306
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.865
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1613
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5137E-01 CRITERION= .1573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 307
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4575E-05 OSCILLATION LIMIT = 3.610
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1612
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5118E-01 CRITERION= .1572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 308
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4858E-05 OSCILLATION LIMIT = 3.832
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5127E-01 CRITERION= .1571 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 309
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4599E-05 OSCILLATION LIMIT = 3.628
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5111E-01 CRITERION= .1570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 310
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4823E-05 OSCILLATION LIMIT = 3.805
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5116E-01 CRITERION= .1568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 311
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4618E-05 OSCILLATION LIMIT = 3.643
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5103E-01 CRITERION= .1568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 312
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4793E-05 OSCILLATION LIMIT = 3.782
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5106E-01 CRITERION= .1566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 313
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4632E-05 OSCILLATION LIMIT = 3.654
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1605
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5095E-01 CRITERION= .1565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 314
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4768E-05 OSCILLATION LIMIT = 3.762
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5097E-01 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 315
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4643E-05 OSCILLATION LIMIT = 3.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5087E-01 CRITERION= .1563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 316
 *** TIME = .168833E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4746E-05 OSCILLATION LIMIT = 3.744
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5087E-01 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 317
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4650E-05 OSCILLATION LIMIT = 3.669
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5079E-01 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 318
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4726E-05 OSCILLATION LIMIT = 3.729
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5077E-01 CRITERION= .1559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 319
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4656E-05 OSCILLATION LIMIT = 3.673
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5076E-01 CRITERION= .1558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 320
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4709E-05 OSCILLATION LIMIT = 3.715
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5079E-01 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 321
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4659E-05 OSCILLATION LIMIT = 3.676
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5073E-01 CRITERION= .1556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 322
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4694E-05 OSCILLATION LIMIT = 3.703
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5069E-01 CRITERION= .1554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 323
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4660E-05 OSCILLATION LIMIT = 3.677
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5064E-01 CRITERION= .1554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 324
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4680E-05 OSCILLATION LIMIT = 3.692
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1593
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5070E-01 CRITERION= .1552 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 325
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4661E-05 OSCILLATION LIMIT = 3.677
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1591
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5068E-01 CRITERION= .1551 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 326
*** TIME = .176723E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4668E-05 OSCILLATION LIMIT = 3.683
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1591
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5062E-01 CRITERION= .1549 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 327
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4660E-05 OSCILLATION LIMIT = 3.676
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1589
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5060E-01 CRITERION= .1549 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 328
*** TIME = .178300E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4656E-05 OSCILLATION LIMIT = 3.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1588
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5054E-01 CRITERION= .1547 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 329
*** TIME = .179089E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4658E-05 OSCILLATION LIMIT = 3.675
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1587
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5052E-01 CRITERION= .1546 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 330
*** TIME = .179878E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4646E-05 OSCILLATION LIMIT = 3.665
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1586
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .5049E-01 CRITERION= .1545 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 331
*** TIME = .180667E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4655E-05 OSCILLATION LIMIT = 3.673
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1584
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092

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HT FLOW CONVERGENCE VALUE= .5047E-01 CRITERION= .1544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 332
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4636E-05 OSCILLATION LIMIT = 3.658
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5040E-01 CRITERION= .1542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 333
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4652E-05 OSCILLATION LIMIT = 3.670
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5066E-01 CRITERION= .1542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 334
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4627E-05 OSCILLATION LIMIT = 3.650
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5066E-01 CRITERION= .1540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 335
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4647E-05 OSCILLATION LIMIT = 3.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5066E-01 CRITERION= .1539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 336
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4618E-05 OSCILLATION LIMIT = 3.643
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5058E-01 CRITERION= .1538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 337
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4643E-05 OSCILLATION LIMIT = 3.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5071E-01 CRITERION= .1537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 338
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4609E-05 OSCILLATION LIMIT = 3.637
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5080E-01 CRITERION= .1535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 339
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4638E-05 OSCILLATION LIMIT = 3.659
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5080E-01 CRITERION= .1535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 340
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4601E-05 OSCILLATION LIMIT = 3.630
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.18 CRITERION= .1574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5072E-01 CRITERION= .1533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 341
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4632E-05 OSCILLATION LIMIT = 3.655
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.26 CRITERION= .1573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
 HT FLOW CONVERGENCE VALUE= .5071E-01 CRITERION= .1532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 342
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4593E-05 OSCILLATION LIMIT = 3.624

***** ANSYS SOLVE COMMAND *****
 1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:27:57 JUN 27, 1995 CP= 12917.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4118E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 343
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4556E-05 OSCILLATION LIMIT = 3.594
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4125E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 344
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4387E-05 OSCILLATION LIMIT = 3.461
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4132E-01 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 345
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4207E-05 OSCILLATION LIMIT = 3.319
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4121E-01 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 346
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4380E-05 OSCILLATION LIMIT = 3.455

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4125E-01 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 347
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4222E-05 OSCILLATION LIMIT = 3.331
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4116E-01 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 348
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4356E-05 OSCILLATION LIMIT = 3.437
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4123E-01 CRITERION= .1525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 349
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4233E-05 OSCILLATION LIMIT = 3.340
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4118E-01 CRITERION= .1525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 350
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4336E-05 OSCILLATION LIMIT = 3.421
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4121E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 351
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4242E-05 OSCILLATION LIMIT = 3.346
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4115E-01 CRITERION= .1523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 352
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4318E-05 OSCILLATION LIMIT = 3.407
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4117E-01 CRITERION= .1522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 353
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4248E-05 OSCILLATION LIMIT = 3.351
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4114E-01 CRITERION= .1521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 354


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*** TIME = .198813E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4303E-05    OSCILLATION LIMIT = 3.395
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.51    CRITERION= .1548
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4116E-01    CRITERION= .1520    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 355
*** TIME = .199602E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4253E-05    OSCILLATION LIMIT = 3.355
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.58    CRITERION= .1547
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4114E-01    CRITERION= .1520    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 356
*** TIME = .200391E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4290E-05    OSCILLATION LIMIT = 3.384
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.51    CRITERION= .1546
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4115E-01    CRITERION= .1518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 357
*** TIME = .201180E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4255E-05    OSCILLATION LIMIT = 3.357
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.58    CRITERION= .1545
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4112E-01    CRITERION= .1518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 358
*** TIME = .201969E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4277E-05    OSCILLATION LIMIT = 3.375
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.51    CRITERION= .1544
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4111E-01    CRITERION= .1516    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 359
*** TIME = .202758E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4257E-05    OSCILLATION LIMIT = 3.358
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.58    CRITERION= .1543
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4111E-01    CRITERION= .1516    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 360
*** TIME = .203547E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4267E-05    OSCILLATION LIMIT = 3.366
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.51    CRITERION= .1542
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4110E-01    CRITERION= .1515    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 361
*** TIME = .204335E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4257E-05    OSCILLATION LIMIT = 3.358
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.58    CRITERION= .1541
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
    HT FLOW CONVERGENCE VALUE= .4110E-01    CRITERION= .1514    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 362
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4256E-05 OSCILLATION LIMIT = 3.358
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4110E-01 CRITERION= .1513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 363
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4256E-05 OSCILLATION LIMIT = 3.357
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4110E-01 CRITERION= .1512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 364
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4247E-05 OSCILLATION LIMIT = 3.351
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4109E-01 CRITERION= .1511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 365
*** TIME = .207491E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4254E-05 OSCILLATION LIMIT = 3.356
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4110E-01 CRITERION= .1510 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 366
*** TIME = .208280E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4239E-05 OSCILLATION LIMIT = 3.344
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4107E-01 CRITERION= .1509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 367
*** TIME = .209069E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4252E-05 OSCILLATION LIMIT = 3.355
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4105E-01 CRITERION= .1509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 368
*** TIME = .209858E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4231E-05 OSCILLATION LIMIT = 3.338
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
HT FLOW CONVERGENCE VALUE= .4101E-01 CRITERION= .1507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 369
*** TIME = .210647E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4249E-05 OSCILLATION LIMIT = 3.352
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1534

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4099E-01 CRITERION= .1507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 370
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4224E-05 OSCILLATION LIMIT = 3.332
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4094E-01 CRITERION= .1505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 371
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4246E-05 OSCILLATION LIMIT = 3.350
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4093E-01 CRITERION= .1505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 372
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4217E-05 OSCILLATION LIMIT = 3.327
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4088E-01 CRITERION= .1504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 373
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4242E-05 OSCILLATION LIMIT = 3.347
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4087E-01 CRITERION= .1503 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 374
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4210E-05 OSCILLATION LIMIT = 3.322
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4082E-01 CRITERION= .1502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 375
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4238E-05 OSCILLATION LIMIT = 3.344
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4081E-01 CRITERION= .1501 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 376
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4204E-05 OSCILLATION LIMIT = 3.317
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4075E-01 CRITERION= .1500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 377
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4235E-05 OSCILLATION LIMIT = 3.341
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4074E-01 CRITERION= .1499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 378
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4198E-05 OSCILLATION LIMIT = 3.312
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4069E-01 CRITERION= .1498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 379
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4230E-05 OSCILLATION LIMIT = 3.337
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4069E-01 CRITERION= .1498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 380
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4193E-05 OSCILLATION LIMIT = 3.308
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.50 CRITERION= .1524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4063E-01 CRITERION= .1496 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 381
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4226E-05 OSCILLATION LIMIT = 3.334
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8832E-01
 HT FLOW CONVERGENCE VALUE= .4063E-01 CRITERION= .1496 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 382
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4187E-05 OSCILLATION LIMIT = 3.303

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:19:43 JUN 27, 1995 CP= 14491.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 26.13 CRITERION= .1518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3709E-01 CRITERION= .1494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 383
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4559E-05 OSCILLATION LIMIT = 3.597
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3708E-01 CRITERION= .1494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 384
 *** TIME = .222481E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4484E-05  OSCILLATION LIMIT = 3.538
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.13  CRITERION= .1517
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3708E-01 CRITERION= .1493  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 385
*** TIME = .223270E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4405E-05  OSCILLATION LIMIT = 3.475
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.20  CRITERION= .1515
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3704E-01 CRITERION= .1492  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 386
*** TIME = .224059E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4476E-05  OSCILLATION LIMIT = 3.531
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.13  CRITERION= .1515
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3703E-01 CRITERION= .1491  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 387
*** TIME = .224848E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4411E-05  OSCILLATION LIMIT = 3.480
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.20  CRITERION= .1514
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .1491  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 388
*** TIME = .225637E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4462E-05  OSCILLATION LIMIT = 3.520
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.13  CRITERION= .1513
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3698E-01 CRITERION= .1489  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 389
*** TIME = .226426E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4416E-05  OSCILLATION LIMIT = 3.484
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.20  CRITERION= .1512
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3694E-01 CRITERION= .1489  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 390
*** TIME = .227215E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4450E-05  OSCILLATION LIMIT = 3.511
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.12  CRITERION= .1512
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3692E-01 CRITERION= .1488  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 391
*** TIME = .228004E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4418E-05  OSCILLATION LIMIT = 3.486
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.20  CRITERION= .1510
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
  HT FLOW CONVERGENCE VALUE= .3689E-01 CRITERION= .1487  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 392
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4439E-05 OSCILLATION LIMIT = 3.502
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3687E-01 CRITERION= .1486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 393
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4420E-05 OSCILLATION LIMIT = 3.487
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3684E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 394
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4429E-05 OSCILLATION LIMIT = 3.494
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3681E-01 CRITERION= .1484 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 395
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4421E-05 OSCILLATION LIMIT = 3.488
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3679E-01 CRITERION= .1484 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 396
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4420E-05 OSCILLATION LIMIT = 3.487
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3676E-01 CRITERION= .1482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 397
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4421E-05 OSCILLATION LIMIT = 3.488
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1505
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3673E-01 CRITERION= .1482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 398
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4412E-05 OSCILLATION LIMIT = 3.481
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1505
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3670E-01 CRITERION= .1481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 399
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4419E-05 OSCILLATION LIMIT = 3.487
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01

HT FLOW CONVERGENCE VALUE= .3668E-01 CRITERION= .1480 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 400
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4405E-05 OSCILLATION LIMIT = 3.475
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3665E-01 CRITERION= .1479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 401
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4418E-05 OSCILLATION LIMIT = 3.485
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.20 CRITERION= .1502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3664E-01 CRITERION= .1479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 402
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4398E-05 OSCILLATION LIMIT = 3.469
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3660E-01 CRITERION= .1477 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 403
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4415E-05 OSCILLATION LIMIT = 3.484
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3658E-01 CRITERION= .1477 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 404
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4391E-05 OSCILLATION LIMIT = 3.464
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3655E-01 CRITERION= .1476 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 405
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = 3.481
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3654E-01 CRITERION= .1475 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 406
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4385E-05 OSCILLATION LIMIT = 3.459
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
 HT FLOW CONVERGENCE VALUE= .3650E-01 CRITERION= .1474 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 407
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4410E-05 OSCILLATION LIMIT = 3.479
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3649E-01 CRITERION= .1473 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 408
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4379E-05 OSCILLATION LIMIT = 3.455
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1496
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3645E-01 CRITERION= .1472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 409
*** TIME = .242205E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4406E-05 OSCILLATION LIMIT = 3.476
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1495
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3644E-01 CRITERION= .1472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 410
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4373E-05 OSCILLATION LIMIT = 3.450
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1495
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3640E-01 CRITERION= .1470 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 411
*** TIME = .243782E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4403E-05 OSCILLATION LIMIT = 3.473
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1493
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3640E-01 CRITERION= .1470 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 412
*** TIME = .244571E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4368E-05 OSCILLATION LIMIT = 3.446
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1493
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3636E-01 CRITERION= .1469 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 413
*** TIME = .245360E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4399E-05 OSCILLATION LIMIT = 3.470
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1492
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3635E-01 CRITERION= .1468 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 414
*** TIME = .246149E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4362E-05 OSCILLATION LIMIT = 3.442
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1491
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3631E-01 CRITERION= .1467 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 415
*** TIME = .246938E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4395E-05 OSCILLATION LIMIT = 3.467
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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1490
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3630E-01 CRITERION= .1466 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 416
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4357E-05 OSCILLATION LIMIT = 3.438
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1489
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3626E-01 CRITERION= .1465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 417
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4391E-05 OSCILLATION LIMIT = 3.465
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1488
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3625E-01 CRITERION= .1465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 418
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4353E-05 OSCILLATION LIMIT = 3.434
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1488
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3621E-01 CRITERION= .1463 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 419
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4387E-05 OSCILLATION LIMIT = 3.461
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1487
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3620E-01 CRITERION= .1463 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 420
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4348E-05 OSCILLATION LIMIT = 3.430
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .1486
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3616E-01 CRITERION= .1462 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 421
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4383E-05 OSCILLATION LIMIT = 3.458
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.19 CRITERION= .1485
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
HT FLOW CONVERGENCE VALUE= .3615E-01 CRITERION= .1461 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 422
*** TIME = .252461E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4343E-05 OSCILLATION LIMIT = 3.426

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:12:09 JUN 27, 1995 CP= 16064.500
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2383E-01 CRITERION= .1460 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 423
*** TIME = .253250E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8448E-05 OSCILLATION LIMIT = 6.665
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1471
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2378E-01 CRITERION= .1460 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 424
*** TIME = .254039E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8252E-05 OSCILLATION LIMIT = 6.511
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1470
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .1458 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 425
*** TIME = .254828E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7318E-05 OSCILLATION LIMIT = 5.773
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2376E-01 CRITERION= .1458 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 426
*** TIME = .255617E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8209E-05 OSCILLATION LIMIT = 6.476
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2390E-01 CRITERION= .1457 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 427
*** TIME = .256406E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7394E-05 OSCILLATION LIMIT = 5.834
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1468
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2374E-01 CRITERION= .1456 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 428
*** TIME = .257194E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8124E-05 OSCILLATION LIMIT = 6.409
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1467
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2385E-01 CRITERION= .1455 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 429
*** TIME = .257983E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7459E-05 OSCILLATION LIMIT = 5.885
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1466
EQUIL ITER 1 COMPLETEJ. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2372E-01 CRITERION= .1455 <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 430
*** TIME = .258772E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8052E-05 OSCILLATION LIMIT = 6.353
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1466
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2382E-01 CRITERION= .1454 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 431
*** TIME = .259561E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7513E-05 OSCILLATION LIMIT = 5.927
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1464
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .1453 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 432
*** TIME = .260350E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7992E-05 OSCILLATION LIMIT = 6.305
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1464
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2377E-01 CRITERION= .1452 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 433
*** TIME = .261139E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7556E-05 OSCILLATION LIMIT = 5.961
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1463
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2367E-01 CRITERION= .1452 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 434
*** TIME = .261928E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7942E-05 OSCILLATION LIMIT = 6.266
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1462
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2372E-01 CRITERION= .1450 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 435
*** TIME = .262717E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7592E-05 OSCILLATION LIMIT = 5.989
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1461
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2363E-01 CRITERION= .1450 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 436
*** TIME = .263506E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7899E-05 OSCILLATION LIMIT = 6.232
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1461
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .1449 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 437
*** TIME = .264295E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7620E-05 OSCILLATION LIMIT = 6.012
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1460

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .1448 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 438
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7863E-05 OSCILLATION LIMIT = 6.203
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1459
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2366E-01 CRITERION= .1447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 439
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7643E-05 OSCILLATION LIMIT = 6.030
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1458
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .1447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 440
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7832E-05 OSCILLATION LIMIT = 6.179
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1458
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2363E-01 CRITERION= .1446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 441
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7661E-05 OSCILLATION LIMIT = 6.044
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2357E-01 CRITERION= .1445 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 442
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7806E-05 OSCILLATION LIMIT = 6.158
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .1444 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 443
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7676E-05 OSCILLATION LIMIT = 6.056
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1455
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2353E-01 CRITERION= .1444 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 444
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7783E-05 OSCILLATION LIMIT = 6.140
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1454
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2355E-01 CRITERION= .1442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 445
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7687E-05 OSCILLATION LIMIT = 6.064
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1453
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2350E-01 CRITERION= .1442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 446
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7763E-05 OSCILLATION LIMIT = 6.125
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1453
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2352E-01 CRITERION= .1441 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 447
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7695E-05 OSCILLATION LIMIT = 6.071
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1452
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2348E-01 CRITERION= .1440 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 448
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7746E-05 OSCILLATION LIMIT = 6.111
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1451
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2349E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 449
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7701E-05 OSCILLATION LIMIT = 6.076
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 450
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7731E-05 OSCILLATION LIMIT = 6.099
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2346E-01 CRITERION= .1438 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 451
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7705E-05 OSCILLATION LIMIT = 6.079
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2342E-01 CRITERION= .1437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 452
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7718E-05 OSCILLATION LIMIT = 6.089
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
 HT FLOW CONVERGENCE VALUE= .2343E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 453
 *** TIME = .276918E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7708E-05  OSCILLATION LIMIT = 6.081
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.80  CRITERION= .1447
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2339E-01 CRITERION= .1436  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 454
*** TIME = .277707E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7706E-05  OSCILLATION LIMIT = 6.079
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.73  CRITERION= .1446
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2340E-01 CRITERION= .1434  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 455
*** TIME = .278496E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7709E-05  OSCILLATION LIMIT = 6.082
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.80  CRITERION= .1445
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2336E-01 CRITERION= .1434  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 456
*** TIME = .279285E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7695E-05  OSCILLATION LIMIT = 6.071
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.73  CRITERION= .1445
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2337E-01 CRITERION= .1433  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 457
*** TIME = .280074E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7709E-05  OSCILLATION LIMIT = 6.082
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.80  CRITERION= .1444
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2333E-01 CRITERION= .1432  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 458
*** TIME = .280863E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7685E-05  OSCILLATION LIMIT = 6.063
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.73  CRITERION= .1443
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2334E-01 CRITERION= .1431  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 459
*** TIME = .281652E+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= 17.80  CRITERION= .1442
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2331E-01 CRITERION= .1431  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 460
*** TIME = .282441E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7676E-05  OSCILLATION LIMIT = 6.056
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.73  CRITERION= .1442
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
  HT FLOW CONVERGENCE VALUE= .2330E-01 CRITERION= .1430  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 461
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7707E-05 OSCILLATION LIMIT = 6.080
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.80 CRITERION= .1440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5531E-01
HT FLOW CONVERGENCE VALUE= .2327E-01 CRITERION= .1429 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 462
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7668E-05 OSCILLATION LIMIT = 6.049
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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 156.40 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 156.88 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 158.02 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 17637.960 TIME= 03:04:16
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 03:04:16 JUN 27, 1995 CP= 17637.960
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

LOAD STEP OPTIONS

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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 CONTROLS . . . . . NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . . ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP
  
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HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1437
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
HT FLOW CONVERGENCE VALUE= .2005E-01 CRITERION= .1428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 463
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6921E-05 OSCILLATION LIMIT = 5.460
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1436
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
HT FLOW CONVERGENCE VALUE= .2004E-01 CRITERION= .1428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 464
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6756E-05 OSCILLATION LIMIT = 5.330
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1436
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
HT FLOW CONVERGENCE VALUE= .2008E-01 CRITERION= .1427 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 465
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6692E-05 OSCILLATION LIMIT = 5.280
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
HT FLOW CONVERGENCE VALUE= .2003E-01 CRITERION= .1427 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 466
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6752E-05 OSCILLATION LIMIT = 5.327
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
HT FLOW CONVERGENCE VALUE= .2005E-01 CRITERION= .1426 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 467
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6699E-05 OSCILLATION LIMIT = 5.285
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1434
  
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1995E-01 CRITERION= .1425 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 468
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6738E-05 OSCILLATION LIMIT = 5.316
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1989E-01 CRITERION= .1424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 469
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6704E-05 OSCILLATION LIMIT = 5.289
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1432
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1985E-01 CRITERION= .1424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 470
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6725E-05 OSCILLATION LIMIT = 5.306
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1432
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1987E-01 CRITERION= .1423 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 471
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6707E-05 OSCILLATION LIMIT = 5.292
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1983E-01 CRITERION= .1423 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 472
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6714E-05 OSCILLATION LIMIT = 5.297
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1985E-01 CRITERION= .1422 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 473
 *** TIME = .292697E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6710E-05 OSCILLATION LIMIT = 5.293
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1430
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1981E-01 CRITERION= .1421 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 474
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6704E-05 OSCILLATION LIMIT = 5.289
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1983E-01 CRITERION= .1420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 475
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6711E-05 OSCILLATION LIMIT = 5.294
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1979E-01 CRITERION= .1420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 476
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6695E-05 OSCILLATION LIMIT = 5.282
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1428
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1981E-01 CRITERION= .1419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 477
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6711E-05 OSCILLATION LIMIT = 5.295
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1975E-01 CRITERION= .1419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 478
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6687E-05 OSCILLATION LIMIT = 5.275
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1972E-01 CRITERION= .1418 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 479
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6710E-05 OSCILLATION LIMIT = 5.294
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1968E-01 CRITERION= .1418 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 480
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6679E-05 OSCILLATION LIMIT = 5.270
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1970E-01 CRITERION= .1417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 481
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6709E-05 OSCILLATION LIMIT = 5.293
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1967E-01 CRITERION= .1416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 482
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6672E-05 OSCILLATION LIMIT = 5.264
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1968E-01 CRITERION= .1415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 483
 *** TIME = .300586E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .6708E-05  OSCILLATION LIMIT = 5.292
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.25  CRITERION= .1423
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1965E-01 CRITERION= .1415  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 484
*** TIME = .301375E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6666E-05  OSCILLATION LIMIT = 5.259
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.18  CRITERION= .1423
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1966E-01 CRITERION= .1414  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 485
*** TIME = .302164E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6706E-05  OSCILLATION LIMIT = 5.290
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.25  CRITERION= .1422
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1963E-01 CRITERION= .1414  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 486
*** TIME = .302953E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6660E-05  OSCILLATION LIMIT = 5.254
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.18  CRITERION= .1422
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1964E-01 CRITERION= .1413  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 487
*** TIME = .303742E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6703E-05  OSCILLATION LIMIT = 5.288
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.25  CRITERION= .1421
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1961E-01 CRITERION= .1412  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 488
*** TIME = .304531E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6655E-05  OSCILLATION LIMIT = 5.250
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.18  CRITERION= .1421
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1961E-01 CRITERION= .1411  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 489
*** TIME = .305320E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6700E-05  OSCILLATION LIMIT = 5.286
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.25  CRITERION= .1420
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1958E-01 CRITERION= .1411  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 490
*** TIME = .306109E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6649E-05  OSCILLATION LIMIT = 5.246
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.18  CRITERION= .1419
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
  HT FLOW CONVERGENCE VALUE= .1959E-01 CRITERION= .1410  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 491
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6697E-05 OSCILLATION LIMIT = 5.284
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1956E-01 CRITERION= .1410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 492
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6644E-05 OSCILLATION LIMIT = 5.242
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1957E-01 CRITERION= .1409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 493
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6694E-05 OSCILLATION LIMIT = 5.281
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1954E-01 CRITERION= .1409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 494
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6639E-05 OSCILLATION LIMIT = 5.238
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1955E-01 CRITERION= .1408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 495
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6691E-05 OSCILLATION LIMIT = 5.279
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1952E-01 CRITERION= .1407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 496
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6635E-05 OSCILLATION LIMIT = 5.234
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1953E-01 CRITERION= .1406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 497
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6687E-05 OSCILLATION LIMIT = 5.276
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1950E-01 CRITERION= .1406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 498
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6630E-05 OSCILLATION LIMIT = 5.231
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01

HT FLOW CONVERGENCE VALUE= .1951E-01 CRITERION= .1405 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 499
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6684E-05 OSCILLATION LIMIT = 5.273
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1948E-01 CRITERION= .1405 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 500
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6626E-05 OSCILLATION LIMIT = 5.227
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.18 CRITERION= .1413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1949E-01 CRITERION= .1404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 501
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6680E-05 OSCILLATION LIMIT = 5.270
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .1412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4742E-01
 HT FLOW CONVERGENCE VALUE= .1947E-01 CRITERION= .1403 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 502
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6621E-05 OSCILLATION LIMIT = 5.224

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:56:21 JUN 27, 1995 CP= 19211.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1381 CRITERION= .1397 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 503
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9913E-05 OSCILLATION LIMIT = 78.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.7 CRITERION= .1782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1362 CRITERION= .1391 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 504
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1157E-04 OSCILLATION LIMIT = 91.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1355 CRITERION= .1385 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 505
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1139E-04 OSCILLATION LIMIT = 89.88

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1348 CRITERION= .1379 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 506
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1342 CRITERION= .1372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 507
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1136E-04 OSCILLATION LIMIT = 89.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1762
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1335 CRITERION= .1366 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 508
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1140E-04 OSCILLATION LIMIT = 89.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1757
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1329 CRITERION= .1360 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 509
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1132E-04 OSCILLATION LIMIT = 89.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1321 CRITERION= .1354 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 510
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1136E-04 OSCILLATION LIMIT = 89.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1316 CRITERION= .1347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 511
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1128E-04 OSCILLATION LIMIT = 88.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1308 CRITERION= .1341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 512
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1132E-04 OSCILLATION LIMIT = 89.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1302 CRITERION= .1335 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 513

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*** TIME = .402359E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1124E-04    OSCILLATION LIMIT = 88.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.6    CRITERION= .1733
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1295    CRITERION= .1329    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 514
*** TIME = .410249E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1128E-04    OSCILLATION LIMIT = 88.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.5    CRITERION= .1728
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1289    CRITERION= .1322    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 515
*** TIME = .418138E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1120E-04    OSCILLATION LIMIT = 88.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.6    CRITERION= .1723
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1282    CRITERION= .1316    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 516
*** TIME = .426028E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1124E-04    OSCILLATION LIMIT = 88.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.5    CRITERION= .1719
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1276    CRITERION= .1310    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 517
*** TIME = .433917E+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= 110.6    CRITERION= .1714
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1269    CRITERION= .1304    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 518
*** TIME = .441806E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1120E-04    OSCILLATION LIMIT = 88.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.5    CRITERION= .1709
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1263    CRITERION= .1297    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 519
*** TIME = .449696E+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= 110.6    CRITERION= .1704
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1255    CRITERION= .1291    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 520
*** TIME = .457585E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1116E-04    OSCILLATION LIMIT = 88.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 110.5    CRITERION= .1699
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
    HT FLOW CONVERGENCE VALUE= .1250    CRITERION= .1285    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 521
*** TIME = .465475E+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= 110.6 CRITERION= .1695
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1242 CRITERION= .1279 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 522
*** TIME = .473364E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1112E-04 OSCILLATION LIMIT = 87.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1237 CRITERION= .1272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 523
*** TIME = .481253E+09 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= 110.6 CRITERION= .1685
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1225 CRITERION= .1267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 524
*** TIME = .489143E+09 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= 110.5 CRITERION= .1680
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1213 CRITERION= .1260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 525
*** TIME = .497032E+09 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= 110.5 CRITERION= .1676
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1206 CRITERION= .1254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 526
*** TIME = .504922E+09 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= 110.5 CRITERION= .1671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1200 CRITERION= .1248 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 527
*** TIME = .512811E+09 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= 110.5 CRITERION= .1666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
HT FLOW CONVERGENCE VALUE= .1193 CRITERION= .1242 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 528
*** TIME = .520700E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1100E-04 OSCILLATION LIMIT = 86.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1662

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1187 CRITERION= .1235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 529
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1093E-04 OSCILLATION LIMIT = 86.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1180 CRITERION= .1229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 530
 *** TIME = .536479E+09 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= 110.4 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .1223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 531
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1090E-04 OSCILLATION LIMIT = 85.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1139 CRITERION= .1217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 532
 *** TIME = .552258E+09 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= 110.4 CRITERION= .1643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1131 CRITERION= .1210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 533
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1085E-04 OSCILLATION LIMIT = 85.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1124 CRITERION= .1204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 534
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1088E-04 OSCILLATION LIMIT = 85.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.4 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .1198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 535
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1082E-04 OSCILLATION LIMIT = 85.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1101 CRITERION= .1192 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 536
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1084E-04 OSCILLATION LIMIT = 85.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.4 CRITERION= .1625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .1185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 537
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1078E-04 OSCILLATION LIMIT = 85.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1087 CRITERION= .1180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 538
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1080E-04 OSCILLATION LIMIT = 85.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.4 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1082 CRITERION= .1173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 539
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1074E-04 OSCILLATION LIMIT = 84.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1075 CRITERION= .1167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 540
 *** TIME = .615373E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1076E-04 OSCILLATION LIMIT = 84.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.4 CRITERION= .1606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1050 CRITERION= .1161 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 541
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1070E-04 OSCILLATION LIMIT = 84.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.5 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3446
 HT FLOW CONVERGENCE VALUE= .1033 CRITERION= .1155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 542
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1072E-04 OSCILLATION LIMIT = 84.54

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:48:37 JUN 27, 1995 CP= 20783.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 72.34 CRITERION= .1362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6634E-01 CRITERION= .1150 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 543
 *** TIME = .639041E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1484E-04 OSCILLATION LIMIT = 117.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.40 CRITERION= .1358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6614E-01 CRITERION= .1145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 544
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1394E-04 OSCILLATION LIMIT = 110.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.33 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6557E-01 CRITERION= .1140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 545
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1379E-04 OSCILLATION LIMIT = 108.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.40 CRITERION= .1350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6451E-01 CRITERION= .1136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 546
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1395E-04 OSCILLATION LIMIT = 110.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.33 CRITERION= .1347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6423E-01 CRITERION= .1131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 547
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1376E-04 OSCILLATION LIMIT = 108.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.39 CRITERION= .1343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6382E-01 CRITERION= .1127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 548
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1392E-04 OSCILLATION LIMIT = 109.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.32 CRITERION= .1339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6362E-01 CRITERION= .1122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 549
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1373E-04 OSCILLATION LIMIT = 108.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.39 CRITERION= .1335
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6293E-01 CRITERION= .1118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 550
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1388E-04 OSCILLATION LIMIT = 109.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.32 CRITERION= .1331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6162E-01 CRITERION= .1113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 551
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1370E-04 OSCILLATION LIMIT = 108.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.38 CRITERION= .1327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .6020E-01 CRITERION= .1108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 552
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1385E-04 OSCILLATION LIMIT = 109.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.31 CRITERION= .1323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5937E-01 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 553
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1367E-04 OSCILLATION LIMIT = 107.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.38 CRITERION= .1319
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5885E-01 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 554
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1381E-04 OSCILLATION LIMIT = 109.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.31 CRITERION= .1315
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5812E-01 CRITERION= .1094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 555
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 107.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.37 CRITERION= .1311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5756E-01 CRITERION= .1090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 556
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1378E-04 OSCILLATION LIMIT = 108.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.30 CRITERION= .1308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5698E-01 CRITERION= .1085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 557
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 107.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.37 CRITERION= .1304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5665E-01 CRITERION= .1080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 558
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1375E-04 OSCILLATION LIMIT = 108.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.30 CRITERION= .1300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261

HT FLOW CONVERGENCE VALUE= .5638E-01 CRITERION= .1075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 559
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1358E-04 OSCILLATION LIMIT = 107.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.36 CRITERION= .1296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5606E-01 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 560
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1372E-04 OSCILLATION LIMIT = 108.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.29 CRITERION= .1292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5571E-01 CRITERION= .1066 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 561
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1356E-04 OSCILLATION LIMIT = 106.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.36 CRITERION= .1288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5542E-01 CRITERION= .1062 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 562
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1369E-04 OSCILLATION LIMIT = 108.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.29 CRITERION= .1284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5503E-01 CRITERION= .1057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 563
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 106.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.35 CRITERION= .1280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5408E-01 CRITERION= .1053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 564
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 107.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.28 CRITERION= .1277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5363E-01 CRITERION= .1048 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 565
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1350E-04 OSCILLATION LIMIT = 106.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.35 CRITERION= .1273
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5293E-01 CRITERION= .1043 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 566
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1362E-04 OSCILLATION LIMIT = 107.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.28 CRITERION= .1269
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5260E-01 CRITERION= .1038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 567
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1347E-04 OSCILLATION LIMIT = 106.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.34 CRITERION= .1265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5225E-01 CRITERION= .1034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 568
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1359E-04 OSCILLATION LIMIT = 107.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.27 CRITERION= .1261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5209E-01 CRITERION= .1029 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 569
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1344E-04 OSCILLATION LIMIT = 106.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.34 CRITERION= .1257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5178E-01 CRITERION= .1025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 570
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1356E-04 OSCILLATION LIMIT = 107.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.27 CRITERION= .1254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5158E-01 CRITERION= .1020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 571
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1341E-04 OSCILLATION LIMIT = 105.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.33 CRITERION= .1250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5126E-01 CRITERION= .1015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 572
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 106.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.26 CRITERION= .1246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5110E-01 CRITERION= .1010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 573
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1339E-04 OSCILLATION LIMIT = 105.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.33 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5080E-01 CRITERION= .1006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 574
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1350E-04 OSCILLATION LIMIT = 106.5

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.26 CRITERION= .1239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5063E-01 CRITERION= .1001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 575
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1336E-04 OSCILLATION LIMIT = 105.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.32 CRITERION= .1235
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5034E-01 CRITERION= .9969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 576
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1347E-04 OSCILLATION LIMIT = 106.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.25 CRITERION= .1231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .5018E-01 CRITERION= .9919E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 577
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1333E-04 OSCILLATION LIMIT = 105.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.32 CRITERION= .1227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .4987E-01 CRITERION= .9876E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 578
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1344E-04 OSCILLATION LIMIT = 106.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.25 CRITERION= .1223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .4970E-01 CRITERION= .9827E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 579
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1331E-04 OSCILLATION LIMIT = 105.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.31 CRITERION= .1220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .4940E-01 CRITERION= .9783E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 580
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1341E-04 OSCILLATION LIMIT = 105.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.24 CRITERION= .1216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .4923E-01 CRITERION= .9734E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 581
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1328E-04 OSCILLATION LIMIT = 104.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.31 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2261
 HT FLOW CONVERGENCE VALUE= .4894E-01 CRITERION= .9691E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 582

*** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1338E-04 OSCILLATION LIMIT = 105.6

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:41:01 JUN 27, 1995 CP= 22354.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .1006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9913E-01
 HT FLOW CONVERGENCE VALUE= .1800E-01 CRITERION= .9653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 583
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5092E-04 OSCILLATION LIMIT = 401.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.26 CRITERION= .1003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9235E-01
 HT FLOW CONVERGENCE VALUE= .1776E-01 CRITERION= .9620E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 584
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4822E-04 OSCILLATION LIMIT = 380.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9995E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9035E-01
 HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .9582E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 585
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4748E-04 OSCILLATION LIMIT = 374.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.26 CRITERION= .9959E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9275E-01
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .9550E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 586
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4831E-04 OSCILLATION LIMIT = 381.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9037E-01
 HT FLOW CONVERGENCE VALUE= .1754E-01 CRITERION= .9512E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 587
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4748E-04 OSCILLATION LIMIT = 374.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.26 CRITERION= .9892E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9275E-01
 HT FLOW CONVERGENCE VALUE= .1750E-01 CRITERION= .9479E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 588
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4829E-04 OSCILLATION LIMIT = 381.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9859E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9041E-01
 HT FLOW CONVERGENCE VALUE= .1741E-01 CRITERION= .9441E-01 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 589
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4747E-04 OSCILLATION LIMIT = 374.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.26 CRITERION= .9824E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9274E-01
HT FLOW CONVERGENCE VALUE= .1737E-01 CRITERION= .9409E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 590
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4828E-04 OSCILLATION LIMIT = 380.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9792E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9044E-01
HT FLOW CONVERGENCE VALUE= .1728E-01 CRITERION= .9371E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 591
*** TIME = .101773E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4747E-04 OSCILLATION LIMIT = 374.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.26 CRITERION= .9756E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9273E-01
HT FLOW CONVERGENCE VALUE= .1724E-01 CRITERION= .9338E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 592
*** TIME = .102562E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4826E-04 OSCILLATION LIMIT = 380.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9724E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9048E-01
HT FLOW CONVERGENCE VALUE= .1715E-01 CRITERION= .9300E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 593
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4747E-04 OSCILLATION LIMIT = 374.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9688E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9272E-01
HT FLOW CONVERGENCE VALUE= .1710E-01 CRITERION= .9268E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 594
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4824E-04 OSCILLATION LIMIT = 380.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9656E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9051E-01
HT FLOW CONVERGENCE VALUE= .1702E-01 CRITERION= .9230E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 595
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4747E-04 OSCILLATION LIMIT = 374.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9621E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9271E-01
HT FLOW CONVERGENCE VALUE= .1697E-01 CRITERION= .9197E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 596
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4822E-04 OSCILLATION LIMIT = 380.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9588E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9055E-01
 HT FLOW CONVERGENCE VALUE= .1689E-01 CRITERION= .9159E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 597
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4746E-04 OSCILLATION LIMIT = 374.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9553E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9271E-01
 HT FLOW CONVERGENCE VALUE= .1684E-01 CRITERION= .9127E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 598
 *** TIME = .107296E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4820E-04 OSCILLATION LIMIT = 380.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9521E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9058E-01
 HT FLOW CONVERGENCE VALUE= .1676E-01 CRITERION= .9089E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 599
 *** TIME = .108085E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4746E-04 OSCILLATION LIMIT = 374.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9485E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9270E-01
 HT FLOW CONVERGENCE VALUE= .1671E-01 CRITERION= .9056E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 600
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4819E-04 OSCILLATION LIMIT = 380.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9453E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9062E-01
 HT FLOW CONVERGENCE VALUE= .1663E-01 CRITERION= .9018E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 601
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4746E-04 OSCILLATION LIMIT = 374.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9418E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9269E-01
 HT FLOW CONVERGENCE VALUE= .1658E-01 CRITERION= .8986E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 602
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4817E-04 OSCILLATION LIMIT = 380.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .9386E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9065E-01
 HT FLOW CONVERGENCE VALUE= .1650E-01 CRITERION= .8948E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 603
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4746E-04 OSCILLATION LIMIT = 374.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9350E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9269E-01
 HT FLOW CONVERGENCE VALUE= .1645E-01 CRITERION= .8915E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 604
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4815E-04 OSCILLATION LIMIT = 379.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .9318E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9068E-01
 HT FLOW CONVERGENCE VALUE= .1637E-01 CRITERION= .8877E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 605
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4745E-04 OSCILLATION LIMIT = 374.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9283E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9268E-01
 HT FLOW CONVERGENCE VALUE= .1632E-01 CRITERION= .8845E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 606
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4813E-04 OSCILLATION LIMIT = 379.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .9251E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9072E-01
 HT FLOW CONVERGENCE VALUE= .1624E-01 CRITERION= .8807E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 607
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4745E-04 OSCILLATION LIMIT = 374.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9216E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9268E-01
 HT FLOW CONVERGENCE VALUE= .1618E-01 CRITERION= .8774E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 608
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4812E-04 OSCILLATION LIMIT = 379.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .9184E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9075E-01
 HT FLOW CONVERGENCE VALUE= .1611E-01 CRITERION= .8736E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 609
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4745E-04 OSCILLATION LIMIT = 374.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9148E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9267E-01
 HT FLOW CONVERGENCE VALUE= .1605E-01 CRITERION= .8704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 610
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4810E-04 OSCILLATION LIMIT = 379.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .9116E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9078E-01
 HT FLOW CONVERGENCE VALUE= .1598E-01 CRITERION= .8666E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 611
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4744E-04 OSCILLATION LIMIT = 374.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .9081E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9267E-01
 HT FLOW CONVERGENCE VALUE= .1592E-01 CRITERION= .8633E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 612
 *** TIME = .118341E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .4808E-04  OSCILLATION LIMIT = 379.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.18  CRITERION= .9049E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9081E-01
  HT FLOW CONVERGENCE VALUE= .1585E-01 CRITERION= .8595E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 613
*** TIME = .119130E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4744E-04  OSCILLATION LIMIT = 374.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.25  CRITERION= .9014E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9267E-01
  HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .8563E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 614
*** TIME = .119919E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4806E-04  OSCILLATION LIMIT = 379.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.18  CRITERION= .8982E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9084E-01
  HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .8525E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 615
*** TIME = .120708E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4744E-04  OSCILLATION LIMIT = 374.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.25  CRITERION= .8947E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9266E-01
  HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .8492E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 616
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4805E-04  OSCILLATION LIMIT = 379.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.18  CRITERION= .8915E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9087E-01
  HT FLOW CONVERGENCE VALUE= .1559E-01 CRITERION= .8454E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 617
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4743E-04  OSCILLATION LIMIT = 374.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.25  CRITERION= .8879E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9266E-01
  HT FLOW CONVERGENCE VALUE= .1553E-01 CRITERION= .8422E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 618
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4803E-04  OSCILLATION LIMIT = 378.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.18  CRITERION= .8847E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9090E-01
  HT FLOW CONVERGENCE VALUE= .1545E-01 CRITERION= .8384E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 619
*** TIME = .123864E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4743E-04  OSCILLATION LIMIT = 374.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.25  CRITERION= .8812E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9266E-01
  HT FLOW CONVERGENCE VALUE= .1540E-01 CRITERION= .8351E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 620
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4801E-04 OSCILLATION LIMIT = 378.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .8780E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9094E-01
 HT FLOW CONVERGENCE VALUE= .1532E-01 CRITERION= .8313E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 621
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4742E-04 OSCILLATION LIMIT = 374.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.24 CRITERION= .8745E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9265E-01
 HT FLOW CONVERGENCE VALUE= .1527E-01 CRITERION= .8281E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 622
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4800E-04 OSCILLATION LIMIT = 378.7

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:32:47 JUN 27, 1995 CP= 23926.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 9.689 CRITERION= .8335E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1122
 HT FLOW CONVERGENCE VALUE= .9091E-02 CRITERION= .8249E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 623
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.754 CRITERION= .8305E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1117
 HT FLOW CONVERGENCE VALUE= .9030E-02 CRITERION= .8223E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 624
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 29.13 CRITERION= .8719E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3385
 HT FLOW CONVERGENCE VALUE= .2656E-01 CRITERION= .8135E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 625
 *** TIME = .130175E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 77.80 CRITERION= .1124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9055
 HT FLOW CONVERGENCE VALUE= .6941E-01 CRITERION= .7909E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 626
 *** TIME = .136487E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.73 CRITERION= .1108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8872
 HT FLOW CONVERGENCE VALUE= .6711E-01 CRITERION= .7676E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 627
 *** TIME = .142798E+10 TIME INC = .631152E+08

*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.80 CRITERION= .1092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8912
 HT FLOW CONVERGENCE VALUE= .6529E-01 CRITERION= .7449E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 628
 *** TIME = .149110E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.73 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8908
 HT FLOW CONVERGENCE VALUE= .6320E-01 CRITERION= .7216E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 629
 *** TIME = .155421E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= 29.19 CRITERION= .7777E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3199
 HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .7131E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 630
 *** TIME = .157788E+10 TIME INC = .236682E+08

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:43:25 JUN 27, 1995 CP= 24244.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 5.079 CRITERION= .7144E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3150
 HT FLOW CONVERGENCE VALUE= .2129E-01 CRITERION= .7060E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 631
 *** TIME = .160155E+10 TIME INC = .236682E+08
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.144 CRITERION= .7074E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3156
 HT FLOW CONVERGENCE VALUE= .2110E-01 CRITERION= .6995E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 632
 *** TIME = .162522E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 13.60 CRITERION= .7113E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8566
 HT FLOW CONVERGENCE VALUE= .5492E-01 CRITERION= .6813E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 633
 *** TIME = .168833E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.66 CRITERION= .6936E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8420
 HT FLOW CONVERGENCE VALUE= .5341E-01 CRITERION= .6635E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 634
 *** TIME = .175145E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.60 CRITERION= .6760E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8419
 HT FLOW CONVERGENCE VALUE= .5182E-01 CRITERION= .6452E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 635
*** TIME = .181456E+10 TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)

HT FLOW CONVERGENCE VALUE= 8.551 CRITERION= .6500E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5188
HT FLOW CONVERGENCE VALUE= .3184E-01 CRITERION= .6341E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 636
*** TIME = .185401E+10 TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.486 CRITERION= .6390E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5275
HT FLOW CONVERGENCE VALUE= .3127E-01 CRITERION= .6226E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 637
*** TIME = .189346E+10 TIME INC = .394470E+08

***** ANSYS SOLVE COMMAND *****
1
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:52:41 JUN 27, 1995 CP= 24523.920
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 19.05 CRITERION= .6505E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5044
HT FLOW CONVERGENCE VALUE= .3405E-01 CRITERION= .6137E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 638
*** TIME = .193290E+10 TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.12 CRITERION= .6421E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5016
HT FLOW CONVERGENCE VALUE= .3326E-01 CRITERION= .6043E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 639
*** TIME = .197235E+10 TIME INC = .394470E+08
*** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 1.6000)

HT FLOW CONVERGENCE VALUE= 30.50 CRITERION= .6761E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8165
HT FLOW CONVERGENCE VALUE= .5225E-01 CRITERION= .5901E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 640
*** TIME = .203547E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.57 CRITERION= .6635E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8055
HT FLOW CONVERGENCE VALUE= .5063E-01 CRITERION= .5752E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 641
*** TIME = .209858E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.50 CRITERION= .6502E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8091
HT FLOW CONVERGENCE VALUE= .4944E-01 CRITERION= .5609E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 642
*** TIME = .216170E+10 TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .47336E+08 DECREASED (FACTOR = .7500)
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HT FLOW CONVERGENCE VALUE= 22.93 CRITERION= .6052E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5997
 HT FLOW CONVERGENCE VALUE= .3614E-01 CRITERION= .5497E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 643
 *** TIME = .220903E+10 TIME INC = .473364E+08

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:00:45 JUN 27, 1995 CP= 24763.560
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 60.02 CRITERION= .8136E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6192
 HT FLOW CONVERGENCE VALUE= .4547E-01 CRITERION= .5411E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 644
 *** TIME = .225637E+10 TIME INC = .473364E+08
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.09 CRITERION= .8080E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6151
 HT FLOW CONVERGENCE VALUE= .4441E-01 CRITERION= .5319E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 645
 *** TIME = .230370E+10 TIME INC = .473364E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 1.3333)

HT FLOW CONVERGENCE VALUE= 80.04 CRITERION= .9607E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8306
 HT FLOW CONVERGENCE VALUE= .5798E-01 CRITERION= .5204E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2788E-01
 HT FLOW CONVERGENCE VALUE= .7919E-03 CRITERION= .5203E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 647
 *** TIME = .236682E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 80.11 CRITERION= .9546E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8512
 HT FLOW CONVERGENCE VALUE= .5682E-01 CRITERION= .5083E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2769E-01
 HT FLOW CONVERGENCE VALUE= .7589E-03 CRITERION= .5082E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 649
 *** TIME = .242994E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 80.05 CRITERION= .9478E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8539
 HT FLOW CONVERGENCE VALUE= .5562E-01 CRITERION= .4967E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2718E-01
 HT FLOW CONVERGENCE VALUE= .7239E-03 CRITERION= .4966E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 651
 *** TIME = .249305E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+08 DECREASED (FACTOR = .5000)

HT FLOW CONVERGENCE VALUE= 40.07 CRITERION= .6377E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4262
 HT FLOW CONVERGENCE VALUE= .2750E-01 CRITERION= .4905E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 652
 *** TIME = .252461E+10 TIME INC = .315576E+08

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:10:48 JUN 27, 1995 CP= 25059.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 36.28 CRITERION= .6099E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3384
 HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .4861E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 653
 *** TIME = .255617E+10 TIME INC = .315576E+08
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.34 CRITERION= .6065E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3389
 HT FLOW CONVERGENCE VALUE= .2281E-01 CRITERION= .4811E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 654
 *** TIME = .258772E+10 TIME INC = .315576E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.0000)

HT FLOW CONVERGENCE VALUE= 72.59 CRITERION= .8706E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6924
 HT FLOW CONVERGENCE VALUE= .4483E-01 CRITERION= .4721E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 655
 *** TIME = .265084E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.65 CRITERION= .8660E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6801
 HT FLOW CONVERGENCE VALUE= .4339E-01 CRITERION= .4625E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 656
 *** TIME = .271395E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.59 CRITERION= .8605E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6835
 HT FLOW CONVERGENCE VALUE= .4222E-01 CRITERION= .4534E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 657
 *** TIME = .277707E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.66 CRITERION= .8560E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6824
 HT FLOW CONVERGENCE VALUE= .4113E-01 CRITERION= .4439E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 658
 *** TIME = .284018E+10 TIME INC = .631152E+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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM

6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 180.32 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 180.48 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 180.85 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 25298.440 TIME= 07:18:24
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 07:18:24 JUN 27, 1995 CP= 25298.440
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 69.80 CRITERION= .8270E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6167

HT FLOW CONVERGENCE VALUE= .3742E-01 CRITERION= .4359E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 659
 *** TIME = .290330E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.87 CRITERION= .8231E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6171
 HT FLOW CONVERGENCE VALUE= .3665E-01 CRITERION= .4275E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 660
 *** TIME = .296641E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.81 CRITERION= .8184E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6202
 HT FLOW CONVERGENCE VALUE= .3607E-01 CRITERION= .4196E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 661
 *** TIME = .302953E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.87 CRITERION= .8146E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6188
 HT FLOW CONVERGENCE VALUE= .3529E-01 CRITERION= .4112E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 662
 *** TIME = .309264E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.81 CRITERION= .8100E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6219
 HT FLOW CONVERGENCE VALUE= .3471E-01 CRITERION= .4033E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 663
 *** TIME = .315576E+10 TIME INC = .631152E+08

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:25:33 JUN 27, 1995 CP= 25502.420
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 51.37 CRITERION= .6528E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3657
 HT FLOW CONVERGENCE VALUE= .2270E-01 CRITERION= .3987E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 664
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.31 CRITERION= .6497E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3739
 HT FLOW CONVERGENCE VALUE= .2261E-01 CRITERION= .3946E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 665
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 154.1 CRITERION= .1590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.138
 HT FLOW CONVERGENCE VALUE= .6518E-01 CRITERION= .3814E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2880E-01
 HT FLOW CONVERGENCE VALUE= .6449E-03 CRITERION= .3813E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 667
*** TIME = .355023E+10 TIME INC = .236682E+09
*** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 154.0 CRITERION= .1586
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.152
HT FLOW CONVERGENCE VALUE= .6326E-01 CRITERION= .3686E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2808E-01
HT FLOW CONVERGENCE VALUE= .6065E-03 CRITERION= .3685E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 669
*** TIME = .378691E+10 TIME INC = .236682E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 410.8 CRITERION= .4124
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.071
HT FLOW CONVERGENCE VALUE= .1490 CRITERION= .3337E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6750E-01
HT FLOW CONVERGENCE VALUE= .1293E-02 CRITERION= .3336E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 671
*** TIME = .441806E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 410.8 CRITERION= .4122
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.083
HT FLOW CONVERGENCE VALUE= .1337 CRITERION= .2992E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6124E-01
HT FLOW CONVERGENCE VALUE= .1047E-02 CRITERION= .2991E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 673
*** TIME = .504922E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.0 CRITERION= .4120
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.091
HT FLOW CONVERGENCE VALUE= .1190 CRITERION= .2642E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5482E-01
HT FLOW CONVERGENCE VALUE= .8282E-03 CRITERION= .2640E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 675
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.0 CRITERION= .4118
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.102
HT FLOW CONVERGENCE VALUE= .1132 CRITERION= .2296E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4851E-01
HT FLOW CONVERGENCE VALUE= .6508E-03 CRITERION= .2295E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 677
*** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****
1
***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 07:40:07 JUN 27, 1995 CP= 25936.690
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 328.0 CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.581
HT FLOW CONVERGENCE VALUE= .7962E-01 CRITERION= .2185E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2786E-01
HT FLOW CONVERGENCE VALUE= .4351E-03 CRITERION= .2185E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 679
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 328.0 CRITERION= .3287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.584
HT FLOW CONVERGENCE VALUE= .7682E-01 CRITERION= .2080E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2668E-01
HT FLOW CONVERGENCE VALUE= .4008E-03 CRITERION= .2080E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 681
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 328.1 CRITERION= .3287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.585
HT FLOW CONVERGENCE VALUE= .7318E-01 CRITERION= .1970E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2547E-01
HT FLOW CONVERGENCE VALUE= .3675E-03 CRITERION= .1970E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 683
*** TIME = .820498E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 328.1 CRITERION= .3287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.588
HT FLOW CONVERGENCE VALUE= .6946E-01 CRITERION= .1865E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2421E-01
HT FLOW CONVERGENCE VALUE= .3336E-03 CRITERION= .1865E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 685
*** TIME = .883613E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 328.2 CRITERION= .3287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.588
HT FLOW CONVERGENCE VALUE= .6573E-01 CRITERION= .1755E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2275E-01
HT FLOW CONVERGENCE VALUE= .3019E-03 CRITERION= .1754E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 687
*** 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 07:50:06 JUN 27, 1995 CP= 26231.760
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 174.5 CRITERION= .1754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8600
HT FLOW CONVERGENCE VALUE= .3437E-01 CRITERION= .1697E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1191E-01
HT FLOW CONVERGENCE VALUE= .1533E-03 CRITERION= .1697E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 689
*** TIME = .100984E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.6 CRITERION= .1754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8588
HT FLOW CONVERGENCE VALUE= .3318E-01 CRITERION= .1635E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1152E-01
HT FLOW CONVERGENCE VALUE= .1431E-03 CRITERION= .1635E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 691

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*** TIME = .107296E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.5 CRITERION= .1753
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8610
HT FLOW CONVERGENCE VALUE= .3203E-01 CRITERION= .1578E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1116E-01
HT FLOW CONVERGENCE VALUE= .1335E-03 CRITERION= .1578E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 693
*** TIME = .113607E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.6 CRITERION= .1753
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8599
HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .1516E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1077E-01
HT FLOW CONVERGENCE VALUE= .1239E-03 CRITERION= .1516E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 695
*** TIME = .119919E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.6 CRITERION= .1752
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8622
HT FLOW CONVERGENCE VALUE= .2967E-01 CRITERION= .1459E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1040E-01
HT FLOW CONVERGENCE VALUE= .1149E-03 CRITERION= .1458E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 697
*** 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 08:00:08 JUN 27, 1995 CP= 26527.210
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 112.9 CRITERION= .1138
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5601
HT FLOW CONVERGENCE VALUE= .1878E-01 CRITERION= .1417E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6595E-02
HT FLOW CONVERGENCE VALUE= .7105E-04 CRITERION= .1416E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 699
*** TIME = .132542E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.8 CRITERION= .1137
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5620
HT FLOW CONVERGENCE VALUE= .1829E-01 CRITERION= .1380E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6441E-02
HT FLOW CONVERGENCE VALUE= .6744E-04 CRITERION= .1380E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 701
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.9 CRITERION= .1137
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5606
HT FLOW CONVERGENCE VALUE= .1776E-01 CRITERION= .1338E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6261E-02
HT FLOW CONVERGENCE VALUE= .6371E-04 CRITERION= .1338E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 703
*** TIME = .145165E+11 TIME INC = .631152E+09

*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.8 CRITERION= .1136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5625
 HT FLOW CONVERGENCE VALUE= .1727E-01 CRITERION= .1301E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6105E-02
 HT FLOW CONVERGENCE VALUE= .6026E-04 CRITERION= .1301E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 705
 *** TIME = .151476E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.9 CRITERION= .1136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5611
 HT FLOW CONVERGENCE VALUE= .1674E-01 CRITERION= .1259E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5923E-02
 HT FLOW CONVERGENCE VALUE= .5672E-04 CRITERION= .1259E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 707
 *** 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 08:10:20 JUN 27, 1995 CP= 26825.550
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 130.7 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5740
 HT FLOW CONVERGENCE VALUE= .1832E-01 CRITERION= .1230E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6197E-02
 HT FLOW CONVERGENCE VALUE= .6074E-04 CRITERION= .1230E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 709
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.7 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5726
 HT FLOW CONVERGENCE VALUE= .1785E-01 CRITERION= .1196E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6045E-02
 HT FLOW CONVERGENCE VALUE= .5778E-04 CRITERION= .1196E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 711
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.7 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5744
 HT FLOW CONVERGENCE VALUE= .1742E-01 CRITERION= .1168E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5913E-02
 HT FLOW CONVERGENCE VALUE= .5502E-04 CRITERION= .1168E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 713
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.8 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5730
 HT FLOW CONVERGENCE VALUE= .1695E-01 CRITERION= .1134E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5759E-02
 HT FLOW CONVERGENCE VALUE= .5219E-04 CRITERION= .1134E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 715
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 130.7    CRITERION= .1312
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5749
HT FLOW CONVERGENCE VALUE= .1651E-01 CRITERION= .1105E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5626E-02
HT FLOW CONVERGENCE VALUE= .4956E-04 CRITERION= .1105E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 717
*** 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 08:20:36 JUN 27, 1995 CP= 27124.830
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 149.4    CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5892
HT FLOW CONVERGENCE VALUE= .1801E-01 CRITERION= .1079E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5903E-02
HT FLOW CONVERGENCE VALUE= .5303E-04 CRITERION= .1079E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 719
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 149.3    CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5911
HT FLOW CONVERGENCE VALUE= .1765E-01 CRITERION= .1058E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5799E-02
HT FLOW CONVERGENCE VALUE= .5095E-04 CRITERION= .1058E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 721
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 149.4    CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5896
HT FLOW CONVERGENCE VALUE= .1726E-01 CRITERION= .1032E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5675E-02
HT FLOW CONVERGENCE VALUE= .4879E-04 CRITERION= .1032E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 723
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 149.3    CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5914
HT FLOW CONVERGENCE VALUE= .1689E-01 CRITERION= .1011E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5570E-02
HT FLOW CONVERGENCE VALUE= .4678E-04 CRITERION= .1011E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 725
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 149.4    CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5899
HT FLOW CONVERGENCE VALUE= .1650E-01 CRITERION= .9843E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5445E-02
HT FLOW CONVERGENCE VALUE= .4469E-04 CRITERION= .9842E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 727
*** TIME = .220903E+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 08:30:24 JUN 27, 1995 CP= 27420.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 161.2 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6101
 HT FLOW CONVERGENCE VALUE= .1730E-01 CRITERION= .9665E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5627E-02
 HT FLOW CONVERGENCE VALUE= .4604E-04 CRITERION= .9665E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 729
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 161.3 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6086
 HT FLOW CONVERGENCE VALUE= .1695E-01 CRITERION= .9436E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5516E-02
 HT FLOW CONVERGENCE VALUE= .4422E-04 CRITERION= .9436E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 731
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 161.2 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6104
 HT FLOW CONVERGENCE VALUE= .1661E-01 CRITERION= .9258E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5421E-02
 HT FLOW CONVERGENCE VALUE= .4252E-04 CRITERION= .9258E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 733
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 161.3 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6089
 HT FLOW CONVERGENCE VALUE= .1625E-01 CRITERION= .9029E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5308E-02
 HT FLOW CONVERGENCE VALUE= .4076E-04 CRITERION= .9029E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 735
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 161.2 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6107
 HT FLOW CONVERGENCE VALUE= .1591E-01 CRITERION= .8851E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5212E-02
 HT FLOW CONVERGENCE VALUE= .3911E-04 CRITERION= .8851E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 737
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:40:28 JUN 27, 1995 CP= 27717.960
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 154.8 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5662

HT FLOW CONVERGENCE VALUE= .1491E-01 CRITERION= .8663E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4828E-02
 HT FLOW CONVERGENCE VALUE= .3606E-04 CRITERION= .8663E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 739
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 154.8 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5680
 HT FLOW CONVERGENCE VALUE= .1466E-01 CRITERION= .8527E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4758E-02
 HT FLOW CONVERGENCE VALUE= .3487E-04 CRITERION= .8527E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 741
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 154.8 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5664
 HT FLOW CONVERGENCE VALUE= .1438E-01 CRITERION= .8339E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4672E-02
 HT FLOW CONVERGENCE VALUE= .3362E-04 CRITERION= .8339E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 743
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 154.8 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5682
 HT FLOW CONVERGENCE VALUE= .1413E-01 CRITERION= .8203E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4602E-02
 HT FLOW CONVERGENCE VALUE= .3247E-04 CRITERION= .8202E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 745
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 154.9 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5667
 HT FLOW CONVERGENCE VALUE= .1385E-01 CRITERION= .8015E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4515E-02
 HT FLOW CONVERGENCE VALUE= .3126E-04 CRITERION= .8015E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 747
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:50:49 JUN 27, 1995 CP= 28016.890
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 139.7 CRITERION= .1399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5061
 HT FLOW CONVERGENCE VALUE= .1229E-01 CRITERION= .7907E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3994E-02
 HT FLOW CONVERGENCE VALUE= .2734E-04 CRITERION= .7906E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 749
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.7 CRITERION= .1400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5045
 HT FLOW CONVERGENCE VALUE= .1208E-01 CRITERION= .7747E-02

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3929E-02
HT FLOW CONVERGENCE VALUE= .2647E-04 CRITERION= .7747E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 751
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.7 CRITERION= .1399
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5063
HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .7639E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-02
HT FLOW CONVERGENCE VALUE= .2567E-04 CRITERION= .7639E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 753
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.8 CRITERION= .1400
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5047
HT FLOW CONVERGENCE VALUE= .1169E-01 CRITERION= .7479E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3811E-02
HT FLOW CONVERGENCE VALUE= .2481E-04 CRITERION= .7479E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 755
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.7 CRITERION= .1399
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5065
HT FLOW CONVERGENCE VALUE= .1150E-01 CRITERION= .7371E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3760E-02
HT FLOW CONVERGENCE VALUE= .2403E-04 CRITERION= .7371E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 757
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 28316.470

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12x.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 09:01:20 JUN 27, 1995 CP= 28320.350
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1298 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 1298 TEMP peakclad 146.3 .1000E-05 229.2 .6312E+09
*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 631152032.
***** ROUTINE COMPLETED ***** CP = 28320.590

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:01:22 JUN 27, 1995 CP= 28320.610
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 .76525E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

2845 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .63115E+09

SET COMMAND GOT LOAD STEP= 23 SUBSTEP= 40 CUMULATIVE ITERATION= 542
TIME/FREQUENCY= .63115E+09

TITLE=
12 PWR UCF/WP at Time of Peak Temp. (20.000001 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=
12 PWR UCF/WP at Time of Peak Temp. (20.000001 years)

*** WARNING *** CP= 28345.900 TIME= 09:02:21
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= 502

TIME/FREQUENCY= .31558E+09

TITLE=

12 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 170.64 BY .46090 TO 229.18

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.

DISPLAY TITLE=

12 PWR UCF/WP at 10 years

*** WARNING *** CP= 28378.820 TIME= 09:03:31

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= 630
TIME/FREQUENCY= .15779E+10

TITLE=

12 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 170.64 BY .46090 TO 229.18

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.

DISPLAY TITLE=

12 PWR UCF/WP at 50 years

*** WARNING *** CP= 28411.690 TIME= 09:04:42

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= 5 CUMULATIVE ITERATION= 663
TIME/FREQUENCY= .31558E+10

TITLE=

12 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 170.64 BY .46090 TO 229.18

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.

DISPLAY TITLE=

12 PWR UCF/WP at 100 years

*** WARNING *** CP= 28443.510 TIME= 09:05:47
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 28450.140

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)
l = 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 09:06:01 JUN 27, 1995 CP= 28450.140
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLE:= 30

* Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2	IS AT NODE	2	ITEM= TEMP COMP=	NAME= t010045
VARIABLE 3	IS AT NODE	31	ITEM= TEMP COMP=	NAME= s01o145
VARIABLE 4	IS AT NODE	1105	ITEM= TEMP COMP=	NAME= s01i145
VARIABLE 5	IS AT NODE	1242	ITEM= TEMP COMP=	NAME= c01i045
VARIABLE 6	IS AT NODE	1298	ITEM= TEMP COMP=	NAME= c01c045
VARIABLE 7	IS AT NODE	1353	ITEM= TEMP COMP=	NAME= c01o045

VARIABLE 8 IS AT NODE 1063 ITEM= TEMP COMP= NAME= s01ir45
 VARIABLE 9 IS AT NODE 229 ITEM= TEMP COMP= NAME= s01or45
 VARIABLE 10 IS AT NODE 243 ITEM= TEMP COMP= NAME= g01o045
 VARIABLE 11 IS AT NODE 2382 ITEM= TEMP COMP= NAME= i01i045
 VARIABLE 12 IS AT NODE 2631 ITEM= TEMP COMP= NAME= i01o045
 VARIABLE 13 IS AT NODE 2845 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 3 and 5
 VARIABLE 14 IS AT NODE 2309 ITEM= TEMP COMP= NAME= c03c045
 VARIABLE 15 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c045

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	2 TEMP	t010045	109.9	.1000E-05	215.5	.9467E+09
3 NSOL	31 TEMP	s01ol45	109.9	.1000E-05	215.5	.9467E+09
4 NSOL	1105 TEMP	s01il45	109.9	.1000E-05	215.5	.9467E+09
5 NSOL	1242 TEMP	c01i045	127.7	.1000E-05	222.0	.9467E+09
6 NSOL	1298 TEMP	c01c045	146.3	.1000E-05	229.2	.6312E+09
7 NSOL	1353 TEMP	c01o045	136.4	.1000E-05	223.3	.9467E+09
8 NSOL	1063 TEMP	s01ir45	104.2	.1000E-05	208.5	.9467E+09
9 NSOL	229 TEMP	s01or45	102.6	.1000E-05	207.7	.9467E+09
10 NSOL	243 TEMP	g01o045	99.61	.1000E-05	206.2	.9467E+09
11 NSOL	2682 TEMP	i01i045	28.01	.1000E-05	185.5	.1893E+10
12 NSOL	2631 TEMP	i01o045	27.27	.1000E-05	185.2	.1893E+10
13 NSOL	2845 TEMP	o08o045	26.14	.1000E-05	184.6	.1893E+10
14 NSOL	2309 TEMP	c03c045	122.6	.1000E-05	216.4	.9467E+09
15 NSOL	1635 TEMP	c05c045	121.4	.1000E-05	215.7	.9467E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:05 JUN 27, 1995 CP= 28451.580
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s01ol45	s01il45	c01i045	c01c045
.10000E-05	109.921	109.923	109.934	127.749	146.313
.20000E-05	137.773	137.775	137.786	153.945	170.566
31.558	137.773	137.775	137.786	153.945	170.565
.31558E+07	159.457	159.464	159.479	174.405	189.629
.63116E+07	165.646	165.653	165.668	180.216	195.006
.94673E+07	169.567	169.574	169.589	183.891	198.422
.12623E+08	172.567	172.573	172.588	186.692	201.003
.15779E+08	174.957	174.964	174.979	188.905	203.017
.18935E+08	176.958	176.965	176.980	190.750	204.686
.22090E+08	178.681	178.688	178.703	192.329	206.103
.25246E+08	180.196	180.203	180.218	193.720	207.356
.28402E+08	181.560	181.567	181.582	194.968	208.473
.31558E+08	182.792	182.798	182.813	196.087	209.465
.63115E+08	190.745	190.752	190.766	203.244	215.736
.94673E+08	195.353	195.360	195.374	207.264	219.128
.12623E+09	199.057	199.063	199.077	210.482	221.835
.15779E+09	202.312	202.319	202.332	213.335	224.271
.18935E+09	204.592	204.599	204.611	215.211	225.732
.22090E+09	206.513	206.520	206.532	216.817	227.016
.25246E+09	208.246	208.252	208.265	218.258	228.157

.28402E+09	209.107	209.113	209.124	218.873	228.525
.31558E+09	209.921	209.927	209.939	219.489	228.941
.63115E+09	213.682	213.687	213.697	221.482	229.176
.94673E+09	215.458	215.462	215.471	221.980	228.410
.12623E+10	213.568	213.572	213.579	219.185	224.735
.15779E+10	210.539	210.543	210.549	215.430	220.278
.18935E+10	207.445	207.448	207.453	211.765	216.061
.22090E+10	204.314	204.317	204.321	208.173	212.024
.25246E+10	200.927	200.929	200.934	204.417	207.910
.28402E+10	198.105	198.107	198.111	201.294	204.494
.31558E+10	195.535	195.537	195.541	198.457	201.400
.63115E+10	182.796	182.798	182.800	184.536	186.310
.94673E+10	175.744	175.745	175.747	177.109	178.509
.12623E+11	171.934	171.935	171.936	173.082	174.263
.15779E+11	169.453	169.454	169.455	170.454	171.487
.18935E+11	166.848	166.849	166.850	167.733	168.648
.22090E+11	164.100	164.101	164.102	164.898	165.725
.25246E+11	161.230	161.231	161.232	161.953	162.703
.28402E+11	158.538	158.539	158.540	159.201	159.890
.31558E+11	156.131	156.132	156.132	156.744	157.382

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:05 JUN 27, 1995 CP= 28451.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s01ir45	s01or45	g01o045	i01i045
.10000E-05	136.386	104.186	102.620	99.6125	28.0056
.20000E-05	160.905	130.099	128.561	125.588	59.7825
.31.558	160.905	130.099	128.562	125.588	59.7826
.31558E+07	180.209	150.621	149.110	146.192	85.4594
.63116E+07	185.655	156.409	154.904	152.002	92.6997
.94673E+07	189.103	160.093	158.595	155.709	97.4800
.12623E+08	191.727	162.931	161.440	158.568	101.171
.15779E+08	193.785	165.195	163.711	160.854	104.200
.18935E+08	195.497	167.095	165.617	162.774	106.775
.22090E+08	196.960	168.740	167.269	164.440	109.032
.25246E+08	198.251	170.192	168.727	165.910	111.054
.28402E+08	199.408	171.506	170.047	167.243	112.891
.31558E+08	200.440	172.693	171.241	168.450	114.585
.63115E+08	207.029	180.494	179.095	176.407	126.059
.94673E+08	210.685	185.120	183.768	181.167	133.379
.12623E+09	213.618	188.874	187.562	185.035	139.333
.15779E+09	216.241	192.176	190.897	188.432	144.429
.18935E+09	217.919	194.603	193.362	190.969	148.712
.22090E+09	219.373	196.641	195.429	193.092	152.187
.25246E+09	220.675	198.491	197.308	195.023	155.366
.28402E+09	221.191	199.498	198.340	196.105	157.511
.31558E+09	221.726	200.426	199.289	197.093	159.350
.63115E+09	223.135	205.565	204.627	202.814	172.632
.94673E+09	223.271	208.480	207.691	206.165	181.295
.12623E+10	220.293	207.573	206.896	205.589	184.435
.15779E+10	216.415	205.387	204.803	203.674	185.449
.18935E+10	212.658	202.964	202.453	201.465	185.508
.22090E+10	208.997	200.383	199.930	199.056	184.915
.25246E+10	205.188	197.449	197.043	196.262	183.573
.28402E+10	202.018	194.980	194.612	193.905	182.370
.31558E+10	199.139	192.719	192.384	191.741	181.220
.63115E+10	184.995	181.258	181.066	180.698	174.563
.94673E+10	177.493	174.601	174.453	174.170	169.395
.12623E+11	173.415	171.001	170.878	170.643	166.644
.15779E+11	170.751	168.655	168.549	168.346	164.867
.18935E+11	168.001	166.158	166.065	165.886	162.819

.22090E+11	165.145	163.492	163.409	163.250	160.491
.25246E+11	162.182	160.693	160.618	160.475	157.982
.28402E+11	159.415	158.058	157.990	157.859	155.578
.31558E+11	156.945	155.696	155.634	155.514	153.410

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:05 JUN 27, 1995 CP= 28451.610
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
	i01o045	o08o045	c03c045	c05c045
.10000E-05	27.2743	26.1380	122.615	121.351
.20000E-05	58.9494	57.7275	147.349	145.943
.31558E+07	58.9494	57.7275	147.348	145.943
.63116E+07	84.5536	83.2705	166.863	165.836
.94673E+07	91.7757	90.4792	172.387	171.354
.12623E+08	96.5501	95.2439	175.920	174.881
.15779E+08	100.238	98.9266	178.620	177.577
.18935E+08	103.266	101.952	180.749	179.706
.22090E+08	105.840	104.524	182.526	181.481
.25246E+08	108.097	106.781	184.050	183.006
.28402E+08	110.120	108.803	185.405	184.360
.31558E+08	111.958	110.642	186.622	185.578
.63115E+08	113.653	112.338	187.712	186.669
.94673E+08	125.144	123.847	194.795	193.771
.12623E+09	132.487	131.213	198.871	197.861
.15779E+09	138.462	137.210	202.168	201.168
.18935E+09	143.574	142.341	205.091	204.103
.22090E+09	147.879	146.672	207.105	206.138
.25246E+09	151.371	150.185	208.820	207.870
.28402E+09	154.566	153.400	210.368	209.433
.31558E+09	156.727	155.581	211.108	210.187
.63115E+09	158.579	157.449	211.822	210.912
.94673E+09	171.991	171.038	214.951	214.174
.12623E+10	180.753	179.941	216.370	215.705
.15779E+10	183.971	183.274	214.363	213.787
.18935E+10	185.050	184.450	211.282	210.784
.22090E+10	185.160	184.637	208.153	207.717
.25246E+10	184.609	184.148	204.999	204.616
.28402E+10	183.301	182.892	201.601	201.260
.31558E+10	182.124	181.755	198.758	198.450
.63115E+10	180.998	180.664	196.167	195.890
.94673E+10	174.439	174.253	183.277	183.124
.12623E+11	169.301	169.160	176.168	176.054
.15779E+11	166.566	166.451	172.312	172.218
.18935E+11	164.800	164.700	169.795	169.715
.22090E+11	162.761	162.674	167.161	167.092
.25246E+11	160.439	160.362	164.394	164.332
.28402E+11	157.936	157.867	161.506	161.451
.31558E+11	155.536	155.474	158.801	158.751
	153.371	153.315	156.381	156.336

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 28451.680 TIME= 09:06:05
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135
 VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135
 VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135
 VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135
 VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135
 VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135
 VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s020r135
 VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135
 VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135
 VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135
 VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
 Add centers of assemblies 4 and 6
 VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135
 VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	109.9	.1000E-05	215.5	.9467E+09
3 NSOL	1 TEMP	s02o0135	109.9	.1000E-05	215.5	.9467E+09
4 NSOL	402 TEMP	s02i0135	109.9	.1000E-05	215.5	.9467E+09
5 NSOL	486 TEMP	c02i0135	127.7	.1000E-05	181.3	.9467E+09
6 NSOL	542 TEMP	c02c0135	146.3	.1000E-05	228.9	.6312E+09
7 NSOL	597 TEMP	c02o0135	136.4	.1000E-05	223.0	.9467E+09
8 NSOL	417 TEMP	s02ir135	104.4	.1000E-05	208.2	.9467E+09
9 NSOL	316 TEMP	s020r135	102.8	.1000E-05	207.4	.9467E+09
10 NSOL	315 TEMP	g02o0135	99.81	.1000E-05	205.9	.9467E+09
11 NSOL	2473 TEMP	i02i0135	28.02	.1000E-05	185.2	.1893E+10
12 NSOL	2422 TEMP	i02o0135	27.29	.1000E-05	184.8	.1893E+10
13 NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	184.3	.1893E+10
14 NSOL	1972 TEMP	c04c0135	122.7	.1000E-05	216.2	.9467E+09
15 NSOL	961 TEMP	c06c0135	122.7	.1000E-05	216.1	.9467E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:08 JUN 27, 1995 CP= 28453.070
 FOR SUPPORT CALL ROBERT BAINEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
	t0200135	s02o0135	s02i0135	c02i0135	c02c0135
.10000E-05	109.921	109.919	109.925	127.689	146.272
.20000E-05	137.773	137.770	137.776	153.877	170.527
31.558	137.773	137.770	137.776	153.877	170.527
.31558E+07	159.457	159.450	159.451	174.172	189.251
.63116E+07	165.646	165.639	165.640	179.978	194.618
.94673E+07	169.567	169.560	169.561	183.652	198.032
.12623E+08	172.567	172.559	172.560	186.453	200.612
.15779E+08	174.957	174.949	174.950	188.665	202.625
.18935E+08	176.958	176.950	176.951	190.509	204.295
.22090E+08	178.681	178.673	178.674	192.089	205.712

.25246E+08	180.196	180.188	180.189	193.480	206.966
.28402E+08	181.560	181.553	181.553	194.729	208.083
.31558E+08	182.792	182.784	182.784	195.847	209.076
.63115E+08	190.745	190.738	190.738	203.006	215.348
.94673E+08	195.353	195.346	195.346	207.031	218.748
.12623E+09	199.057	199.050	199.050	210.255	221.466
.15779E+09	202.312	202.305	202.305	213.113	223.909
.18935E+09	204.592	204.586	204.585	214.993	225.377
.22090E+09	206.513	206.507	206.507	216.602	226.664
.25246E+09	208.246	208.240	208.240	218.047	227.813
.28402E+09	209.107	209.100	209.100	218.666	228.188
.31558E+09	209.921	209.915	209.915	219.286	228.610
.63115E+09	213.682	213.677	213.677	221.310	228.894
.94673E+09	215.458	215.454	215.453	221.833	228.167
.12623E+10	213.568	213.564	213.564	219.058	224.524
.15779E+10	210.539	210.536	210.536	215.319	220.092
.18935E+10	207.445	207.442	207.441	211.666	215.895
.22090E+10	204.314	204.311	204.311	208.084	211.873
.25246E+10	200.927	200.925	200.924	204.336	207.774
.28402E+10	198.105	198.103	198.102	201.220	204.368
.31558E+10	195.535	195.533	195.533	198.389	201.282
.63115E+10	182.796	182.795	182.795	184.495	186.237
.94673E+10	175.744	175.743	175.743	177.076	178.451
.12623E+11	171.934	171.934	171.933	173.054	174.213
.15779E+11	169.453	169.453	169.452	170.430	171.443
.18935E+11	166.848	166.848	166.847	167.712	168.609
.22090E+11	164.100	164.100	164.100	164.879	165.690
.25246E+11	161.230	161.230	161.230	161.936	162.672
.28402E+11	158.538	158.538	158.538	159.185	159.862
.31558E+11	156.131	156.131	156.131	156.729	157.356

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:08 JUN 27, 1995 CP= 28453.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP	417 TEMP	316 TEMP	315 TEMP	2473 TEMP
	c02o0135	s02ir135	s020r135	g02o0135	i02i0135
.10000E-05	136.438	104.368	102.808	99.8119	28.0229
.20000E-05	160.980	130.333	128.803	125.844	59.8941
.31558	160.980	130.333	128.803	125.844	59.8941
.31558E+07	179.809	150.159	148.647	145.725	84.3669
.63116E+07	185.245	155.937	154.431	151.525	91.6024
.94673E+07	188.692	159.623	158.124	155.234	96.3923
.12623E+08	191.316	162.464	160.971	158.096	100.093
.15779E+08	193.374	164.728	163.242	160.382	103.129
.18935E+08	195.088	166.630	165.151	162.304	105.713
.22090E+08	196.551	168.276	166.803	163.970	107.976
.25246E+08	197.842	169.729	168.263	165.443	110.005
.28402E+08	199.000	171.045	169.584	166.777	111.848
.31558E+08	200.033	172.233	170.779	167.985	113.549
.63115E+08	206.623	180.034	178.633	175.942	125.049
.94673E+08	210.288	184.671	183.317	180.714	132.408
.12623E+09	213.234	188.443	187.130	184.600	138.409
.15779E+09	215.867	191.759	190.478	188.011	143.538
.18935E+09	217.553	194.194	192.952	190.556	147.848
.22090E+09	219.010	196.236	195.023	192.683	151.340
.25246E+09	220.320	198.097	196.912	194.625	154.545
.28402E+09	220.844	199.114	197.955	195.717	156.713
.31558E+09	221.386	200.051	198.912	196.714	158.573
.63115E+09	222.848	205.251	204.312	202.497	172.003
.94673E+09	223.024	208.211	207.421	205.894	180.770
.12623E+10	220.078	207.340	206.663	205.354	183.987
.15779E+10	216.225	205.180	204.595	203.465	185.056

.18935E+10	212.487	202.777	202.265	201.275	185.158
.22090E+10	208.839	200.209	199.755	198.880	184.595
.25246E+10	205.045	197.289	196.883	196.100	183.282
.28402E+10	201.884	194.830	194.462	193.753	182.099
.31558E+10	199.013	192.577	192.242	191.597	180.967
.63115E+10	184.914	181.165	180.972	180.603	174.402
.94673E+10	177.427	174.524	174.376	174.093	169.265
.12623E+11	173.359	170.935	170.812	170.576	166.533
.15779E+11	170.702	168.597	168.490	168.286	164.768
.18935E+11	167.957	166.105	166.012	165.833	162.731
.22090E+11	165.105	163.445	163.362	163.202	160.412
.25246E+11	162.146	160.651	160.576	160.432	157.912
.28402E+11	159.382	158.019	157.951	157.820	155.513
.31558E+11	156.915	155.660	155.598	155.478	153.350

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:06:08 JUN 27, 1995 CP= 28453.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS.POST26 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	10200135	00200135	c04c0135	c06c0135
.10000E-05	27.2864	26.1380	122.659	122.659
.20000E-05	59.0542	57.8180	147.418	147.439
.31.558	59.0542	57.8180	147.418	147.439
.31558E+07	83.4526	82.1505	166.620	166.408
.63116E+07	90.6693	89.3530	172.140	171.928
.94673E+07	95.4520	94.1260	175.674	175.464
.12623E+08	99.1500	97.8187	178.374	178.166
.15779E+08	102.184	100.850	180.504	180.297
.18935E+08	104.767	103.431	182.282	182.076
.22090E+08	107.030	105.694	183.807	183.603
.25246E+08	109.060	107.723	185.163	184.959
.28402E+08	110.904	109.567	186.380	186.178
.31558E+08	112.605	111.269	187.471	187.270
.63115E+08	124.123	122.804	194.555	194.354
.94673E+08	131.505	130.209	198.636	198.440
.12623E+09	137.525	136.252	201.942	201.754
.15779E+09	142.671	141.416	204.872	204.690
.18935E+09	147.003	145.775	206.891	206.714
.22090E+09	150.512	149.304	208.607	208.433
.25246E+09	153.733	152.545	210.161	209.992
.28402E+09	155.917	154.750	210.906	210.742
.31558E+09	157.790	156.640	211.625	211.464
.63115E+09	171.352	170.381	214.785	214.649
.94673E+09	180.219	179.391	216.228	216.112
.12623E+10	183.516	182.805	214.240	214.140
.15779E+10	184.651	184.039	211.172	211.083
.18935E+10	184.805	184.271	208.054	207.974
.22090E+10	184.284	183.813	204.907	204.833
.25246E+10	183.006	182.588	201.517	201.450
.28402E+10	181.850	181.474	198.678	198.616
.31558E+10	180.741	180.400	196.092	196.033
.63115E+10	174.276	174.086	183.228	183.190
.94673E+10	169.169	169.026	176.128	176.097
.12623E+11	166.454	166.336	172.277	172.251
.15779E+11	164.700	164.598	169.764	169.740
.18935E+11	162.672	162.583	167.134	167.112
.22090E+11	160.360	160.281	164.370	164.350
.25246E+11	157.865	157.795	161.485	161.467
.28402E+11	155.471	155.408	158.781	158.765
.31558E+11	153.311	153.254	156.362	156.348

***** ROUTINE COMPLETED ***** CP = 28453.120

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12x.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 23
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*****
|
|               ANSYS RUN COMPLETED
|
|-----|
|               REV. 5.0 A               HP 9000/7XX
|
| CP TIME      (sec) =    28455.860      TIME = 09:06:14
| ELAPSED TIME (sec) =    70939.000      DATE  = 06/27/95
|
|-----|
|
```

```
*****
|
| WELCOME TO THE ANSYS PROGRAM
|
|-----|
|
```

***** ANSYS COMMAND LINE ARGUMENTS *****
JOB NAME = ucfn12x
BATCH MODE REQUESTED
start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION .*****
WORK SPACE REQUESTED = 8388608 32.000 MB DEFAULT
MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
WORK SPACE OBTAINED = 8388606 32.000 MB
BYTES PER WORD = 4

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```

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  resume,
2  /COM, *****
3  /COM,      Print time/temperature output at specific locations
4  /COM,      Save profile from center to edge
5  /COM,
6  /COM,      Variable Legend: A01i000
7  /COM,      c = center of assembly
8  /COM,      h = halfway between center and tube
9  /COM,      s = inside structural stainless tube layer
10 /COM,      t = stainless tube cladding
11 /COM,      g = tube guide
12 /COM,      i = inner barrier of DC
13 /COM,      o = outer barrier of DC
14 /COM,      ## = ID number of assembly (01 is center)
15 /COM,      i = side of assembly toward center of WP
16 /COM,      o = side of assembly toward edge of WP
17 /COM,      000 = profile center down
18 /COM,      045 = profile 45 deg down
19 /COM,      090 = profile center side
20 /COM,      135 = profile 45 deg up
21 /COM,      180 = profile center up
22 /POST26,
23 NUMVAR,30,
24 /COM,
25 /COM,
26 /COM, *****
27 /COM, * Temperature Profile from center to lower right (45 deg.) *
28 /COM, *****
29 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t010045,
30 NSOL, 3,(NODE(TWALL/2.0, (0.0-TWALL/2.0),0.0)),TEMP,,s01o145,
31 NSOL, 4,(NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL),0.0)),TEMP,,s01i145,
32 NSOL, 5,(NODE((TWALL/2+SWALL+QCELL), (-TWALL/2-SWALL-QCELL),0)),TEMP,,c01i045,
33 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0),0)),TEMP,,c01c045,
34 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL),0)),TEMP,,c01o045,
35 NSOL, 8,(NODE((PITCH+TWALL/2-SWALL), (-PITCH-TWALL/2+SWALL),0)),TEMP,,s01ir45,
36 NSOL, 9,(NODE((TWALL/2+PITCH), (-TWALL/2.0-PITCH),0.0)),TEMP,,s01or45,
37 NSOL,10,(NODE((TWALL/2+PITCH+GWALL), (-TWALL/2-PITCH-GWALL),0.0)),TEMP,,g01o045,
38 NSOL,11,(NODE(D145, (-1.0*D145),0.0)),TEMP,,i01i045,
39 NSOL,12,(NODE(DM45, (-1.0*DM45),0.0)),TEMP,,i01o045,
40 NSOL,13,(NODE(DO45, (-1.0*DO45),0.0)),TEMP,,o08o045,
41 /COM,      Add centers of assemblies 3 and 5
42 NSOL,14,(NODE((SCCELL+TWALL/2.0+PITCH), -(SCCELL+TWALL/2.0),0.0)),TEMP,,c03c045,
43 NSOL,15,(NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0-PITCH),0.0)),TEMP,,c05c045,
44 PRVAR, 2, 3, 4, 5, 6,
45 PRVAR, 7, 8, 9, 10,11,
46 PRVAR, 12,13,14,15,
47 /COM,
48 /COM,
49 /COM, *****
50 /COM, * Temperature Profile from center to upper right (135 deg.) *
51 /COM, *****
52 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,t0200135,
53 NSOL, 3,(NODE(TWALL/2.0, TWALL/2.0,0.0)),TEMP,,s02o0135,
54 NSOL, 4,(NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0)),TEMP,,s02i0135,
55 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.+SWALL+QCELL),0)),TEMP,,c02i0135,
56 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0),0.0)),TEMP,,c02c0135,
57 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL), (TWALL/2+SWALL+3*QCELL),0)),TEMP,,c02o0135,
58 NSOL, 8,(NODE((PITCH+TWALL/2.-SWALL), (PITCH+TWALL/2.-SWALL),0)),TEMP,,s02ir135,
59 NSOL, 9,(NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH),0.0)),TEMP,,s02or135,

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60 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL),(TWALL/2+PITCH+GWALL),0)),TEMP,,g02o0135,
61 NSOL,11,(NODE(DI45,DI45,0.0)),TEMP,,i02i0135,
62 NSOL,12,(NODE(DM45,DM45,0.0)),TEMP,,i02o0135,
63 NSOL,13,(NODE(DO45,DO45,0.0)),TEMP,,o02o0135,
64 /COM, Add centers of assemblies 4 and 6
65 NSOL,14,(NODE((SCCELL+TWALL/2.0+PITCH),(SCCELL+TWALL/2.0),0.0)),TEMP,,c04c0135,
66 NSOL,15,(NODE((SCCELL+TWALL/2.0),(SCCELL+TWALL/2.0+PITCH),0.0)),TEMP,,c06c0135,
67 PRVAR,2,3,4,5,6,
68 PRVAR,7,8,9,10,11,
69 PRVAR,12,13,14,15,
70 /COM, *****
71 /COM, * Temperature profile from the center of inner column
72 /COM, *****
73 NSOL,2,(NODE((TWALL/4.0+PITCH/2.0),0.0,0.0)),TEMP,,t01c090,
74 NSOL,3,(NODE((TWALL/2.0+PITCH/2.0),-(TWALL/2.0),0.0)),TEMP,,s01ou90,
75 NSOL,4,(NODE((SCCELL+TWALL/2.0),-(TWALL/2.0+SWALL),0.0)),TEMP,,s01iu90,
76 NSOL,5,(NODE((SCCELL+TWALL/2.0),-(QCELL+TWALL/2.0+SWALL),0.0)),TEMP,,c01u090,
77 NSOL,6,(NODE((SCCELL+TWALL/2.0),-(SCCELL+TWALL/2.0),0.0)),TEMP,,C01C090,
78 NSOL,7,(NODE((SCCELL+TWALL/2.0),-(SCCELL+TWALL/2.0+QCELL),0.0)),TEMP,,c01l090,
79 NSOL,8,(NODE((SCCELL+TWALL/2.0),-(PITCH+SWALL+TWALL/2.0),0.0)),TEMP,,s01il90,
80 NSOL,9,(NODE((SCCELL+TWALL/2.0),-(PITCH+TWALL/2.0),0.0)),TEMP,,s01ol90,
81 NSOL,10,(NODE((SCCELL+TWALL/2.0),-(PITCH+TWALL/2.0+SWALL),0.0)),TEMP,,s05iu90,
82 NSOL,11,(NODE((SCCELL+TWALL/2.0),-(1.5*PITCH+TWALL/2.0-QCELL),0)),TEMP,,c05u090,
83 NSOL,12,(NODE((SCCELL+TWALL/2.0),-(1.5*PITCH+TWALL/2.0),0.0)),TEMP,,c05c090,
84 NSOL,13,(NODE((SCCELL+TWALL/2.0),-(1.5*PITCH+TWALL/2.0+QCELL),0)),TEMP,,c05l090,
85 NSOL,14,(NODE((SCCELL+TWALL/2.0),-(2.0*PITCH-SWALL),0.0)),TEMP,,s05il90,
86 NSOL,15,(NODE((TWALL/2.0+PITCH/2.0),-(2.0*PITCH),0.0)),TEMP,,s05ol90,
87 NSOL,16,(NODE((DCIRD*SIN(.2157),-(DCIRD*COS(.2157),0.0)),TEMP,,i05i090,
88 NSOL,17,(NODE((DCRAD-OWALL)*SIN(.2157),-(DCRAD-OWALL)*COS(.2157),0)),TEMP,,i5o90,
89 NSOL,18,(NODE((DCRAD*SIN(.2157),-DCRAD*COS(.2157),0.0)),TEMP,,0050090,
90 PRVAR,2,3,4,5,6,
91 PRVAR,7,8,9,10,11,
92 PRVAR,12,13,14,15,16,
93 PRVAR,17,18,
94 FINISH
95 /COM, *****
96 /COM, Enc: of batch input file
97 /COM, *****
98 /EXIT,
99 /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

```

```

*****

```

RESUME ANSYS DATA FROM FILE NAME=ucfn12x.db

*** ANSYS GLOBAL STATUS ***

```

TITLE = 12 PWR UCF/WP at 100 years
ANALYSIS TYPE = TRANSIENT
NUMBER OF ELEMENT TYPES = 8
  3306 ELEMENTS CURRENTLY SELECTED.  MAX ELEMENT NUMBER = 3530
  3379 NODES CURRENTLY SELECTED.    MAX NODE NUMBER   = 3633
   77 KEYPOINTS CURRENTLY SELECTED. MAX KEYPOINT NUMBER = 1001
  135 LINES CURRENTLY SELECTED.    MAX LINE NUMBER  = 143
   56 AREAS CURRENTLY SELECTED.    MAX AREA NUMBER  = 56
MAXIMUM LINEAR PROPERTY NUMBER     = 14
ACTIVE COORDINATE SYSTEM            = 0 (CARTESIAN)
NUMBER OF SPECIFIED CONSTRAINTS     = 109
NUMBER OF SPECIFIED ELEM BODY FORCES = 1176

```

```

INITIAL JOBNAME = ucfn12x
CURRENT JOBNAME = ucfn12x

```

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 11:28:26 JUL 21, 1995 CP= 2.240
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2	IS AT NODE	2	ITEM= TEMP COMP=	NAME= t010045
VARIABLE 3	IS AT NODE	31	ITEM= TEMP COMP=	NAME= s01o145
VARIABLE 4	IS AT NODE	1105	ITEM= TEMP COMP=	NAME= s01i145
VARIABLE 5	IS AT NODE	1242	ITEM= TEMP COMP=	NAME= c01i045
VARIABLE 6	IS AT NODE	1298	ITEM= TEMP COMP=	NAME= c01c045
VARIABLE 7	IS AT NODE	1353	ITEM= TEMP COMP=	NAME= c01o045
VARIABLE 8	IS AT NODE	1063	ITEM= TEMP COMP=	NAME= s01ir45
VARIABLE 9	IS AT NODE	229	ITEM= TEMP COMP=	NAME= s01or45
VARIABLE 10	IS AT NODE	243	ITEM= TEMP COMP=	NAME= g01o045
VARIABLE 11	IS AT NODE	2682	ITEM= TEMP COMP=	NAME= i01i045
VARIABLE 12	IS AT NODE	2631	ITEM= TEMP COMP=	NAME= i01o045
VARIABLE 13	IS AT NODE	2845	ITEM= TEMP COMP=	NAME= o08o045
Add centers of assemblies 3 and 5				
VARIABLE 14	IS AT NODE	2309	ITEM= TEMP COMP=	NAME= c03c045
VARIABLE 15	IS AT NODE	1635	ITEM= TEMP COMP=	NAME= c05c045

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	2 TEMP	t010045	109.9	.1000E-05	215.5	.9467E+09
3 NSOL	31 TEMP	s010145	109.9	.1000E-05	215.5	.9467E+09
4 NSOL	1105 TEMP	s011145	109.9	.1000E-05	215.5	.9467E+09
5 NSOL	1242 TEMP	c011045	127.7	.1000E-05	222.0	.9467E+09
6 NSOL	1298 TEMP	c01c045	146.3	.1000E-05	229.2	.6312E+09
7 NSOL	1353 TEMP	c01o045	136.4	.1000E-05	223.3	.9467E+09
8 NSOL	1063 TEMP	s01ir45	104.2	.1000E-05	208.5	.9467E+09
9 NSOL	229 TEMP	s01or45	102.6	.1000E-05	207.7	.9467E+09
10 NSOL	243 TEMP	g01o045	99.61	.1000E-05	206.2	.9467E+09
11 NSOL	2682 TEMP	i01i045	28.01	.1000E-05	185.5	.1893E+10
12 NSOL	2631 TEMP	i01o045	27.27	.1000E-05	185.2	.1893E+10
13 NSOL	2845 TEMP	o08o045	26.14	.1000E-05	184.6	.1893E+10
14 NSOL	2309 TEMP	c03c045	122.6	.1000E-05	216.4	.9467E+09
15 NSOL	1635 TEMP	c05c045	121.4	.1000E-05	215.7	.9467E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:33 JUL 21, 1995 CP= 3.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s010145	s011145	c011045	c01c045
.10000E-05	109.921	109.923	109.934	127.749	146.313
.20000E-05	137.773	137.775	137.786	153.945	170.566
31.558	137.773	137.775	137.786	153.945	170.565
.31558E+07	159.457	159.464	159.479	174.405	189.629
.63116E+07	165.846	165.853	165.868	180.216	195.006
.94673E+07	169.567	169.574	169.589	183.891	198.422
.12623E+08	172.567	172.573	172.588	186.692	201.003
.15779E+08	174.957	174.964	174.979	188.905	203.017
.18935E+08	176.958	176.965	176.980	190.750	204.686
.22090E+08	178.681	178.688	178.703	192.329	206.103
.25246E+08	180.196	180.203	180.218	193.720	207.356
.28402E+08	181.560	181.567	181.582	194.968	208.473
.31558E+08	182.792	182.798	182.813	196.087	209.465
.63115E+08	190.745	190.752	190.766	203.244	215.736
.94673E+08	195.353	195.360	195.374	207.264	219.128
.12623E+09	199.057	199.063	199.077	210.482	221.835
.15779E+09	202.312	202.319	202.332	213.335	224.271
.18935E+09	204.592	204.599	204.611	215.211	225.732
.22090E+09	206.513	206.520	206.532	216.817	227.016
.25246E+09	208.246	208.252	208.265	218.258	228.157
.28402E+09	209.107	209.113	209.124	218.873	228.525
.31558E+09	209.921	209.927	209.939	219.489	228.941
.63115E+09	213.682	213.687	213.697	221.482	229.176
.94673E+09	215.458	215.462	215.471	221.980	228.410
.12623E+10	213.568	213.572	213.579	219.185	224.735
.15779E+10	210.539	210.543	210.549	215.430	220.278
.18935E+10	207.445	207.448	207.453	211.765	216.061
.22090E+10	204.314	204.317	204.321	208.173	212.024
.25246E+10	200.927	200.929	200.934	204.417	207.910
.28402E+10	198.105	198.107	198.111	201.294	204.494
.31558E+10	195.535	195.537	195.541	198.457	201.400
.63115E+10	182.796	182.798	182.800	184.536	186.310
.94673E+10	175.744	175.745	175.747	177.109	178.509
.12623E+11	171.934	171.935	171.936	173.082	174.263
.15779E+11	169.453	169.454	169.455	170.454	171.487
.18935E+11	166.848	166.849	166.850	167.733	168.648
.22090E+11	164.100	164.101	164.102	164.898	165.725

.25246E+11	161.230	161.231	161.232	161.953	162.703
.28402E+11	158.538	158.539	158.540	159.201	159.890
.31558E+11	156.131	156.132	156.132	156.744	157.382

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=IP 9000/7XX 11:28:33 JUL 21, 1995 CP= 3.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s01ir45	s01or45	g01o045	i01i045
.10000E-05	136.386	104.186	102.620	99.6125	28.0056
.20000E-05	160.905	130.099	128.561	125.588	59.7825
.31558E+07	160.905	130.099	128.562	125.588	59.7826
.63116E+07	180.209	150.621	149.110	146.192	85.4594
.94673E+07	185.655	156.409	154.904	152.002	92.6997
.12623E+08	189.103	160.093	158.595	155.709	97.4800
.15779E+08	191.727	162.931	161.440	158.568	101.171
.18935E+08	193.785	165.195	163.711	160.854	104.200
.22090E+08	195.497	167.095	165.617	162.774	106.775
.25246E+08	196.960	168.740	167.269	164.440	109.032
.28402E+08	198.251	170.192	168.727	165.910	111.054
.31558E+08	199.408	171.506	170.047	167.243	112.891
.63115E+08	200.440	172.693	171.241	168.450	114.585
.94673E+08	207.029	180.494	179.095	176.407	126.059
.12623E+09	210.685	185.120	183.768	181.167	133.379
.15779E+09	213.618	188.874	187.562	185.035	139.333
.18935E+09	216.241	192.176	190.897	188.432	144.429
.22090E+09	217.919	194.603	193.362	190.969	148.712
.25246E+09	219.373	196.641	195.429	193.092	152.187
.28402E+09	220.675	198.491	197.308	195.023	155.366
.31558E+09	221.191	199.498	198.340	196.105	157.511
.63115E+09	221.726	200.426	199.289	197.093	159.350
.94673E+09	223.135	205.565	204.627	202.814	172.632
.12623E+10	223.271	208.480	207.691	206.165	181.295
.15779E+10	220.293	207.573	206.896	205.589	184.435
.18935E+10	216.415	205.387	204.803	203.674	185.449
.22090E+10	212.658	202.964	202.453	201.465	185.508
.25246E+10	208.997	200.383	199.930	199.056	184.915
.28402E+10	205.188	197.449	197.043	196.262	183.573
.31558E+10	202.018	194.980	194.612	193.905	182.370
.63115E+10	199.139	192.719	192.384	191.741	181.220
.94673E+10	184.995	181.258	181.066	180.698	174.563
.12623E+11	177.493	174.601	174.453	174.170	169.395
.15779E+11	173.415	171.001	170.878	170.643	166.644
.18935E+11	170.751	168.655	168.549	168.346	164.867
.22090E+11	168.001	166.158	166.065	165.886	162.819
.25246E+11	165.145	163.492	163.409	163.250	160.491
.28402E+11	162.182	160.693	160.618	160.475	157.982
.31558E+11	159.415	158.058	157.990	157.859	155.578
	156.945	155.696	155.634	155.514	153.410

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:33 JUL 21, 1995 CP= 3.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
------	-----------	-----------	-----------	-----------

	i01o045	o08o045	c03c045	c05c045
.10000E-05	27.2743	26.1380	122.615	121.351
.20000E-05	58.9494	57.7275	147.349	145.943
31.558	58.9494	57.7275	147.348	145.943
.31558E+07	84.5536	83.2705	166.863	165.836
.63116E+07	91.7757	90.4792	172.387	171.354
.94673E+07	96.5501	95.2439	175.920	174.881
.12623E+08	100.238	98.9266	178.620	177.577
.15779E+08	103.266	101.952	180.749	179.706
.18935E+08	105.840	104.524	182.526	181.481
.22090E+08	108.097	106.781	184.050	183.006
.25246E+08	110.120	108.803	185.405	184.360
.28402E+08	111.958	110.642	186.622	185.578
.31558E+08	113.653	112.338	187.712	186.669
.63115E+08	125.144	123.847	194.795	193.771
.94673E+08	132.487	131.213	198.871	197.861
.12623E+09	138.462	137.210	202.168	201.168
.15779E+09	143.574	142.341	205.091	204.103
.18935E+09	147.879	146.672	207.105	206.138
.22090E+09	151.371	150.185	208.820	207.870
.25246E+09	154.566	153.400	210.368	209.433
.28402E+09	156.727	155.581	211.108	210.187
.31558E+09	158.579	157.449	211.822	210.912
.63115E+09	171.991	171.038	214.951	214.174
.94673E+09	180.753	179.941	216.370	215.705
.12623E+10	183.971	183.274	214.363	213.787
.15779E+10	185.050	184.450	211.282	210.784
.18935E+10	185.160	184.637	208.153	207.717
.22090E+10	184.609	184.148	204.999	204.616
.25246E+10	183.301	182.892	201.601	201.260
.28402E+10	182.124	181.755	198.758	198.450
.31558E+10	180.998	180.664	196.167	195.890
.63115E+10	174.439	174.253	183.277	183.124
.94673E+10	169.301	169.160	176.168	176.054
.12623E+11	166.566	166.451	172.312	172.218
.15779E+11	164.800	164.700	169.795	169.715
.18935E+11	162.761	162.674	167.161	167.092
.22090E+11	160.439	160.362	164.394	164.332
.25246E+11	157.936	157.867	161.506	161.451
.28402E+11	155.536	155.474	158.801	158.751
.31558E+11	153.371	153.315	156.381	156.336

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 3.840 TIME= 11:28:33
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135

VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135

VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135

VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135

VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135

VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135

VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s020r135

VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135

VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135

VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135

VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
Add centers of assemblies 4 and 6

VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135

VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	109.9	.1000E-05	215.5	.9467E+09
3 NSOL	1 TEMP	s02o0135	109.9	.1000E-05	215.5	.9467E+09
4 NSOL	402 TEMP	s02i0135	109.9	.1000E-05	215.5	.9467E+09
5 NSOL	486 TEMP	c02i0135	127.7	.1000E-05	221.8	.9467E+09
6 NSOL	542 TEMP	c02c0135	146.3	.1000E-05	228.9	.6312E+09
7 NSOL	597 TEMP	c02o0135	136.4	.1000E-05	223.0	.9467E+09
8 NSOL	417 TEMP	s02ir135	104.4	.1000E-05	208.2	.9467E+09
9 NSOL	316 TEMP	s02or135	102.8	.1000E-05	207.4	.9467E+09
10 NSOL	315 TEMP	g02o0135	99.81	.1000E-05	205.9	.9467E+09
11 NSOL	2473 TEMP	i02i0135	28.02	.1000E-05	185.2	.1893E+10
12 NSOL	2422 TEMP	i02o0135	27.29	.1000E-05	184.8	.1893E+10
13 NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	184.3	.1893E+10
14 NSOL	1972 TEMP	c04c0135	122.7	.1000E-05	216.2	.9467E+09
15 NSOL	961 TEMP	c06c0135	122.7	.1000E-05	216.1	.9467E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:28:35 JUL 21, 1995 CP= 5.170
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
.10000E-05	109.921	109.919	109.925	127.689	146.272
.20000E-05	137.773	137.770	137.776	153.877	170.527
31.558	137.773	137.770	137.776	153.877	170.527
.31558E+07	159.457	159.450	159.451	174.172	189.251
.63116E+07	165.646	165.639	165.640	179.978	194.618
.94673E+07	169.567	169.560	169.561	183.652	198.032
.12623E+08	172.567	172.559	172.560	186.453	200.612
.15779E+08	174.957	174.949	174.950	188.665	202.625
.18935E+08	176.958	176.950	176.951	190.509	204.295
.22090E+08	178.681	178.673	178.674	192.089	205.712
.25246E+08	180.196	180.188	180.189	193.480	206.966
.28402E+08	181.560	181.553	181.553	194.729	208.083
.31558E+08	182.792	182.784	182.784	195.847	209.076
.63115E+08	190.745	190.738	190.738	203.006	215.348
.94673E+08	195.353	195.346	195.346	207.031	218.748
.12623E+09	199.057	199.050	199.050	210.255	221.466
.15779E+09	202.312	202.305	202.305	213.113	223.909
.18935E+09	204.592	204.586	204.585	214.993	225.377
.22090E+09	206.513	206.507	206.507	216.602	226.664
.25246E+09	208.246	208.240	208.240	218.047	227.813
.28402E+09	209.107	209.100	209.100	218.666	228.188
.31558E+09	209.921	209.915	209.915	219.286	228.610
.63115E+09	213.682	213.677	213.677	221.310	228.894
.94673E+09	215.458	215.454	215.453	221.833	228.167
.12623E+10	213.568	213.564	213.564	219.058	224.524
.15779E+10	210.539	210.536	210.536	215.319	220.092
.18935E+10	207.445	207.442	207.441	211.666	215.895

.22090E+10	204.314	204.311	204.311	208.084	211.873
.25246E+10	200.927	200.925	200.924	204.336	207.774
.28402E+10	198.105	198.103	198.102	201.220	204.368
.31558E+10	195.535	195.533	195.533	198.389	201.282
.63115E+10	182.796	182.795	182.795	184.495	186.237
.94673E+10	175.744	175.743	175.743	177.076	178.451
.12623E+11	171.934	171.934	171.933	173.054	174.213
.15779E+11	169.453	169.453	169.452	170.430	171.443
.18935E+11	166.848	166.848	166.847	167.712	168.609
.22090E+11	164.100	164.100	164.100	164.879	165.690
.25246E+11	161.230	161.230	161.230	161.936	162.672
.28402E+11	158.538	158.538	158.538	159.185	159.862
.31558E+11	156.131	156.131	156.131	156.729	157.356

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:35 JUL 21, 1995 CP= 5.180
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP	417 TEMP	316 TEMP	315 TEMP	2473 TEMP
	c02o0135	s02ir135	s020r135	g02o0135	i02i0135
.10000E-05	136.438	104.368	102.808	99.8119	28.0229
.20000E-05	160.980	130.333	128.803	125.844	59.8941
31.558	160.980	130.333	128.803	125.844	59.8941
.31558E+07	179.809	150.159	148.647	145.725	84.3669
.63116E+07	185.245	155.937	154.431	151.525	91.6024
.94673E+07	188.692	159.623	158.124	155.234	96.3923
.12623E+08	191.316	162.464	160.971	158.096	100.093
.15779E+08	193.374	164.728	163.242	160.382	103.129
.18935E+08	195.088	166.630	165.151	162.304	105.713
.22090E+08	196.551	168.276	166.803	163.970	107.976
.25246E+08	197.842	169.729	168.263	165.443	110.005
.28402E+08	199.000	171.045	169.584	166.777	111.848
.31558E+08	200.033	172.233	170.779	167.985	113.549
.63115E+08	206.623	180.034	178.633	175.942	125.049
.94673E+08	210.288	184.671	183.317	180.714	132.408
.12623E+09	213.234	188.443	187.130	184.600	138.409
.15779E+09	215.867	191.759	190.478	188.011	143.538
.18935E+09	217.553	194.194	192.952	190.556	147.848
.22090E+09	219.010	196.236	195.023	192.683	151.340
.25246E+09	220.320	198.097	196.912	194.625	154.545
.28402E+09	220.844	199.114	197.955	195.717	156.713
.31558E+09	221.386	200.051	198.912	196.714	158.573
.63115E+09	222.848	205.251	204.312	202.497	172.003
.94673E+09	223.024	208.211	207.421	205.894	180.770
.12623E+10	220.078	207.340	206.663	205.354	183.987
.15779E+10	216.225	205.180	204.595	203.465	185.056
.18935E+10	212.487	202.777	202.265	201.275	185.158
.22090E+10	208.839	200.209	199.755	198.880	184.595
.25246E+10	205.045	197.289	196.883	196.100	183.282
.28402E+10	201.884	194.830	194.462	193.753	182.099
.31558E+10	199.013	192.577	192.242	191.597	180.967
.63115E+10	184.914	181.165	180.972	180.603	174.402
.94673E+10	177.427	174.524	174.376	174.093	169.265
.12623E+11	173.359	170.935	170.812	170.576	166.533
.15779E+11	170.702	168.597	168.490	168.286	164.768
.18935E+11	167.957	166.105	166.012	165.833	162.731
.22090E+11	165.105	163.445	163.362	163.202	160.412
.25246E+11	162.146	160.651	160.576	160.432	157.912
.28402E+11	159.382	158.019	157.951	157.820	155.513
.31558E+11	156.915	155.660	155.598	155.478	153.350

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 11:28:35 JUL 21, 1995 CP= 5.190
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST25 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	102o0135	o02o0135	c04c0135	c06c0135
.10000E-05	27.2864	26.1380	122.659	122.659
.20000E-05	59.0542	57.8180	147.418	147.439
31.558	59.0542	57.8180	147.418	147.439
.31558E+07	83.4526	82.1505	166.620	166.408
.63116E+07	90.6693	89.3530	172.140	171.928
.94673E+07	95.4520	94.1260	175.674	175.464
.12623E+08	99.1500	97.8187	178.374	178.166
.15779E+08	102.184	100.850	180.504	180.297
.18935E+08	104.767	103.431	182.282	182.076
.22090E+08	107.030	105.694	183.807	183.603
.25246E+08	109.060	107.723	185.163	184.959
.28402E+08	110.904	109.567	186.380	186.178
.31558E+08	112.605	111.269	187.471	187.270
.63115E+08	124.123	122.804	194.555	194.354
.94673E+08	131.505	130.209	198.636	198.440
.12623E+09	137.525	136.252	201.942	201.754
.15779E+09	142.671	141.416	204.872	204.690
.18935E+09	147.003	145.775	206.891	206.714
.22090E+09	150.512	149.304	208.607	208.433
.25246E+09	153.733	152.545	210.161	209.992
.28402E+09	155.917	154.750	210.906	210.742
.31558E+09	157.790	156.640	211.625	211.464
.63115E+09	171.352	170.381	214.785	214.649
.94673E+09	180.219	179.391	216.228	216.112
.12623E+10	183.516	182.805	214.240	214.140
.15779E+10	184.651	184.039	211.172	211.083
.18935E+10	184.805	184.271	208.054	207.974
.22090E+10	184.284	183.813	204.907	204.833
.25246E+10	183.006	182.588	201.517	201.450
.28402E+10	181.850	181.474	198.678	198.616
.31558E+10	180.741	180.400	196.092	196.033
.63115E+10	174.276	174.086	183.228	183.190
.94673E+10	169.169	169.026	176.128	176.097
.12623E+11	166.454	166.336	172.277	172.251
.15779E+11	164.700	164.598	169.764	169.740
.18935E+11	162.672	162.583	167.134	167.112
.22090E+11	160.360	160.281	164.370	164.350
.25246E+11	157.865	157.795	161.485	161.467
.28402E+11	155.471	155.408	158.781	158.765
.31558E+11	153.311	153.254	156.362	156.348

* Temperature profile from the center of inner column

VARIABLE 2 IS AT NODE 10 ITEM= TEMP COMP= NAME= t01c090

*** WARNING *** CP= 5.310 TIME= 11:28:35
NSOL command erases all previously stored or calculated data
unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 39 ITEM= TEMP COMP= NAME= s01ou90

VARIABLE 4 IS AT NODE 1140 ITEM= TEMP COMP= NAME= s01iu90

VARIABLE 5 IS AT NODE 1394 ITEM= TEMP COMP= NAME= c01u090

VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c090

VARIABLE 7 IS AT NODE 1302 ITEM= TEMP COMP= NAME= c01l090

VARIABLE 8 IS AT NODE 1071 ITEM= TEMP COMP= NAME= s01i190
 VARIABLE 9 IS AT NODE 1056 ITEM= TEMP COMP= NAME= s01o190
 VARIABLE 10 IS AT NODE 1477 ITEM= TEMP COMP= NAME= s05iu90
 VARIABLE 11 IS AT NODE 1631 ITEM= TEMP COMP= NAME= c05u090
 VARIABLE 12 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c090
 VARIABLE 13 IS AT NODE 1638 ITEM= TEMP COMP= NAME= c05l090
 VARIABLE 14 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05il90
 VARIABLE 15 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05ol90
 VARIABLE 16 IS AT NODE 2666 ITEM= TEMP COMP= NAME= i05i090
 VARIABLE 17 IS AT NODE 2651 ITEM= TEMP COMP= NAME= i5o90
 VARIABLE 18 IS AT NODE 2365 ITEM= TEMP COMP= NAME= 0050090

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	10 TEMP	t01c090	108.4	.1000E-05	214.7	.9467E+09
3	NSOL	39 TEMP	s01ou90	108.3	.1000E-05	214.6	.9467E+09
4	NSOL	1140 TEMP	s01iu90	108.5	.1000E-05	214.7	.9467E+09
5	NSOL	1294 TEMP	c01u090	134.5	.1000E-05	224.2	.9467E+09
6	NSOL	1298 TEMP	c01c090	146.3	.1000E-05	229.2	.6312E+09
7	NSOL	1302 TEMP	c01l090	139.8	.1000E-05	225.6	.6312E+09
8	NSOL	1071 TEMP	s01i190	121.9	.1000E-05	218.2	.9467E+09
9	NSOL	1056 TEMP	s01o190	121.8	.1000E-05	218.2	.9467E+09
10	NSOL	1477 TEMP	s05iu90	121.8	.1000E-05	218.2	.9467E+09
11	NSOL	1631 TEMP	c05u090	128.2	.1000E-05	219.5	.9467E+09
12	NSOL	1635 TEMP	c05c090	121.4	.1000E-05	215.7	.9467E+09
13	NSOL	1638 TEMP	c05l090	105.6	.1000E-05	208.9	.9467E+09
14	NSOL	1408 TEMP	s05il90	62.56	.1000E-05	193.4	.1262E+10
15	NSOL	1408 TEMP	s05ol90	62.56	.1000E-05	193.4	.1262E+10
16	NSOL	2666 TEMP	i05i090	28.62	.1000E-05	185.7	.1893E+10
17	NSOL	2651 TEMP	i5o90	28.12	.1000E-05	185.5	.1893E+10
18	NSOL	2865 TEMP	0050090	26.14	.1000E-05	184.8	.1893E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:37 JUL 21, 1995 CP= 6.980
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	10 TEMP	39 TEMP	1140 TEMP	1294 TEMP	1298 TEMP
	t01c090	s01ou90	s01iu90	c01u090	c01c090
.10000E-05	108.384	108.302	108.454	134.489	146.313
.20000E-05	136.250	136.169	136.315	159.947	170.566
31.558	136.250	136.169	136.315	159.947	170.565
.31558E+07	157.929	157.849	157.990	179.816	189.629
.63116E+07	164.123	164.043	164.183	185.462	195.006
.94673E+07	168.051	167.971	168.110	189.034	198.422
.12623E+08	171.057	170.978	171.116	191.751	201.003
.15779E+08	173.454	173.375	173.512	193.889	203.017
.18935E+08	175.462	175.383	175.519	195.669	204.686
.22090E+08	177.192	177.114	177.249	197.191	206.103
.25246E+08	178.713	178.636	178.770	198.530	207.356

.28402E+08	180.084	180.007	180.140	199.730	208.473
.31558E+08	181.322	181.245	181.377	200.803	209.465
.63115E+08	189.329	189.256	189.382	207.635	215.736
.94673E+08	193.984	193.912	194.034	211.425	219.128
.12623E+09	197.727	197.658	197.775	214.457	221.835
.15779E+09	201.015	200.948	201.061	217.159	224.271
.18935E+09	203.333	203.267	203.377	218.885	225.732
.22090E+09	205.283	205.220	205.327	220.374	227.016
.25246E+09	207.044	206.982	207.086	221.707	228.157
.28402E+09	207.930	207.869	207.971	222.234	228.525
.31558E+09	208.766	208.706	208.806	222.779	228.941
.63115E+09	212.730	212.680	212.762	224.152	229.176
.94673E+09	214.657	214.616	214.684	224.207	228.410
.12623E+10	212.883	212.847	212.906	221.107	224.735
.15779E+10	209.949	209.918	209.969	217.109	220.278
.18935E+10	206.929	206.902	206.946	213.253	216.061
.22090E+10	203.858	203.834	203.874	209.508	212.024
.25246E+10	200.520	200.499	200.534	205.629	207.910
.28402E+10	197.736	197.717	197.749	202.404	204.494
.31558E+10	195.199	195.182	195.211	199.478	201.400
.63115E+10	182.605	182.595	182.612	185.153	186.310
.94673E+10	175.598	175.590	175.603	177.596	178.509
.12623E+11	171.812	171.806	171.817	173.493	174.263
.15779E+11	169.348	169.343	169.352	170.814	171.487
.18935E+11	166.756	166.751	166.759	168.052	168.648
.22090E+11	164.018	164.014	164.021	165.186	165.725
.25246E+11	161.156	161.152	161.159	162.215	162.703
.28402E+11	158.471	158.468	158.474	159.442	159.890
.31558E+11	156.069	156.066	156.072	156.966	157.382

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:37 JUL 21, 1995 CP= 6.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1302 TEMP	1071 TEMP	1056 TEMP	1477 TEMP	1631 TEMP
	c011090	s011090	s010190	s051090	c050090
.10000E-05	139.762	121.880	121.818	121.826	128.190
.20000E-05	164.337	147.832	147.771	147.776	152.950
31.558	164.337	147.832	147.771	147.776	152.950
.31558E+07	183.743	168.442	168.382	168.385	172.753
.63116E+07	189.200	174.227	174.167	174.170	178.275
.94673E+07	192.655	177.878	177.819	177.821	181.788
.12623E+08	195.278	180.669	180.610	180.612	184.465
.15779E+08	197.333	182.877	182.818	182.819	186.574
.18935E+08	199.040	184.718	184.659	184.660	188.329
.22090E+08	200.495	186.302	186.244	186.245	189.831
.25246E+08	201.780	187.691	187.632	187.633	191.164
.28402E+08	202.928	188.942	188.885	188.885	192.359
.31558E+08	203.950	190.066	190.008	190.009	193.427
.63115E+08	210.453	197.308	197.252	197.252	200.323
.94673E+08	214.025	201.438	201.385	201.384	204.225
.12623E+09	216.884	204.759	204.707	204.707	207.364
.15779E+09	219.446	207.703	207.652	207.651	210.158
.18935E+09	221.048	209.701	209.652	209.651	212.026
.22090E+09	222.442	211.404	211.356	211.355	213.627
.25246E+09	223.687	212.936	212.889	212.888	215.067
.28402E+09	224.147	213.644	213.598	213.596	215.706
.31558E+09	224.637	214.333	214.287	214.286	216.338
.63115E+09	225.588	217.112	217.075	217.073	218.685
.94673E+09	225.367	218.237	218.206	218.204	219.522
.12623E+10	222.103	215.952	215.925	215.924	217.067
.15779E+10	217.987	212.630	212.607	212.606	213.619
.18935E+10	214.040	209.311	209.291	209.290	210.201

.22090E+10	210.224	206.003	205.985	205.984	206.815
.25246E+10	206.288	202.476	202.460	202.459	203.228
.28402E+10	203.017	199.536	199.521	199.521	200.235
.31558E+10	200.050	196.861	196.848	196.847	197.513
.63115E+10	185.519	183.631	183.624	183.624	184.052
.94673E+10	177.895	176.421	176.415	176.415	176.764
.12623E+11	173.750	172.511	172.506	172.506	172.808
.15779E+11	171.041	169.962	169.958	169.958	170.224
.18935E+11	168.255	167.301	167.298	167.298	167.538
.22090E+11	165.372	164.514	164.510	164.510	164.730
.25246E+11	162.385	161.608	161.605	161.605	161.808
.28402E+11	159.600	158.889	158.886	158.886	159.074
.31558E+11	157.114	156.457	156.454	156.454	156.632

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:28:37 JUL 21, 1995 CP= 7.000
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1635 TEMP	1638 TEMP	1408 TEMP	1408 TEMP	2666 TEMP
	c05i090	c05i090	s05i190	s05o190	i05i090
.10000E-05	121.351	105.601	62.5640	62.5640	28.6155
.20000E-05	145.943	130.956	90.6474	90.6474	60.2200
31.558	145.943	130.956	90.6475	90.6475	60.2200
.31558E+07	165.836	151.606	113.770	113.770	86.3422
.63116E+07	171.354	157.344	120.184	120.184	93.5605
.94673E+07	174.881	161.018	124.359	124.359	98.3215
.12623E+08	177.577	163.842	127.586	127.586	101.995
.15779E+08	179.706	166.090	130.209	130.209	105.013
.18935E+08	181.481	167.973	132.425	132.425	107.575
.22090E+08	183.006	169.602	134.364	134.364	109.822
.25246E+08	184.360	171.043	136.088	136.088	111.834
.28402E+08	185.578	172.346	137.656	137.656	113.663
.31558E+08	186.669	173.521	139.090	139.090	115.348
.63115E+08	193.771	181.252	148.729	148.729	126.768
.94673E+08	197.861	185.827	154.746	154.746	134.045
.12623E+09	201.168	189.539	159.649	159.649	139.959
.15779E+09	204.103	192.812	163.894	163.894	145.025
.18935E+09	206.138	195.216	167.329	167.329	149.284
.22090E+09	207.870	197.236	170.149	170.149	152.740
.25246E+09	209.433	199.071	172.726	172.726	155.900
.28402E+09	210.187	200.065	174.367	174.367	158.027
.31558E+09	210.912	200.982	175.802	175.802	159.851
.63115E+09	214.174	206.032	185.600	185.600	173.021
.94673E+09	215.705	208.878	191.880	191.880	181.613
.12623E+10	213.787	207.924	193.399	193.399	184.704
.15779E+10	210.784	205.703	193.157	193.157	185.685
.18935E+10	207.717	203.251	192.252	192.252	185.718
.22090E+10	204.616	200.647	190.893	190.893	185.107
.25246E+10	201.260	197.691	188.940	188.940	183.748
.28402E+10	198.450	195.205	187.253	187.253	182.533
.31558E+10	195.890	192.930	185.679	185.679	181.373
.63115E+10	183.124	181.398	177.177	177.177	174.660
.94673E+10	176.054	174.715	171.439	171.439	169.474
.12623E+11	172.218	171.099	168.359	168.359	166.712
.15779E+11	169.715	168.743	166.361	166.361	164.927
.18935E+11	167.092	166.236	164.139	164.139	162.873
.22090E+11	164.332	163.563	161.679	161.679	160.539
.25246E+11	161.451	160.758	159.058	159.058	158.026
.28402E+11	158.751	158.118	156.564	156.564	155.619
.31558E+11	156.336	155.753	154.321	154.321	153.447

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 11:28:37 JUL 21, 1995 CP= 7.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2651 TEMP	2865 TEMP
	15090	0050090
.10000E-05	28.1207	26.1380
.20000E-05	59.6586	57.6888
.31558E+07	59.6586	57.6888
.63116E+07	85.7519	83.8374
.94673E+07	92.9591	91.0532
.12623E+08	97.7173	95.8155
.15779E+08	101.390	99.4940
.18935E+08	104.407	102.518
.22090E+08	106.969	105.086
.25246E+08	109.216	107.342
.28402E+08	111.229	109.360
.31558E+08	113.058	111.196
.63115E+08	114.744	112.889
.94673E+08	126.178	124.383
.12623E+09	133.470	131.728
.15779E+09	139.398	137.702
.18935E+09	144.475	142.817
.22090E+09	148.748	147.136
.25246E+09	152.215	150.639
.28402E+09	155.386	153.843
.31558E+09	157.524	156.012
.63115E+09	159.356	157.870
.94673E+09	172.610	171.376
.12623E+10	181.265	180.224
.15779E+10	184.406	183.516
.18935E+10	185.429	184.662
.22090E+10	185.495	184.825
.25246E+10	184.911	184.320
.28402E+10	183.573	183.047
.31558E+10	182.375	181.899
.63115E+10	181.231	180.799
.94673E+10	174.581	174.337
.12623E+11	169.414	169.228
.15779E+11	166.662	166.508
.18935E+11	164.884	164.751
.22090E+11	162.835	162.719
.25246E+11	160.505	160.402
.28402E+11	157.996	157.903
.31558E+11	155.591	155.508
	153.422	153.346

***** ROUTINE COMPLETED ***** CP = 7.020

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucfn12x.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 2
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

ANSYS RUN COMPLETED

REV. 5.0 A

HP 9000/7XX

CP TIME	(sec) =	9.500	TIME =	11:28:40
ELAPSED TIME	(sec) =	20.000	DATE =	07/21/95

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf12b
 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 Hongyan Wang
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf12b.inp
7 /COM, * 12 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: c12b5a.parm
  
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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 = 11.129 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, 12 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,c12b5a,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=1.2977/2.0
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=TWALL/2.0
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=TWALL/2.0+PITCH
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=TWALL/2.0+PITCH+GWALL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 /COM,
117 /COM,          MI45=MIRAD/SQRT(2.0)
118 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
119 /COM,          DI45=DCIRD/SQRT(2.0)
120 /COM,          DM45=(DCIRD-OWALL)/SQRT(2.0)
121 /COM,          DO45=DCIRD/SQRT(2.0)
122 /COM,
123 /COM,          Define Transient Time parameters based upon the following:
124 /COM,          Note: 1 year = 3.15576e7 seconds.
125 /COM,          TM_START = start time (sec)
126 /COM,          TMI* = time increment for solution (sec)
127 /COM,          TME* = start and stop for time do-loops (sec)
128 /COM,          TMTMAX = time of maximum cladding temperature
129 /COM,
130 TM_START=(1.0E-6)*(3.15576E7)
131 TMI0=0.1*3.15576E7
132 TMI1=1.0*3.15576E7
133 TMI10=10.0*3.15576E7
134 TMI100=100.0*3.15576E7
135 TMI1000=1000.0*3.15576E7
136 TME0=0.9*3.15576E7+TM_START
137 TME1=TMI1+TM_START
138 TME9=9.0*3.15576E7+TM_START
139 TME10=TMI10+TM_START
140 TME50=50.0*3.15576E7+TM_START
141 TME90=90.0*3.15576E7+TM_START
142 TME100=TMI100+TM_START
143 TME1000=TMI1000+TM_START
144 /COM,
145 /COM,          *****
146 /COM,          Define different element types
147 /PREP7
148 ETYPE
149 ET, 1,55,
150 ET, 2,70,
151 ET, 7,32,
152 ET, 16,57,
153 ET, 17,32,
154 ET, 18,50,1,
155 ET, 19,31,
156 ET, 27,32,
157 /COM,          *****
158 /COM,          File props01.dat describes material properties

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

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

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299 L,25,32,
300 L,32,26,
301 L,24,33,
302 L,33,27,
303 L,30,31,
304 L,32,33,
305 /COM, Guide gaps
306 AL,29,16,30,
307 AL,33,34,23,
308 /COM, Guide steel
309 AL,35,38,33,22,
310 AL,36,24,34,38,
311 AL,37,31,17,29,
312 AL,15,32,37,30,
313 /COM, *****
314 /COM, Define thermal shunts
315 /COM, (K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)
316 /COM, (L's 39,40,41,42,43,44,45,46,47,48,49)
317 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69
318 /COM, (A's 11 - 22)
319 /COM,
320 /COM, horizontal thermal shunt
321 K,34, TWALL/2.0, TWALL/2.0,0.0,
322 K,35, TWALL/2.0, (0.0-TWALL/2.0),0.0,
323 K,36,(TWALL/2.0+1.0*PITCH), TWALL/2.0,0.0,
324 K,37,(TWALL/2.0+1.0*PITCH), (0.0-TWALL/2.0),0.0,
325 K,38,(TWALL/2.0+2.0*PITCH), TWALL/2.0,0.0,
326 K,39,(TWALL/2.0+2.0*PITCH), (0.0-TWALL/2.0),0.0,
327 K,1000,(TWALL/2.0+1.0*PITCH),0.0,0.0,
328 K,1001,(TWALL/2.0+2.0*PITCH),0.0,0.0,
329 L,34,1,
330 L,1,1000,
331 L,1000,36,
332 L,36,34,
333 L,1,35,
334 L,35,37,
335 L,37,1000,
336 L,1000,1001,
337 L,1001,38,
338 L,38,36,
339 L,37,39,
340 L,39,1001
341 L,23,39,
342 L,38,21,
343 L,1001,22,
344 /COM, vertical thermal shunt
345 K,40,TWALL/2.0, (TWALL/2.0+1.0*PITCH),0.0,
346 K,41, 0.0, (TWALL/2.0+1.0*PITCH),0.0,
347 K,42,TWALL/2.0, (TWALL/2.0+2.0*PITCH),0.0,
348 K,43, 0.0, (TWALL/2.0+2.0*PITCH),0.0,
349 K,44,TWALL/2.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
350 K,45, 0.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
351 K,46,TWALL/2.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
352 K,47, 0.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
353 L,34,40,
354 L,40,41,
355 L,41,1,
356 L,40,42,
357 L,42,43,
358 L,43,41,
359 L,16,42,
360 L,15,43,
361 L,1,45,
362 L,45,44,
363 L,44,35,
364 L,45,47,
365 L,47,46,
366 L,46,44,
367 L,47,29,
368 L,46,28,

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369 /COM,          Define areas for thermal shunts
370 /COM,          horizontal thermal shunts
371 AL,39,40,41,42,
372 AL,43,44,45,40,
373 AL,48,41,46,47,
374 AL,45,49,50,46,
375 AL,47,53,19,52,
376 AL,50,51,20,53,
377 /COM,          vertical thermal shunts
378 AL,39,54,55,56,
379 AL,57,58,59,55,
380 AL,60,13,61,58,
381 AL,43,62,63,64,
382 AL,65,66,67,63,
383 AL,68,26,69,66,
384 /COM,          *****
385 /COM,          Define shell gaps at the exterior of the tube array
386 /COM,          (L's 70 - 73)
387 /COM,          (A's 23 - 26)
388 L,42,17,
389 L,20,38,
390 L,39,24,
391 L,27,46,
392 AL,60,70,14,
393 AL,18,71,52,
394 AL,51,72,21,
395 AL,69,25,73,
396 /COM,          *****
397 /COM,          Create mesh in tube guides, thermal shunts
398 /COM,          Set mesh size for gaps.....
399 ESIZE,,2,
400 LSEL,S,LINE,,60,61,1,
401 LSEL,A,LINE,,68,69,1,
402 LSEL,A,LINE,,51,53,1,
403 LESIZE,ALL,,,4,
404 LSEL,S,LINE,,39,47,2,
405 LSEL,A,LINE,,19,20,1,
406 LSEL,A,LINE,,50,
407 LSEL,A,LINE,,13,
408 LSEL,A,LINE,,58,
409 LSEL,A,LINE,,55,
410 LSEL,A,LINE,,63,
411 LSEL,A,LINE,,66,
412 LSEL,A,LINE,,26,
413 LESIZE,ALL,,,1,
414 LSEL,S,LINE,,40,48,2,
415 LSEL,A,LINE,,54,56,2,
416 LSEL,A,LINE,,57,59,2,
417 LSEL,A,LINE,,62,64,2,
418 LSEL,A,LINE,,65,67,2,
419 LSEL,A,LINE,,49,
420 LSEL,A,LINE,,33,34,1,
421 LSEL,A,LINE,,29,30,1,
422 LSEL,A,LINE,,70,73,1,
423 LESIZE,ALL,,,14,
424 /COM,          Mesh thermal shunts
425 ESHAPE,2,
426 MAT,13,
427 TYPE,1,
428 AMESH,11,22,
429 /COM,          Mesh corn guides
430 ESHAPE,2,
431 MAT,2,
432 TYPE,1,
433 AMESH,7,10,1,
434 /COM,          *****
435 /COM,          Define center tube
436 /COM,          (K's 48-51)
437 /COM,          (L's 74-83)
438 /COM,          (A's 27-31)

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439 K,48, (TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0,
440 K,49, (TWALL/2.0+SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
441 K,50, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
442 K,51, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+SWALL),0.0,
443 L,34,48,
444 L,48,49,
445 L,49,40,
446 L,49,50,
447 L,50,31,
448 L,31,40,
449 L,50,51,
450 L,51,36,
451 L,36,31,
452 L,51,48,
453 AL,76,79,78,77,
454 AL,54,74,75,76,
455 AL,74,42,81,83,
456 AL,81,82,78,80,
457 AL,75,83,80,77,
458 /COM, *****
459 /COM, Set element shapes and sizes for tubes
460 /COM, 14x14 mesh in fuel with 2
461 /COM, divisions per tube layer
462 ESHAPE,0,
463 ESIZE,,1,
464 LSEL,S,LINE,,74,83,1,
465 LSEL,U,LINE,,76,
466 LSEL,U,LINE,,78,
467 LSEL,U,LINE,,81,
468 LSEL,U,LINE,,74,
469 LESIZE,ALL,,14,
470 LSEL,S,LINE,,76,
471 LSEL,A,LINE,,78,
472 LSEL,A,LINE,,81,
473 LSEL,A,LINE,,74,
474 LESIZE,ALL,,2,
475 LSEL,ALL,
476 /COM,
477 /COM, Mesh areas
478 /COM, First fuel, then stainless tubes
479 MAT,14,
480 TYPE,1,
481 ASEL,ALL,
482 AMESH,31,
483 MAT,1,
484 TYPE,1,
485 AMESH,27,30,1,
486 /COM, *****
487 /COM, Copy tube mesh
488 /COM,
489 /COM, Center tubes above
490 /COM, (A's 32 - 36)
491 AGEN,2,27,31,1,0.0,PITCH,0.0,0.0,0,
492 /COM, Center tubes below
493 /COM, (A's 37 - 46)
494 ARSYM,Y,27,36,1,
495 /COM, (A's 47 - 51)
496 AGEN,2,27,31,1,PITCH,0.0,0.0,0.0,0,
497 /COM, (A's 52 - 56)
498 AGEN,2,47,51,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,0,
499 NUMMRG,NODE,
500 NUMMRG,KP,
501 /COM, *****
502 /COM, Create mesh in UCF inner shell
503 /COM, (L's 105,108)
504 ESHAP,2,
505 LSEL,S,LINE,,14,18,2,
506 LSEL,A,LINE,,21,25,2,
507 LSIZE,ALL,,20,
508 LSEL,ALL,

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509 LSEL,S,LINE,,13,19,1,
510 LCCAT,ALL,
511 LSEL,S,LINE,,20,26,1,
512 LCCAT,ALL,
513 LSEL,ALL,
514 LESIZE,8,,,54,
515 LESIZE,9,,,54,
516 LESIZE,28,,,3,
517 LESIZE,12,,,3,
518 LESIZE,27,,,3,
519 LSEL,ALL,
520 MAT,2,
521 TYPE,1,
522 AMESH,3,4,1,
523 /COM,          Delete concatenatd lines
524 /COM,          (L's freed up 105,108)
525 /COM,    LDELE,105,108,1,  LEAVE THEM FOR NOW, WHO CARES
526 /COM,
527 LSEL,S,LINE,,6,7,1,
528 LESIZE,ALL,,,54,
529 LSEL,ALL,
530 LESIZE,5,,,4,
531 LESIZE,10,,,4,
532 LESIZE,11,,,4,
533 MAT,3,
534 TYPE,1,
535 AMESH,1,2,1,
536 NUMMRG,NODE,
537 NUMMRG,KP,
538 /COM, *****
539 /COM,          Create mesh in empty basket spaces
540 ESIZE,0.1,
541 ESHAPE,0,
542 MAT,7,
543 TYPE,1,
544 AMESH,5,6,1
545 ESIZE,0.1,
546 ESHAPE,0,
547 AMESH,23,26,1,
548 NUMMRG,NODE,
549 NUMMRG,KP,
550 /COM, *****
551 /COM,          Create radiation surface elements
552 /COM,          Basket spaces
553 MAT,1,
554 TYPE,17,
555 LMESH,70,73,1,
556 LMESH,14,18,2,
557 LMESH,21,25,2,
558 MAT,2,
559 TYPE,17,
560 LMESH,29,30,1,
561 LMESH,33,34,1,
562 MAT,13,
563 TYPE,17,
564 LMESH,60,
565 LMESH,69,
566 LMESH,51,52,1,
567 /COM,
568 FINISH
569 /COM, *****
570 /COM,          Create element mesh plots to illustrate model
571 /COM,          View mesh for entire model
572 /RESET
573 /TRIAD,OFF,
574 /NUM,1,
575 /PNUM,MAT,1,
576 /TYPE,HIDP,
577 /GLINE,,0,
578 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,

```

```

579 /TITLE, 12 PWR UCF/Waste Package - 1/2 FEM Model
580 /SHOW,meshfull,grph,1,8,
581 EPLOT
582 ESEL,U,MAT,, 7,
583 /SHOW,meshgap,grph,1,8,
584 EPLOT
585 ESEL,ALL,
586 /COM,          View mesh for radiation substructure
587 /PNUM,MAT, 0,
588 /PNUM,TYPE, 1,
589 ESEL,S,TYPE,,17,
590 /TITLE, 12 PWR UCF/Waste Package - Radiation Matrix
591 /SHOW,meshrad,grph,1,8,
592 EPLOT
593 ESEL,ALL,
594 /TITLE, 12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
595 /COM,          *****
596 /COM,          Generate super-elements
597 /AUX12,
598 ESEL,S,TYPE,,17,
599 NSLE,S,
600 STEF,5.67E-8,
601 GEOM,1,0,
602 VTYPE,0,800,
603 WRITE,spaces,
604 ESEL,ALL,
605 NSEL,ALL,
606 FINISH
607 /PREP7,
608 TYPE,18,
609 SE,spaces,
610 /COM,          Delete radiation edge elements
611 LSEL,S,TYPE,,17,
612 LCLEAR,ALL,
613 LSEL,ALL,
614 FINISH
615 /COM,          *****
616 /COM,          Set solution parameters and apply B.C.'s
617 /COM,
618 /COM,          Solve steady-state for initial conditions
619 /COM,          with WP surface equal to drift ambient
620 /COM,          temperature from repository model.
621 /SOLU
622 ANTYPE,TRAN,NEW,
623 NROPT,AUTO,
624 TRNOPT,FULL,
625 TOFFST,273.15,
626 LSEL,S,LINE,,6,
627 LSEL,A,LINE,,7,
628 NSLL,S,1,
629 D,ALL,TEMP,DFAMBT,
630 LSEL,ALL,
631 NSEL,ALL,
632 ASEL,S,MAT,,14,
633 ESLA,S,
634 BFE,ALL,HGEN,,(FUEL(TM_START)),
635 ASEL,ALL,
636 ESEL,ALL,
637 TIMINT,OFF,
638 TIME,1e-6,
639 AUTOTS,ON,
640 KBC,0,
641 SOLVE
642 /COM,          Solve steady-state for initial conditions
643 /COM,          with WP surface temperatures from repository
644 /COM,          steady-state solution.
645 LSEL,S,LINE,,6,
646 LSEL,A,LINE,,7,
647 NSLL,S,1,
648 DDELE,ALL,TEMP,

```

```

649 LSEL,ALL,
650 NSEL,ALL,
651 DK,11,TEMP,(WPTOP(TM_START)),,1,
652 DK,10,TEMP,(WPSID(TM_START)),,1,
653 DK, 9,TEMP,(WPBOT(TM_START)),,1,
654 ASEL,S,MAT,,14,
655 ESLA,S,
656 BFE,ALL,HGEN,,(FUEL(TM_START)),
657 ASEL,ALL,
658 ESEL,ALL,
659 TIMINT,OFF,
660 TIME,2e-6,
661 AUTOTS,ON,
662 KBC,0,
663 SOLVE
664 /COM, *****
665 /COM, Set time integration parameters
666 TIMINT,ON,
667 AUTOTS,ON,
668 /COM, Time substep ranges from 10 sec to 1/4 loadstep
669 NSUBST,10,40,5,ON
670 /COM, Begin Transient
671 /COM, Apply loads and solve for 0 to .9 years
672 *DO,TM,TM_START,TME0,TMI0
673 TIME,TM,
674 ASEL,S,MAT,,14,
675 ESLA,S,
676 BFE,ALL,HGEN,,(FUEL(TM)),
677 ASEL,ALL
678 ESEL,ALL
679 DK,11,TEMP,(WPTOP(TM)),,1,
680 DK,10,TEMP,(WPSID(TM)),,1,
681 DK, 9,TEMP,(WPBOT(TM)),,1,
682 SOLVE
683 *ENDDO
684 /COM, Apply loads and solve for 1 to 9 years
685 *DO,TM,TME1,TME9,TMI1
686 TIME,TM,
687 ASEL,S,MAT,,14,
688 ESLA,S,
689 BFE,ALL,HGEN,,(FUEL(TM)),
690 ASEL,ALL
691 ESEL,ALL
692 DK,11,TEMP,(WPTOP(TM)),,1,
693 DK,10,TEMP,(WPSID(TM)),,1,
694 DK, 9,TEMP,(WPBOT(TM)),,1,
695 SOLVE
696 *ENDDO
697 /COM, Apply loads and solve for 10 to 90 years
698 *DO,TM,TME10,TME90,TMI10
699 TIME,TM,
700 ASEL,S,MAT,,14,
701 ESLA,S,
702 BFE,ALL,HGEN,,(FUEL(TM)),
703 ASEL,ALL
704 ESEL,ALL
705 DK,11,TEMP,(WPTOP(TM)),,1,
706 DK,10,TEMP,(WPSID(TM)),,1,
707 DK, 9,TEMP,(WPBOT(TM)),,1,
708 SOLVE
709 *ENDDO
710 /COM, Apply loads and solve for 100 to 1000 years
711 *DO,TM,TME100,TME1000,TMI100
712 TIME,TM,
713 ASEL,S,MAT,,14,
714 ESLA,S,
715 BFE,ALL,HGEN,,(FUEL(TM)),
716 ASEL,ALL
717 ESEL,ALL
718 DK,11,TEMP,(WPTOP(TM)),,1,

```

```

719      DK,10,TEMP,(WPSID(TM)),,1,
720      DK, 9,TEMP,(WPBOT(TM)),,1,
721      SOLVE
722  *ENDDO
723  FINISH
724  SAVE,
725  /COM, *****
726  /COM,      Create element contour plots of solution results
727  /COM,
728  /COM,      Sort through solution results for time of max temp.
729  /POST26,
730  NSOL,2,(NODE((SCCELL+TWALL/2.0),(-SCCELL-TWALL/2.0),0.0)),TEMP,,peakclad,
731  STORE,NEW,
732  *GET,TMTMAX,VARI,2,EXTREM,TMAX,
733  FINISH
734  /POST1,
735  /COM,      Create temperature contour plots of WP at peak
736  /RESET
737  /TRIAD,OFF,
738  /NUM, 1,
739  /PNUM,MAT, 1,
740  /TYPE,HIDP,
741  /GLINE,-1,
742  /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
743  ESEL,U,MAT,,7,
744  SET,NEAR,,,,TMTMAX,
745  /TITLE, 12 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
746  /SHOW,solupk,grph,0,8,
747  /CONTOUR,1,128,AUTO,
748  PLNSOL,TEMP,
749  /COM,      Create temperature contour plots at 10, 50, and 100 yrs
750  SET,NEAR,,,,TME10,
751  /TITLE, 12 PWR UCF/WP at 10 years
752  /SHOW,solu10,grph,0,8,
753  /CONTOUR,1,128,USER,
754  PLNSOL,TEMP,
755  SET,NEAR,,,,TME50,
756  /TITLE, 12 PWR UCF/WP at 50 years
757  /SHOW,solu50,grph,0,8,
758  /CONTOUR,1,128,USER,
759  PLNSOL,TEMP,
760  SET,NEAR,,,,TME100,
761  /TITLE, 12 PWR UCF/WP at 100 years
762  /SHOW,solu100,grph,0,8,
763  /CONTOUR,1,128,USER,
764  PLNSOL,TEMP,
765  ESEL,ALL,
766  FINISH
767  /COM, *****
768  /COM,      Print time/temperature output at specific locations
769  /COM,      Save profile from center to edge
770  /COM,
771  /COM,      Variable Legend: A01i000
772  /COM,      c = center of assembly
773  /COM,      h = halfway between center and tube
774  /COM,      s = inside structural stainless tube layer
775  /COM,      t = stainless tube cladding
776  /COM,      g = tube guide
777  /COM,      i = inner barrier of DC
778  /COM,      o = outer barrier of DC
779  /COM,      ## = ID number of assembly (01 is center)
780  /COM,      i = side of assembly toward center of WP
781  /COM,      o = side of assembly toward edge of WP
782  /COM,      000 = profile center down
783  /COM,      045 = profile 45 deg down
784  /COM,      090 = profile center side
785  /COM,      135 = profile 45 deg up
786  /COM,      180 = profile center up
787  /POST26,
788  NUMVAR,30,

```



```

789 /COM,
790 /COM,
791 /COM, *****
792 /COM, * Temperature Profile from center to lower right (45 deg.) *
793 /COM, *****
794 NSOL, 2, (NODE(0.0, 0.0, 0.0)), TEMP, ,t010045,
795 NSOL, 3, (NODE(TWALL/2.0, (0.0-TWALL/2.0), 0.0)), TEMP, ,s01o145,
796 NSOL, 4, (NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL), 0.0)), TEMP, ,s01i145,
797 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (-TWALL/2.-SWALL-QCELL), 0.0)), TEMP, ,c01i045,
798 NSOL, 6, (NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0), 0.0)), TEMP, ,c01c045,
799 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL), 0.0)), TEMP, ,c01o045,
800 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (-PITCH-TWALL/2.+SWALL), 0.0)), TEMP, ,s01i145,
801 NSOL, 9, (NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH), 0.0)), TEMP, ,s01o145,
802 NSOL, 10, (NODE((TWALL/2.0+PITCH+GWALL), (-TWALL/2.-PITCH-GWALL), 0.0)), TEMP, ,g01o045,
803 NSOL, 11, (NODE( DI45, (-1.0*DI45), 0.0)), TEMP, ,i01i045,
804 NSOL, 12, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, ,i01o045,
805 NSOL, 13, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, ,o08o045,
806 /COM, Add centers of assemblies 3 and 5
807 NSOL, 14, (NODE( (SCCELL+TWALL/2.0+PITCH), -(SCCELL+TWALL/2.0), 0.0)), TEMP, ,c03c045,
808 NSOL, 15, (NODE( (SCCELL+TWALL/2.0), -(SCCELL-TWALL/2.0-PITCH), 0.0)), TEMP, ,c05c045,
809 PRVAR, 2, 3, 4, 5, 6,
810 PRVAR, 7, 8, 9, 10, 11,
811 PRVAR, 12, 13, 14, 15,
812 /COM,
813 /COM,
814 /COM, *****
815 /COM, * Temperature Profile from center to upper right (135 deg.) *
816 /COM, *****
817 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,t0200135,
818 NSOL, 3, (NODE(TWALL/2.0, TWALL/2.0, 0.0)), TEMP, ,s02o0135,
819 NSOL, 4, (NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL), 0.0)), TEMP, ,s02i0135,
820 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.+SWALL+QCELL), 0.0)), TEMP, ,c02i0135,
821 NSOL, 6, (NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0), 0.0)), TEMP, ,c02c0135,
822 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (TWALL/2+SWALL+3*QCELL), 0.0)), TEMP, ,c02o0135,
823 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (PITCH+TWALL/2.-SWALL), 0.0)), TEMP, ,s02i135,
824 NSOL, 9, (NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH), 0.0)), TEMP, ,s02o135,
825 NSOL, 10, (NODE((TWALL/2.0+PITCH+GWALL), (TWALL/2.+PITCH+GWALL), 0.0)), TEMP, ,g02o0135,
826 NSOL, 11, (NODE( DI45, DI45, 0.0)), TEMP, ,i02i0135,
827 NSOL, 12, (NODE( DM45, DM45, 0.0)), TEMP, ,i02o0135,
828 NSOL, 13, (NODE( DO45, DO45, 0.0)), TEMP, ,o02o0135,
829 /COM, Add centers of assemblies 4 and 6
830 NSOL, 14, (NODE( (SCCELL+TWALL/2.0+PITCH), (SCCELL+TWALL/2.0), 0.0)), TEMP, ,c04c0135,
831 NSOL, 15, (NODE( (SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0+PITCH), 0.0)), TEMP, ,c06c0135,
832 PRVAR, 2, 3, 4, 5, 6,
833 PRVAR, 7, 8, 9, 10, 11,
834 PRVAR, 12, 13, 14, 15,
835 FINISH
836 /COM, *****
837 /COM, End of batch input file
838 /COM, *****
839 /EXIT,
840 /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  Hongyan Wang
*****
*
* File name: ucf12b.inp
* 12 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: c12b5a.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 = 11.129 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=

12 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= .570 TIME= 09:06:17

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= .790 TIME= 09:06:17

Restore ANSYS parameters from file= c12b5a.parm.

/INPUT FILE= c12b5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define Required Constants:

PARAMETER PI = 3.141593

Define UCF/waste package parameters

~~UCF dimensions converted from inches to mm. Comments: WPA Prop.~~

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 = .6488500

PARAMETER OWALL = .1000000

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .5288500

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

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 = .5000000E-02

PARAMETER GY22 = .5288264

PARAMETER GX23 = .2385000

PARAMETER GY23 = .4720170

PARAMETER GX24 = .2480000

PARAMETER GY24 = .4670956

MI45=MIRAD/SQRT(2.0)

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

PARAMETER DI45 = .3739534

PARAMETER DM45 = .3880956

PARAMETER DO45 = .4588062

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 09:06:18 JUN 27, 1995 CP= 1.740
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 .8425000	1.213500 .7485000	1.123300	.9625000
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12				
SLOC= 7	.6739000 .4812000	.6124000 .4512000	.5615000	.5214000
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 .3300000E-01	.2400000E-01 .3600000E-01	.2600000E-01	.2900000E-01
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12				
SLOC= 7	.3900000E-01 .5000000E-01	.4200000E-01 .5200000E-01	.4500000E-01	.4700000E-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 1045.000	1041.400 1050.000	1041.000	1042.000
PROPERTY TABLE C MAT= 9 NUM. POINTS= 12				
SLOC= 7	1056.000 1098.000	1065.000 1159.000	1075.000	1086.500
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 .2300000E-01	.1700000E-01 .2500000E-01	.1800000E-01	.2100000E-01
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12				
SLOC= 7	.2700000E-01 .3400000E-01	.2800000E-01 .3600000E-01	.3000000E-01	.3200000E-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 326.8500	26.85000 526.8500	126.8500 726.8500
---------	-----------------------	----------------------	----------------------

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

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

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***

SLOC= 1	23.00000 150.0000	50.00000 200.0000	100.0000
---------	----------------------	----------------------	----------

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

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	-.648850	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.648850	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.648850	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.548850	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.548850	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.548850	.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=	.64885		
LINE NO.= 6	KP1=	10	TAN1=
	KP2=	9	TAN2=

ARC BETWEEN KEYPOINTS	11 AND 10	ORIENTATION KEYPOINT=	1
RADIUS=	.64885		
LINE NO.= 7	KP1=	11	TAN1=

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      KP2=    10 TAN2=    .0000 -1.0000    .0000
ARC BETWEEN KEYPOINTS    13 AND    12 ORIENTATION KEYPOINT=    1
RADIUS=    .54885
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=    .54885
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,)
(L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
(A's 3,4)

KEYPOINT    15 X,Y,Z=    .000000E+00    .528850    .000000E+00 IN CSYS=    0
KEYPOINT    16 X,Y,Z=    .500000E-02    .528826    .000000E+00 IN CSYS=    0
KEYPOINT    17 X,Y,Z=    .238500    .472017    .000000E+00 IN CSYS=    0
KEYPOINT    18 X,Y,Z=    .248000    .467096    .000000E+00 IN CSYS=    0
KEYPOINT    19 X,Y,Z=    .467096    .248000    .000000E+00 IN CSYS=    0
KEYPOINT    20 X,Y,Z=    .472017    .238500    .000000E+00 IN CSYS=    0
KEYPOINT    21 X,Y,Z=    .528826    .500000E-02    .000000E+00 IN CSYS=    0
KEYPOINT    22 X,Y,Z=    .528850    .000000E+00    .000000E+00 IN CSYS=    0
KEYPOINT    23 X,Y,Z=    .528826   -.500000E-02    .000000E+00 IN CSYS=    0
KEYPOINT    24 X,Y,Z=    .472017   -.238500    .000000E+00 IN CSYS=    0
KEYPOINT    25 X,Y,Z=    .467096   -.248000    .000000E+00 IN CSYS=    0
KEYPOINT    26 X,Y,Z=    .248000   -.467096    .000000E+00 IN CSYS=    0
KEYPOINT    27 X,Y,Z=    .238500   -.472017    .000000E+00 IN CSYS=    0
KEYPOINT    28 X,Y,Z=    .500000E-02   -.528826    .000000E+00 IN CSYS=    0
KEYPOINT    29 X,Y,Z=    .000000E+00   -.528850    .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

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ARC BETWEEN KEYPOINTS	16 AND 15	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 13	KP1= 16	TAN1= 1.0000	-.0095 .0000
	KP2= 15	TAN2= -1.0000	.0000 .0000
ARC BETWEEN KEYPOINTS	17 AND 16	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 14	KP1= 17	TAN1= .8925	-.4510 .0000
	KP2= 16	TAN2= -1.0000	.0095 .0000
ARC BETWEEN KEYPOINTS	18 AND 17	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 15	KP1= 18	TAN1= .8832	-.4689 .0000
	KP2= 17	TAN2= -.8925	.4510 .0000
ARC BETWEEN KEYPOINTS	19 AND 18	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 16	KP1= 19	TAN1= .4689	-.8832 .0000
	KP2= 18	TAN2= -.8832	.4689 .0000
ARC BETWEEN KEYPOINTS	20 AND 19	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 17	KP1= 20	TAN1= .4510	-.8925 .0000
	KP2= 19	TAN2= -.4689	.8832 .0000
ARC BETWEEN KEYPOINTS	21 AND 20	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 18	KP1= 21	TAN1= .0095	-1.0000 .0000
	KP2= 20	TAN2= -.4510	.8925 .0000
ARC BETWEEN KEYPOINTS	22 AND 21	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 19	KP1= 22	TAN1= .0000	-1.0000 .0000
	KP2= 21	TAN2= -.0095	1.0000 .0000
ARC BETWEEN KEYPOINTS	23 AND 22	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 20	KP1= 23	TAN1= -.0095	-1.0000 .0000
	KP2= 22	TAN2= .0000	1.0000 .0000
ARC BETWEEN KEYPOINTS	24 AND 23	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 21	KP1= 24	TAN1= -.4510	-.8925 .0000
	KP2= 23	TAN2= .0095	1.0000 .0000
ARC BETWEEN KEYPOINTS	25 AND 24	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 22	KP1= 25	TAN1= -.4689	-.8832 .0000
	KP2= 24	TAN2= .4510	.8925 .0000
ARC BETWEEN KEYPOINTS	26 AND 25	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 23	KP1= 26	TAN1= -.8832	-.4689 .0000
	KP2= 25	TAN2= .4689	.8832 .0000
ARC BETWEEN KEYPOINTS	27 AND 26	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 24	KP1= 27	TAN1= -.8925	-.4510 .0000
	KP2= 26	TAN2= .8832	.4689 .0000
ARC BETWEEN KEYPOINTS	28 AND 27	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 25	KP1= 28	TAN1= -1.0000	-.0095 .0000
	KP2= 27	TAN2= .8925	.4510 .0000
ARC BETWEEN KEYPOINTS	29 AND 28	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 26	KP1= 29	TAN1= -1.0000	.0000 .0000
	KP2= 28	TAN2= 1.0000	.0095 .0000

LINE CONNECTS KEYPOINTS 29 12
 LINE NO.= 27 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 22 13
 LINE NO.= 28 KP1= 22 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 19 STEP 1

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

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

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

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 28 TO 28 STEP 1

10 LINES (OF 28 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 20 TO 28 STEP 1

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

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

10 LINES (OF 28 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 28 STEP 1

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

Define tube guides
 (K's 30,31,32,33)
 (L's 29,30,31,32,33,34,35,36,37,38)
 (A's 5,6,7,8,9,10)

top guide

KEYPOINT 31 X,Y,Z= .238500 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 30 X,Y,Z= .248000 .248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 30 19
 LINE NO.= 29 KP1= 30 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 18 30
 LINE NO.= 30 KP1= 18 TAN1= .0000 1.0000 .0000
 KP2= 30 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 31 20
 LINE NO.= 31 KP1= 31 TAN1= -1.0000 .0000 .0000
 KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 17 31
 LINE NO.= 32 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 bottom guide

KEYPOINT 33 X,Y,Z= .238500 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 32 X,Y,Z= .248000 -.248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 25 32
 LINE NO.= 33 KP1= 25 TAN1= 1.0000 .0000 .0000
 KP2= 32 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 32 26
 LINE NO.= 34 KP1= 32 TAN1= .0000 1.0000 .0000
 KP2= 26 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 33
 LINE NO.= 35 KP1= 24 TAN1= 1.0000 .0000 .0000
 KP2= 33 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 27
 LINE NO.= 36 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 27 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 31
 LINE NO.= 37 KP1= 30 TAN1= .7071 .7071 .0000
 KP2= 31 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 32 33
 LINE NO.= 38 KP1= 32 TAN1= .7071 -.7071 .0000
 KP2= 33 TAN2= -.7071 .7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES
 LINE LIST = 29 16 30
 (TRAVERSED IN SAME DIRECTION AS LINE 29)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
 LINE LIST = 33 34 23
 (TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 6
 Guide steel

DEFINE AREA BY LIST OF LINES
 LINE LIST = 35 38 33 22
 (TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
 LINE LIST = 36 24 34 38
 (TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 37 31 17 29
 (TRAVERSED IN SAME DIRECTION AS LINE 37)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 32 37 30
(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 10

Define thermal shunts

(K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)

(L's 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

(A's 11 - 22)

horizontal thermal shunt

KEYPOINT	34	X,Y,Z=	.500000E-02	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	35	X,Y,Z=	.500000E-02	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	36	X,Y,Z=	.238500	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	37	X,Y,Z=	.238500	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	38	X,Y,Z=	.472000	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	39	X,Y,Z=	.472000	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	1000	X,Y,Z=	.238500	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	1001	X,Y,Z=	.472000	.000000E+00	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	34	1			
LINE NO.=	39	KP1=	34	TAN1=	.7071 .7071 .0000
		KP2=	1	TAN2=	-.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	1	1000			
LINE NO.=	40	KP1=	1	TAN1=	-1.0000 .0000 .0000
		KP2=	1000	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1000	36			
LINE NO.=	41	KP1=	1000	TAN1=	.0000 -1.0000 .0000
		KP2=	36	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	36	34			
LINE NO.=	42	KP1=	36	TAN1=	1.0000 .0000 .0000
		KP2=	34	TAN2=	-1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1	35			
LINE NO.=	43	KP1=	1	TAN1=	-.7071 .7071 .0000
		KP2=	35	TAN2=	.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	35	37			
LINE NO.=	44	KP1=	35	TAN1=	-1.0000 .0000 .0000
		KP2=	37	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	37	1000			
LINE NO.=	45	KP1=	37	TAN1=	.0000 -1.0000 .0000
		KP2=	1000	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	1000	1001			
LINE NO.=	46	KP1=	1000	TAN1=	-1.0000 .0000 .0000
		KP2=	1001	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1001	38			
LINE NO.=	47	KP1=	1001	TAN1=	.0000 -1.0000 .0000
		KP2=	38	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	38	36			
LINE NO.=	48	KP1=	38	TAN1=	1.0000 .0000 .0000
		KP2=	36	TAN2=	-1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	37	39			
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LINE NO.= 49 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 39 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 39 1001
LINE NO.= 50 KP1= 39 TAN1= .0000 -1.0000 .0000
KP2= 1001 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 23 39
LINE NO.= 51 KP1= 23 TAN1= 1.0000 .0000 .0000
KP2= 39 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 38 21
LINE NO.= 52 KP1= 38 TAN1= -1.0000 .0000 .0000
KP2= 21 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 22
LINE NO.= 53 KP1= 1001 TAN1= -1.0000 .0000 .0000
KP2= 22 TAN2= 1.0000 .0000 .0000

vertical thermal shunt

KEYPOINT 40 X,Y,Z= .500000E-02 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 41 X,Y,Z= .000000E+00 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 42 X,Y,Z= .500000E-02 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 43 X,Y,Z= .000000E+00 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 44 X,Y,Z= .500000E-02 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 45 X,Y,Z= .000000E+00 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 46 X,Y,Z= .500000E-02 -.472000 .000000E+00 IN CSYS= 0

KEYPOINT 47 X,Y,Z= .000000E+00 -.472000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 40
LINE NO.= 54 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 40 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
LINE NO.= 55 KP1= 40 TAN1= 1.0000 .0000 .0000
KP2= 41 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 1
LINE NO.= 56 KP1= 41 TAN1= .0000 1.0000 .0000
KP2= 1 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 40 42
LINE NO.= 57 KP1= 40 TAN1= .0000 -1.0000 .0000
KP2= 42 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
LINE NO.= 58 KP1= 42 TAN1= 1.0000 .0000 .0000
KP2= 43 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 43 41
LINE NO.= 59 KP1= 43 TAN1= .0000 1.0000 .0000
KP2= 41 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 16 42
LINE NO.= 60 KP1= 16 TAN1= .0000 1.0000 .0000
KP2= 42 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 43
LINE NO.= 61 KP1= 15 TAN1= .0000 1.0000 .0000
KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 1 45
LINE NO.= 62 KP1= 1 TAN1= .0000 1.0000 .0000

	KP2=	45	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 45 44						
LINE NO.=	63	KP1=	45	TAN1=	-1.0000	.0000
		KP2=	44	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS 44 35						
LINE NO.=	64	KP1=	44	TAN1=	.0000	-1.0000
		KP2=	35	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 45 47						
LINE NO.=	65	KP1=	45	TAN1=	.0000	1.0000
		KP2=	47	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 47 46						
LINE NO.=	66	KP1=	47	TAN1=	-1.0000	.0000
		KP2=	46	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS 46 44						
LINE NO.=	67	KP1=	46	TAN1=	.0000	-1.0000
		KP2=	44	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 47 29						
LINE NO.=	68	KP1=	47	TAN1=	.0000	1.0000
		KP2=	29	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 46 28						
LINE NO.=	69	KP1=	46	TAN1=	.0000	1.0000
		KP2=	28	TAN2=	.0000	-1.0000

Define areas for thermal shunts
horizotal thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 40 41 42
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 44 45 40
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 41 46 47
(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 49 50 46
(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 53 19 52
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 51 20 53
(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 16

vertical thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 54 55 56
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES

LINE LIST = 57 58 59 55
(TRAVERSED IN SAME DIRECTION AS LINE 57)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES

LINE LIST = 60 13 61 58
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 62 63 64
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 65 66 67 63
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 68 26 69 66
(TRAVERSED IN SAME DIRECTION AS LINE 68)

AREA NUMBER = 22

Define shell gaps at the exterior of the tube array
(L's 70 - 73)
(A's 23 - 26)

LINE CONNECTS KEYPOINTS	42	17			
LINE NO.= 70	KP1= 42	TAN1= -1.0000	-1.0000	.0000	.0000
	KP2= 17	TAN2= 1.0000	.0001	.0000	.0000

LINE CONNECTS KEYPOINTS	20	38			
LINE NO.= 71	KP1= 20	TAN1= .0001	1.0000	.0000	.0000
	KP2= 38	TAN2= -.0001	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	39	24			
LINE NO.= 72	KP1= 39	TAN1= -.0001	1.0000	.0000	.0000
	KP2= 24	TAN2= .0001	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	27	46			
LINE NO.= 73	KP1= 27	TAN1= 1.0000	-.0001	.0000	.0000
	KP2= 46	TAN2= -1.0000	.0001	.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 60 70 14
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 71 52
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 51 72 21
(TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 69 25 73
(TRAVERSED IN SAME DIRECTION AS LINE 69)

AREA NUMBER = 26

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 60 TO 61 STEP 1

2 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 68 TO 69 STEP 1

4 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 51 TO 53 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 39 TO 47 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 19 TO 20 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 50 TO 50 STEP 1

8 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 58 STEP 1

10 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 55 TO 55 STEP 1

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

12 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 26 TO 26 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 1, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 40 TO 48 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 56 STEP 2

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 57 TO 59 STEP 2

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 62 TO 64 STEP 2

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 65 TO 67 STEP 2

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 49 TO 49 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 34 STEP 1

16 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 30 STEP 1

18 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 70 TO 73 STEP 1

22 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

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

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 22 IN STEPS OF 1

NUMBER OF AREAS MESHED = 12

MAXIMUM NODE NUMBER = 227
 MAXIMUM ELEMENT NUMBER = 128
 Mesh corn guides

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

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 = 401
 MAXIMUM ELEMENT NUMBER = 240

Define center tube
 (K's 48-51)
 (L's 74-83)
 (A's 27-31)

KEYPOINT 48 X,Y,Z= .100000E-01 .100000E-01 .000000E+00 IN CSYS= 0
 KEYPOINT 49 X,Y,Z= .100000E-01 .233500 .000000E+00 IN CSYS= 0
 KEYPOINT 50 X,Y,Z= .233500 .233500 .000000E+00 IN CSYS= 0
 KEYPOINT 51 X,Y,Z= .233500 .100000E-01 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 48
 LINE NO.= 74 KP1= 34 TAN1= -.7071 -.7071 .0000
 KP2= 48 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 75 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 49 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 49 40
 LINE NO.= 76 KP1= 49 TAN1= .7071 -.7071 .0000
 KP2= 40 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 77 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 31
 LINE NO.= 78 KP1= 50 TAN1= -.7071 -.7071 .0000
 KP2= 31 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 31 40
 LINE NO.= 79 KP1= 31 TAN1= 1.0000 .0000 .0000
 KP2= 40 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 80 KP1= 50 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 51 36
 LINE NO.= 81 KP1= 51 TAN1= -.7071 .7071 .0000
 KP2= 36 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 36 31
 LINE NO.= 82 KP1= 36 TAN1= .0000 -1.0000 .0000
 KP2= 31 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 51 48
 LINE NO.= 83 KP1= 51 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 76 79 78 77
(TRAVERSED IN SAME DIRECTION AS LINE 76)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES

LINE LIST = 54 74 75 76
(TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 74 42 81 83
(TRAVERSED IN SAME DIRECTION AS LINE 74)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 81 82 78 80
(TRAVERSED IN SAME DIRECTION AS LINE 81)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES

LINE LIST = 75 83 80 77
(TRAVERSED IN SAME DIRECTION AS LINE 75)

AREA NUMBER = 31

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 MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 83 STEP 1

10 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 76 TO 76 STEP 1

9 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 78 TO 78 STEP 1

8 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

7 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 74 STEP 1

6 LINES (OF 83 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 76 TO 76 STEP 1

1 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

3 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

4 LINES (OF 83 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 83 STEP 1

83 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
First fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 31 STEP 1

31 AREAS (OF 31 DEFINED) SELECTED BY ASEL COMMAND.

GENERATE NODES AND ELEMENTS
IN AREAS 31 TO 31 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 626
MAXIMUM ELEMENT NUMBER = 436

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 27 TO 30 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 708
MAXIMUM ELEMENT NUMBER = 548

Copy tube mesh

Center tubes above
(A's 32 - 36)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .000E+00 .234 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1045
MAXIMUM ELEMENT NUMBER = 856

Center tubes below
(A's 37 - 46)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
SET IS FROM 27 TO 36 IN STEPS OF 1

MAXIMUM NODE NUMBER = 1719
MAXIMUM ELEMENT NUMBER = 1472
(A's 47 - 51)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2056
MAXIMUM ELEMENT NUMBER = 1780
(A's 52 - 56)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 47 TO 51 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2393
MAXIMUM ELEMENT NUMBER = 2088

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 140	USED FOR NODES	766
NODE 217	USED FOR NODES	1431
NODE 141	USED FOR NODES	767
NODE 216	USED FOR NODES	1432
NODE 215	USED FOR NODES	1433
NODE 214	USED FOR NODES	1434
NODE 213	USED FOR NODES	1435
NODE 212	USED FOR NODES	1436
NODE 211	USED FOR NODES	1437
NODE 210	USED FOR NODES	1438
NODE 209	USED FOR NODES	1439
NODE 208	USED FOR NODES	1440
NODE 207	USED FOR NODES	1441
NODE 177	USED FOR NODES	1092
NODE 139	USED FOR NODES	765
NODE 206	USED FOR NODES	1384
NODE 128	USED FOR NODES	710
NODE 31	USED FOR NODES	1091
NODE 176	USED FOR NODES	1093
NODE 175	USED FOR NODES	1094
NODE 174	USED FOR NODES	1095
NODE 173	USED FOR NODES	1096
NODE 172	USED FOR NODES	1097
NODE 171	USED FOR NODES	1098
NODE 170	USED FOR NODES	1099
NODE 169	USED FOR NODES	1100
NODE 168	USED FOR NODES	1101
NODE 167	USED FOR NODES	1102
NODE 166	USED FOR NODES	1103
NODE 218	USED FOR NODES	1430
NODE 219	USED FOR NODES	1429
NODE 165	USED FOR NODES	1104
NODE 164	USED FOR NODES	1047
NODE 114	USED FOR NODES	754
NODE 129	USED FOR NODES	755
NODE 130	USED FOR NODES	756
NODE 131	USED FOR NODES	757
NODE 132	USED FOR NODES	758
NODE 133	USED FOR NODES	759
NODE 134	USED FOR NODES	760
NODE 135	USED FOR NODES	761
NODE 136	USED FOR NODES	762
NODE 137	USED FOR NODES	763
NODE 138	USED FOR NODES	764
NODE 640	USED FOR NODES	824
NODE 1062	USED FOR NODES	1498

NODE	33	USED FOR NODES	1161	
NODE	34	USED FOR NODES	1160	
NODE	639	USED FOR NODES	823	
NODE	1061	USED FOR NODES	1497	
NODE	1060	USED FOR NODES	1496	
NODE	638	USED FOR NODES	822	
NODE	35	USED FOR NODES	1159	
NODE	1059	USED FOR NODES	1495	
NODE	36	USED FOR NODES	1158	
NODE	637	USED FOR NODES	821	
NODE	37	USED FOR NODES	1157	
NODE	636	USED FOR NODES	820	
NODE	1058	USED FOR NODES	1494	
NODE	38	USED FOR NODES	1156	
NODE	635	USED FOR NODES	819	
NODE	1057	USED FOR NODES	1493	
NODE	39	USED FOR NODES	1155	
NODE	634	USED FOR NODES	818	
NODE	1056	USED FOR NODES	1492	
NODE	40	USED FOR NODES	1154	
NODE	633	USED FOR NODES	817	
NODE	1055	USED FOR NODES	1491	
NODE	632	USED FOR NODES	816	
NODE	1054	USED FOR NODES	1490	
NODE	41	USED FOR NODES	1153	
NODE	42	USED FOR NODES	1152	
NODE	631	USED FOR NODES	815	
NODE	1053	USED FOR NODES	1489	
NODE	43	USED FOR NODES	1151	
NODE	630	USED FOR NODES	814	
NODE	1052	USED FOR NODES	1488	
NODE	44	USED FOR NODES	1150	
NODE	629	USED FOR NODES	813	
NODE	1051	USED FOR NODES	1487	
NODE	45	USED FOR NODES	1149	
NODE	628	USED FOR NODES	812	
NODE	1050	USED FOR NODES	1486	
NODE	683	USED FOR NODES	1766	
NODE	370	USED FOR NODES	843	
NODE	369	USED FOR NODES	844	
NODE	684	USED FOR NODES	1767	
NODE	368	USED FOR NODES	845	
NODE	688	USED FOR NODES	1771	
NODE	316	USED FOR NODES	810	1721
NODE	367	USED FOR NODES	846	
NODE	685	USED FOR NODES	1768	
NODE	366	USED FOR NODES	847	
NODE	229	USED FOR NODES	1049	1484 2102
NODE	365	USED FOR NODES	848	
NODE	1187	USED FOR NODES	2103	
NODE	364	USED FOR NODES	849	
NODE	363	USED FOR NODES	850	
NODE	692	USED FOR NODES	1775	
NODE	1186	USED FOR NODES	2104	
NODE	1185	USED FOR NODES	2105	
NODE	1184	USED FOR NODES	2106	
NODE	1183	USED FOR NODES	2107	
NODE	1182	USED FOR NODES	2108	
NODE	1181	USED FOR NODES	2109	
NODE	1180	USED FOR NODES	2110	
NODE	1179	USED FOR NODES	2111	
NODE	1178	USED FOR NODES	2112	
NODE	1177	USED FOR NODES	2113	
NODE	375	USED FOR NODES	838	
NODE	1176	USED FOR NODES	2114	
NODE	689	USED FOR NODES	1772	
NODE	690	USED FOR NODES	1773	
NODE	687	USED FOR NODES	1770	
NODE	691	USED FOR NODES	1774	
NODE	1175	USED FOR NODES	2115	

NODE	693	USED FOR NODES	1776	
NODE	694	USED FOR NODES	1777	
NODE	686	USED FOR NODES	1769	
NODE	273	USED FOR NODES	1386	
NODE	695	USED FOR NODES	1778	
NODE	274	USED FOR NODES	1512	
NODE	275	USED FOR NODES	1513	
NODE	276	USED FOR NODES	1514	
NODE	32	USED FOR NODES	1147	2058
NODE	17	USED FOR NODES	1765	
NODE	277	USED FOR NODES	1515	
NODE	278	USED FOR NODES	1516	
NODE	279	USED FOR NODES	1517	
NODE	280	USED FOR NODES	1518	
NODE	361	USED FOR NODES	712	
NODE	281	USED FOR NODES	1519	
NODE	282	USED FOR NODES	1520	
NODE	283	USED FOR NODES	1521	
NODE	284	USED FOR NODES	1522	
NODE	285	USED FOR NODES	1523	
NODE	286	USED FOR NODES	1524	
NODE	371	USED FOR NODES	842	
NODE	374	USED FOR NODES	839	
NODE	372	USED FOR NODES	841	
NODE	373	USED FOR NODES	840	
NODE	75	USED FOR NODES	2073	
NODE	59	USED FOR NODES	1835	
NODE	319	USED FOR NODES	1736	
NODE	242	USED FOR NODES	2172	
NODE	320	USED FOR NODES	1735	
NODE	58	USED FOR NODES	1834	
NODE	76	USED FOR NODES	2072	
NODE	241	USED FOR NODES	2171	
NODE	321	USED FOR NODES	1734	
NODE	57	USED FOR NODES	1833	
NODE	77	USED FOR NODES	2071	
NODE	240	USED FOR NODES	2170	
NODE	322	USED FOR NODES	1733	
NODE	56	USED FOR NODES	1832	
NODE	78	USED FOR NODES	2070	
NODE	239	USED FOR NODES	2169	
NODE	79	USED FOR NODES	2069	
NODE	238	USED FOR NODES	2168	
NODE	323	USED FOR NODES	1732	
NODE	55	USED FOR NODES	1831	
NODE	80	USED FOR NODES	2068	
NODE	54	USED FOR NODES	1830	
NODE	237	USED FOR NODES	2167	
NODE	324	USED FOR NODES	1731	
NODE	81	USED FOR NODES	2067	
NODE	53	USED FOR NODES	1829	
NODE	236	USED FOR NODES	2166	
NODE	325	USED FOR NODES	1730	
NODE	52	USED FOR NODES	1828	
NODE	235	USED FOR NODES	2165	
NODE	82	USED FOR NODES	2066	
NODE	326	USED FOR NODES	1729	
NODE	83	USED FOR NODES	2065	
NODE	51	USED FOR NODES	1827	
NODE	327	USED FOR NODES	1728	
NODE	234	USED FOR NODES	2164	
NODE	84	USED FOR NODES	2064	
NODE	50	USED FOR NODES	1826	
NODE	233	USED FOR NODES	2163	
NODE	328	USED FOR NODES	1727	
NODE	85	USED FOR NODES	2063	
NODE	49	USED FOR NODES	1825	
NODE	329	USED FOR NODES	1726	
NODE	232	USED FOR NODES	2162	
NODE	86	USED FOR NODES	2062	

NODE 330 USED FOR NODES 1725
 NODE 48 USED FOR NODES 1824
 NODE 231 USED FOR NODES 2161
 NODE 87 USED FOR NODES 2061
 NODE 47 USED FOR NODES 1823
 NODE 230 USED FOR NODES 2160
 NODE 331 USED FOR NODES 1724
 NODE 46 USED FOR NODES 1821
 NODE 228 USED FOR NODES 2158
 NODE 74 USED FOR NODES 2060
 NODE 318 USED FOR NODES 1723

*** WARNING *** CP= 10.180 TIME= 09:06:37
 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= 10.500 TIME= 09:06:37
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.500 TIME= 09:06:37
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.510 TIME= 09:06:37
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.510 TIME= 09:06:37
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

KEYPOINT	31 USED FOR KEYPOINT(S)	59	77	
KEYPOINT	33 USED FOR KEYPOINT(S)	62	75	88
KEYPOINT	35 USED FOR KEYPOINT(S)	64		
KEYPOINT	36 USED FOR KEYPOINT(S)	80		
KEYPOINT	37 USED FOR KEYPOINT(S)	67	85	
KEYPOINT	38 USED FOR KEYPOINT(S)	83		
KEYPOINT	39 USED FOR KEYPOINT(S)	86		
KEYPOINT	40 USED FOR KEYPOINT(S)	56		
KEYPOINT	42 USED FOR KEYPOINT(S)	53		
KEYPOINT	44 USED FOR KEYPOINT(S)	61	72	
KEYPOINT	46 USED FOR KEYPOINT(S)	69		
LINE	44 USED FOR LINE(S)	105		
LINE	48 USED FOR LINE(S)	129		
LINE	49 USED FOR LINE(S)	133		
LINE	57 USED FOR LINE(S)	88		
LINE	64 USED FOR LINE(S)	100		
LINE	67 USED FOR LINE(S)	112		
LINE	79 USED FOR LINE(S)	93		
LINE	82 USED FOR LINE(S)	124		
LINE	97 USED FOR LINE(S)	117		
LINE	106 USED FOR LINE(S)	136		

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

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

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 18 STEP 2

3 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 25 STEP 2

6 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

*** WARNING *** CP= 10.670 TIME= 09:06:38
LSIZE is not a recognized PREP7 command, abbreviation, or macro.
This command will be ignored.

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

133 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 19 STEP 1

7 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 88 KP1= 15 KP2= 22

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 20 TO 26 STEP 1

7 LINES (OF 134 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 93 KP1= 22 KP2= 29

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 2810
 MAXIMUM ELEMENT NUMBER = 2412
 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 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 54, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, 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 = 3246
 MAXIMUM ELEMENT NUMBER = 2844

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 14.800 TIME= 09:06:46
 Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 14.820 TIME= 09:06:46
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.830 TIME= 09:06:46
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.830 TIME= 09:06:46
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.830 TIME= 09:06:46
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (1.702564632E-05) 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
** AREA	5 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **	
** AREA	6 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **	

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 3470
 MAXIMUM ELEMENT NUMBER = 3116

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.)

GENERATE NODES AND ELEMENTS

IN AREAS	23 TO	26	IN STEPS OF	1
** AREA	23 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **	
** AREA	24 MESHED WITH	40 QUADRILATERALS,	7 TRIANGLES **	
** AREA	25 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **	
** AREA	26 MESHED WITH	41 QUADRILATERALS,	7 TRIANGLES **	

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3305

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE	725	USED FOR NODES	3471
NODE	1399	USED FOR NODES	3604
NODE	724	USED FOR NODES	3472
NODE	1398	USED FOR NODES	3603
NODE	723	USED FOR NODES	3473
NODE	1397	USED FOR NODES	3602
NODE	722	USED FOR NODES	3474
NODE	1396	USED FOR NODES	3601
NODE	721	USED FOR NODES	3475
NODE	1395	USED FOR NODES	3600
NODE	720	USED FOR NODES	3476
NODE	1394	USED FOR NODES	3599
NODE	719	USED FOR NODES	3477
NODE	1393	USED FOR NODES	3598
NODE	718	USED FOR NODES	3478
NODE	1392	USED FOR NODES	3597
NODE	717	USED FOR NODES	3479
NODE	1391	USED FOR NODES	3596
NODE	716	USED FOR NODES	3480
NODE	1390	USED FOR NODES	3595
NODE	715	USED FOR NODES	3481
NODE	1389	USED FOR NODES	3594
NODE	714	USED FOR NODES	3482
NODE	1388	USED FOR NODES	3593
NODE	713	USED FOR NODES	3483
NODE	1387	USED FOR NODES	3592
NODE	2190	USED FOR NODES	3560
NODE	1853	USED FOR NODES	3519

NODE 1856 USED FOR NODES 3516
 NODE 1849 USED FOR NODES 3523
 NODE 2195 USED FOR NODES 3555
 NODE 1861 USED FOR NODES 3511
 NODE 2186 USED FOR NODES 3564
 NODE 1855 USED FOR NODES 3517
 NODE 2188 USED FOR NODES 3562
 NODE 1851 USED FOR NODES 3521
 NODE 1852 USED FOR NODES 3520
 NODE 2197 USED FOR NODES 3553
 NODE 2193 USED FOR NODES 3557
 NODE 1860 USED FOR NODES 3512
 NODE 2189 USED FOR NODES 3561
 NODE 1854 USED FOR NODES 3518
 NODE 2198 USED FOR NODES 3552
 NODE 1858 USED FOR NODES 3514
 NODE 2191 USED FOR NODES 3559
 NODE 2192 USED FOR NODES 3558
 NODE 2196 USED FOR NODES 3554
 NODE 2194 USED FOR NODES 3556
 NODE 1859 USED FOR NODES 3513
 NODE 2187 USED FOR NODES 3563
 NODE 1850 USED FOR NODES 3522
 NODE 1857 USED FOR NODES 3515

*** WARNING *** CP= 18.020 TIME= 09:06:53
 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= 18.240 TIME= 09:06:53
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.250 TIME= 09:06:53
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.250 TIME= 09:06:53
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.250 TIME= 09:06:53
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 70 TO 73 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3361

GENERATE NODES AND ELEMENTS
ON LINES 14 TO 18 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3409

GENERATE NODES AND ELEMENTS
ON LINES 21 TO 25 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3457

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 29 TO 30 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3485

GENERATE NODES AND ELEMENTS
ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3513

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 60 TO 60 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3517

GENERATE NODES AND ELEMENTS
ON LINES 69 TO 69 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3521

GENERATE NODES AND ELEMENTS
ON LINES 51 TO 52 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3529

***** ROUTINE COMPLETED ***** CP = 18.460

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 .76525E-01 .00000E+00 .00000E+00

TITLE=

12 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=

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

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

3068 ELEMENTS (OF 3529 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=

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

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.
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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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=

12 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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 09:07:01 JUN 27, 1995 CP= 22.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

224 NODES (OF 3379 DEFINED) SELECTED FROM
224 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= 22.190 TIME= 09:07:02
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= 224 NUMBER OF NODES= 224

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.010

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:07:22 JUN 27, 1995 CP= 32.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 3530 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 3530

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 3530
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

18 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 32.050 TIME= 09:07:22
Nodes cannot be cleared from line 14 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.060 TIME= 09:07:22
Nodes cannot be cleared from line 16 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.070 TIME= 09:07:22
Nodes cannot be cleared from line 18 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.070 TIME= 09:07:22
Nodes cannot be cleared from line 21 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.080 TIME= 09:07:22
Nodes cannot be cleared from line 23 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.080 TIME= 09:07:22
Nodes cannot be cleared from line 25 because area 26 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.090 TIME= 09:07:22
Nodes cannot be cleared from line 29 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.100 TIME= 09:07:23
Nodes cannot be cleared from line 30 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.100 TIME= 09:07:23
Nodes cannot be cleared from line 33 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.110 TIME= 09:07:23
Nodes cannot be cleared from line 34 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.110 TIME= 09:07:23
Nodes cannot be cleared from line 51 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 09:07:23
Nodes cannot be cleared from line 52 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 09:07:23
Nodes cannot be cleared from line 60 because area 19 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.120 TIME= 09:07:23
Nodes cannot be cleared from line 69 because area 22 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.130 TIME= 09:07:23
Nodes cannot be cleared from line 70 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.130 TIME= 09:07:23
Nodes cannot be cleared from line 71 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.140 TIME= 09:07:23
Nodes cannot be cleared from line 72 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.140 TIME= 09:07:23
Nodes cannot be cleared from line 73 because area 26 is meshed. Only
elements are deleted.

CLEARED 18 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.150

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= 32.170 TIME= 09:07:23
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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM

2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 3633 BY 1
 REAL= 26.1375258 IIRAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
 IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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= 33.110 TIME= 09:07:25
 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 09:07:25 JUN 27, 1995 CP= 33.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 OPTION.PROGRAM CHOSEN

*** NOTE *** CP= 33.800 TIME= 09:07:26
This load step will be a static (steady-state) step.

*** NOTE *** CP= 34.110 TIME= 09:07:27
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 = 3309.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .29741	IXX = 403.9	IXX = 403.9
YC = -.29273E-11	IYY = 403.9	IYY = 111.1
ZC = .00000E+00	IZZ = 807.7	IZZ = 515.0
	IXY = -.1209E-08	IXY = -.4090E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
1 3309.65

Range of element maximum matrix coefficients in global coordinates
Maximum= 329.296048 at element 97.
Minimum= 4.296058466E-09 at element 3530.

*** WARNING *** CP= 46.480 TIME= 09:07:53
Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	8.210	.002
18	1	MATRIX50	.060	.060

Time at end of element matrix formulation CP= 46.48.
HT FLOW CONVERGENCE VALUE= 8195. CRITERION= 8.195

Estimated number of active DOF= 3270.
Maximum wavefront= 271.

Time at end of matrix triangularization CP= 58.25.

Equation solver maximum pivot= 614.242326 at node 4 TEMP.
 Equation solver minimum pivot= 0.317532408 at node 3348 TEMP.
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 170.8
 HT FLOW CONVERGENCE VALUE= 46.05 CRITERION= .1951
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -26.93
 HT FLOW CONVERGENCE VALUE= 3.233 CRITERION= .1925
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.408
 HT FLOW CONVERGENCE VALUE= .1724 CRITERION= .1916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	4.620	.001
18	1	MATRIX50	.090	.090

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	.680	.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 = 3270
 R.M.S. WAVEFRONT SIZE = 128.5

*** ANSYS BINARY FILE STATISTICS
 BUFFER SIZE USED= 4096
 1.563 MB WRITTEN ON ELEMENT MATRIX FILE: ucf12b.emat
 1.484 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf12b.esav
 3.203 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf12b.tri
 .016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf12b.dsub
 1.813 MB WRITTEN ON RESULTS FILE: ucf12b.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 135 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 7 STEP 1
 2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
 RELATED TO SELECTED LINE SET:
 109 NODES (OF 3379 DEFINED) SELECTED FROM
 2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
 RANGE 1 TO 3633 BY 1
 NUMBER OF SPECIFIED CONSTRAINTS DELETED= 109

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
 IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.352 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.316 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.251 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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 = 109

*** WARNING *** CP= 125.580 TIME= 09:10:36
This load step will be a static (steady-state) step.

*** NOTE *** CP= 125.890 TIME= 09:10:37
The step data was checked and warning messages were found.
Please review output or errors file (ucf12b.err) for these warning
messages.

*** NOTE *** CP= 125.890 TIME= 09:10:37
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 09:10:37 JUN 27, 1995 CP= 125.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 9813. CRITERION= 9.815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 31.32
 HT FLOW CONVERGENCE VALUE= 17.27 CRITERION= .1941
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.634
 HT FLOW CONVERGENCE VALUE= 1.086 CRITERION= .1903
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6816
 HT FLOW CONVERGENCE VALUE= .5420E-01 CRITERION= .1900 <<< 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 57.352 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 57.316 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 57.251 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 204.730 TIME= 09:13:22
 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 09:13:22 JUN 27, 1995 CP= 204.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .5420E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1148E-03
 HT FLOW CONVERGENCE VALUE= .2089E-05 CRITERION= .1900 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
 *** TIME = .788942 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .1415 OSCILLATION LIMIT = .1116
 *** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1046 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1326E-03
 HT FLOW CONVERGENCE VALUE= .3116E-05 CRITERION= .1900 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
 *** TIME = 1.57788 TIME INC = .788940

*** RESPONSE EIGENVALUE = .7147E-01 OSCILLATION LIMIT = .5638E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .1010 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2514E-03
 HT FLOW CONVERGENCE VALUE= .6054E-05 CRITERION= .1900 <<< 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 = .1533E-01 OSCILLATION LIMIT = .3629E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .9835E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2388E-03
 HT FLOW CONVERGENCE VALUE= .1283E-04 CRITERION= .1900 <<< 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 = .2537E-02 OSCILLATION LIMIT = .1601E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9714E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7520E-04
 HT FLOW CONVERGENCE VALUE= .1153E-04 CRITERION= .1900 <<< 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 = .1128E-02 OSCILLATION LIMIT = .7119E-02
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9654E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7504E-04
 HT FLOW CONVERGENCE VALUE= .1090E-04 CRITERION= .1900 <<< 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 = .9516E-03 OSCILLATION LIMIT = .6006E-02
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9598E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7489E-04
 HT FLOW CONVERGENCE VALUE= .1052E-04 CRITERION= .1900 <<< 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 = .8870E-03 OSCILLATION LIMIT = .5598E-02
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .9548E-01 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2804E-04
 HT FLOW CONVERGENCE VALUE= .3862E-05 CRITERION= .1900 <<< 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 = .8657E-03 OSCILLATION LIMIT = .2049E-02

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:24:06 JUN 27, 1995 CP= 523.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 178.5 CRITERION= .2607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5916

HT FLOW CONVERGENCE VALUE= .2555 CRITERION= .1887
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6091E-01
 HT FLOW CONVERGENCE VALUE= .1087E-01 CRITERION= .1887 <<< 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 = .4985E-05 OSCILLATION LIMIT = .3933
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 179.0 CRITERION= .2599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6116
 HT FLOW CONVERGENCE VALUE= .3042 CRITERION= .1896
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8402E-01
 HT FLOW CONVERGENCE VALUE= .1239E-01 CRITERION= .1896 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4116E-06 OSCILLATION LIMIT = .3247E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 535.7 CRITERION= .5683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.775
 HT FLOW CONVERGENCE VALUE= .8648 CRITERION= .1887
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2856
 HT FLOW CONVERGENCE VALUE= .4643E-01 CRITERION= .1886 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .8202E-06 OSCILLATION LIMIT = .1941
 *** AUTO TIME STEP: NEXT TIME INC = .60960E+06 INCREASED (FACTOR = 2.5756)

HT FLOW CONVERGENCE VALUE= 1381. CRITERION= 1.394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.571
 HT FLOW CONVERGENCE VALUE= 2.223 CRITERION= .1894
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8167
 HT FLOW CONVERGENCE VALUE= .1312 CRITERION= .1891 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = .100410E+07 TIME INC = 609599.
 *** RESPONSE EIGENVALUE = .6370E-06 OSCILLATION LIMIT = .3883
 *** AUTO STEP TIME: NEXT TIME INC = .60960E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1384. CRITERION= 1.396
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.571
 HT FLOW CONVERGENCE VALUE= 2.253 CRITERION= .1881
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7986
 HT FLOW CONVERGENCE VALUE= .1297 CRITERION= .1878 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .161370E+07 TIME INC = 609599.
 *** RESPONSE EIGENVALUE = .6480E-06 OSCILLATION LIMIT = .3950
 *** AUTO STEP TIME: NEXT TIME INC = .60960E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1386. CRITERION= 1.398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.571
 HT FLOW CONVERGENCE VALUE= 2.194 CRITERION= .1886
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7957
 HT FLOW CONVERGENCE VALUE= .1296 CRITERION= .1883 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .222330E+07 TIME INC = 609599.
 *** RESPONSE EIGENVALUE = .5797E-06 OSCILLATION LIMIT = .3534
 *** AUTO STEP TIME: NEXT TIME INC = .60960E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1387. CRITERION= 1.400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.571
 HT FLOW CONVERGENCE VALUE= 1.991 CRITERION= .1874
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7807
 HT FLOW CONVERGENCE VALUE= .1258 CRITERION= .1871 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .283290E+07 TIME INC = 609599.
 *** RESPONSE EIGENVALUE = .6245E-06 OSCILLATION LIMIT = .3807
 *** AUTO TIME STEP: NEXT TIME INC = .32290E+06 DECREASED (FACTOR = .5297)

HT FLOW CONVERGENCE VALUE= 736.3 CRITERION= .7595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.421
 HT FLOW CONVERGENCE VALUE= 1.045 CRITERION= .1878
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3957
 HT FLOW CONVERGENCE VALUE= .6404E-01 CRITERION= .1877 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .315579E+07 TIME INC = 322896.
 *** RESPONSE EIGENVALUE = .5236E-06 OSCILLATION LIMIT = .1691

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:40:10 JUN 27, 1995 CP= 991.070
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 196.0 CRITERION= .2714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7432
 HT FLOW CONVERGENCE VALUE= .3109 CRITERION= .1879
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1226
 HT FLOW CONVERGENCE VALUE= .1832E-01 CRITERION= .1878 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 32
 *** TIME = .347869E+07 TIME INC = 322896.
 *** RESPONSE EIGENVALUE = .2790E-06 OSCILLATION LIMIT = .9009E-01
 *** AUTO STEP TIME: NEXT TIME INC = .32290E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 196.2 CRITERION= .2716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6085
 HT FLOW CONVERGENCE VALUE= .2609 CRITERION= .1876
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8402E-01
 HT FLOW CONVERGENCE VALUE= .1571E-01 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 34
 *** TIME = .380158E+07 TIME INC = 322896.
 *** RESPONSE EIGENVALUE = .2781E-05 OSCILLATION LIMIT = .8980
 *** AUTO STEP TIME: NEXT TIME INC = .17979E+06 DECREASED (FACTOR = .5568)

HT FLOW CONVERGENCE VALUE= 109.2 CRITERION= .2170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4081
 HT FLOW CONVERGENCE VALUE= .1815 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 35
 *** TIME = .398138E+07 TIME INC = 179795.
 *** RESPONSE EIGENVALUE = .4249E-06 OSCILLATION LIMIT = .7639E-01
 *** AUTO STEP TIME: NEXT TIME INC = .17979E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 109.3 CRITERION= .2171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3399
 HT FLOW CONVERGENCE VALUE= .1513 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 36
 *** TIME = .416117E+07 TIME INC = 179795.
 *** RESPONSE EIGENVALUE = .2365E-05 OSCILLATION LIMIT = .4251
 *** AUTO STEP TIME: NEXT TIME INC = .17979E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 109.2 CRITERION= .2170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3392
 HT FLOW CONVERGENCE VALUE= .1673 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 37

*** TIME = .434097E+07 TIME INC = 179795.
 *** RESPONSE EIGENVALUE = .5931E-06 OSCILLATION LIMIT = .1066
 *** AUTO TIME STEP: NEXT TIME INC = .53938E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 327.8 CRITERION= .3775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.018
 HT FLOW CONVERGENCE VALUE= .4860 CRITERION= .1874
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1661
 HT FLOW CONVERGENCE VALUE= .2918E-01 CRITERION= .1873 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 39
 *** TIME = .488035E+07 TIME INC = 539385.
 *** RESPONSE EIGENVALUE = .1349E-05 OSCILLATION LIMIT = .7276
 *** AUTO TIME STEP: NEXT TIME INC = .37066E+06 DECREASED (FACTOR = .6872)

HT FLOW CONVERGENCE VALUE= 225.3 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6985
 HT FLOW CONVERGENCE VALUE= .3486 CRITERION= .1871
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1174
 HT FLOW CONVERGENCE VALUE= .2010E-01 CRITERION= .1871 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 41
 *** TIME = .525101E+07 TIME INC = 370660.
 *** RESPONSE EIGENVALUE = .7987E-06 OSCILLATION LIMIT = .2961
 *** AUTO STEP TIME: NEXT TIME INC = .37066E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 225.4 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6991
 HT FLOW CONVERGENCE VALUE= .3394 CRITERION= .1871
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
 HT FLOW CONVERGENCE VALUE= .1983E-01 CRITERION= .1870 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 43
 *** TIME = .562167E+07 TIME INC = 370660.
 *** RESPONSE EIGENVALUE = .8714E-06 OSCILLATION LIMIT = .3230
 *** AUTO STEP TIME: NEXT TIME INC = .37066E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 225.4 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6985
 HT FLOW CONVERGENCE VALUE= .3458 CRITERION= .1868
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
 HT FLOW CONVERGENCE VALUE= .2023E-01 CRITERION= .1868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 45
 *** TIME = .599233E+07 TIME INC = 370660.
 *** RESPONSE EIGENVALUE = .8525E-06 OSCILLATION LIMIT = .3160
 *** AUTO TIME STEP: NEXT TIME INC = .31922E+06 DECREASED (FACTOR = .8612)

HT FLOW CONVERGENCE VALUE= 194.2 CRITERION= .2694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6021
 HT FLOW CONVERGENCE VALUE= .2955 CRITERION= .1868
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9787E-01
 HT FLOW CONVERGENCE VALUE= .1700E-01 CRITERION= .1868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 47
 *** TIME = .631155E+07 TIME INC = 319218.
 *** RESPONSE EIGENVALUE = .8520E-06 OSCILLATION LIMIT = .2720

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:58:00 JUN 27, 1995 CP= 1517.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 127.4 CRITERION= .2261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3951

HT FLOW CONVERGENCE VALUE= .1952 CRITERION= .1867
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6611E-01
 HT FLOW CONVERGENCE VALUE= .1145E-01 CRITERION= .1867 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 49
 *** TIME = .663077E+07 TIME INC = 319218.
 *** RESPONSE EIGENVALUE = .8153E-06 OSCILLATION LIMIT = .2603
 *** AUTO STEP TIME: NEXT TIME INC = .31922E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 127.5 CRITERION= .2261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3947
 HT FLOW CONVERGENCE VALUE= .1834 CRITERION= .1866 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 50
 *** TIME = .694999E+07 TIME INC = 319218.
 *** RESPONSE EIGENVALUE = .6310E-06 OSCILLATION LIMIT = .2014
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+06 INCREASED (FACTOR = 1.9772)

HT FLOW CONVERGENCE VALUE= 252.0 CRITERION= .3136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7821
 HT FLOW CONVERGENCE VALUE= .3693 CRITERION= .1865
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1280
 HT FLOW CONVERGENCE VALUE= .2320E-01 CRITERION= .1864 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 52
 *** TIME = .758114E+07 TIME INC = 631152.
 *** RESPONSE EIGENVALUE = .1527E-05 OSCILLATION LIMIT = .9636
 *** AUTO TIME STEP: NEXT TIME INC = .32749E+06 DECREASED (FACTOR = .5189)

HT FLOW CONVERGENCE VALUE= 130.9 CRITERION= .2277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4049
 HT FLOW CONVERGENCE VALUE= .1849 CRITERION= .1863 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 53
 *** TIME = .790863E+07 TIME INC = 327492.
 *** RESPONSE EIGENVALUE = .6987E-06 OSCILLATION LIMIT = .2288
 *** AUTO STEP TIME: NEXT TIME INC = .32749E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.8 CRITERION= .2276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4066
 HT FLOW CONVERGENCE VALUE= .1924 CRITERION= .1862
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6243E-01
 HT FLOW CONVERGENCE VALUE= .1144E-01 CRITERION= .1862 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 55
 *** TIME = .823612E+07 TIME INC = 327492.
 *** RESPONSE EIGENVALUE = .1895E-05 OSCILLATION LIMIT = .6207
 *** AUTO STEP TIME: NEXT TIME INC = .32749E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.9 CRITERION= .2276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4049
 HT FLOW CONVERGENCE VALUE= .1847 CRITERION= .1861 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 56
 *** TIME = .856362E+07 TIME INC = 327492.
 *** RESPONSE EIGENVALUE = .8034E-06 OSCILLATION LIMIT = .2631
 *** AUTO TIME STEP: NEXT TIME INC = .62232E+06 INCREASED (FACTOR = 1.9003)

HT FLOW CONVERGENCE VALUE= 248.6 CRITERION= .3106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7714
 HT FLOW CONVERGENCE VALUE= .3662 CRITERION= .1860
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1270
 HT FLOW CONVERGENCE VALUE= .2285E-01 CRITERION= .1859 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 58
 *** TIME = .918594E+07 TIME INC = 622325.
 *** RESPONSE EIGENVALUE = .1368E-05 OSCILLATION LIMIT = .8513
 *** AUTO TIME STEP: NEXT TIME INC = .28137E+06 DECREASED (FACTOR = .4521)

HT FLOW CONVERGENCE VALUE= 112.5 CRITERION= .2173

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3479
HT FLOW CONVERGENCE VALUE= .1594 CRITERION= .1858 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 59
*** TIME = .946731E+07 TIME INC = 281370.
*** RESPONSE EIGENVALUE = .9661E-06 OSCILLATION LIMIT = .2718

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:12:19 JUN 27, 1995 CP= 1912.680
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 86.80 CRITERION= .2051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2708
HT FLOW CONVERGENCE VALUE= .1321 CRITERION= .1858 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 60
*** TIME = .974868E+07 TIME INC = 281370.
*** RESPONSE EIGENVALUE = .6509E-06 OSCILLATION LIMIT = .1831
*** AUTO STEP TIME: NEXT TIME INC = .28137E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 86.86 CRITERION= .2051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2687
HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .1857 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 61
*** TIME = .100301E+08 TIME INC = 281370.
*** RESPONSE EIGENVALUE = .3019E-05 OSCILLATION LIMIT = .8494
*** AUTO TIME STEP: NEXT TIME INC = .16563E+06 DECREASED (FACTOR = .5886)

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HT FLOW CONVERGENCE VALUE= 51.11 CRITERION= .1926
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1594
HT FLOW CONVERGENCE VALUE= .7724E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 62
*** TIME = .101957E+08 TIME INC = 165628.
*** RESPONSE EIGENVALUE = .1065E-05 OSCILLATION LIMIT = .1763
*** AUTO STEP TIME: NEXT TIME INC = .16563E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 51.16 CRITERION= .1925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1581
HT FLOW CONVERGENCE VALUE= .6929E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 63
*** TIME = .103613E+08 TIME INC = 165628.
*** RESPONSE EIGENVALUE = .2954E-05 OSCILLATION LIMIT = .4893
*** AUTO STEP TIME: NEXT TIME INC = .16563E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 51.11 CRITERION= .1925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1586
HT FLOW CONVERGENCE VALUE= .7597E-01 CRITERION= .1855 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 64
*** TIME = .105269E+08 TIME INC = 165628.
*** RESPONSE EIGENVALUE = .1009E-05 OSCILLATION LIMIT = .1671
*** AUTO TIME STEP: NEXT TIME INC = .49568E+06 INCREASED (FACTOR = 2.9927)

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HT FLOW CONVERGENCE VALUE= 153.0 CRITERION= .2404
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4733
HT FLOW CONVERGENCE VALUE= .2174 CRITERION= .1854
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7228E-01
HT FLOW CONVERGENCE VALUE= .1340E-01 CRITERION= .1854 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 66
*** TIME = .110226E+08 TIME INC = 495684.

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*** RESPONSE EIGENVALUE = .1820E-05  OSCILLATION LIMIT = .9023
*** AUTO TIME STEP: NEXT TIME INC = .27467E+06  DECREASED (FACTOR = .5541)

HT FLOW CONVERGENCE VALUE= 84.77  CRITERION= .2038
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2623
HT FLOW CONVERGENCE VALUE= .1237  CRITERION= .1853  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 67
*** TIME = .112973E+08  TIME INC = 274669.
*** RESPONSE EIGENVALUE = .3580E-06  OSCILLATION LIMIT = .9833E-01
*** AUTO STEP TIME: NEXT TIME INC = .27467E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 84.83  CRITERION= .2038
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2628
HT FLOW CONVERGENCE VALUE= .1168  CRITERION= .1852  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 68
*** TIME = .115720E+08  TIME INC = 274669.
*** RESPONSE EIGENVALUE = .1177E-05  OSCILLATION LIMIT = .3234
*** AUTO STEP TIME: NEXT TIME INC = .27467E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 84.79  CRITERION= .2037
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2624
HT FLOW CONVERGENCE VALUE= .1174  CRITERION= .1851  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 69
*** TIME = .118466E+08  TIME INC = 274669.
*** RESPONSE EIGENVALUE = .1491E-05  OSCILLATION LIMIT = .4096
*** AUTO STEP TIME: NEXT TIME INC = .27467E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 84.84  CRITERION= .2036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2626
HT FLOW CONVERGENCE VALUE= .1155  CRITERION= .1851  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 70
*** TIME = .121213E+08  TIME INC = 274669.
*** RESPONSE EIGENVALUE = .1150E-05  OSCILLATION LIMIT = .3158
*** AUTO STEP TIME: NEXT TIME INC = .27467E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 84.80  CRITERION= .2036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2623
HT FLOW CONVERGENCE VALUE= .1163  CRITERION= .1849  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 71
*** TIME = .123960E+08  TIME INC = 274669.
*** RESPONSE EIGENVALUE = .1418E-05  OSCILLATION LIMIT = .3896
*** AUTO TIME STEP: NEXT TIME INC = .22711E+06  DECREASED (FACTOR = .8268)

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HT FLOW CONVERGENCE VALUE= 70.17  CRITERION= .1978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2171
HT FLOW CONVERGENCE VALUE= .9471E-01  CRITERION= .1849  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 72
*** TIME = .126231E+08  TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1410E-05  OSCILLATION LIMIT = .3201

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX  10:29:00 JUN 27, 1995 CP= 2409.770
FOR SUPPORT CALL ROBERT BAHNEY  PHONE (702) 794-5337  FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 57.38  CRITERION= .1936
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777
HT FLOW CONVERGENCE VALUE= .7891E-01  CRITERION= .1848  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      8  SUBSTEP      1  COMPLETED.    CUM ITER =    73
*** TIME = .128502E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1805E-05    OSCILLATION LIMIT = .4099
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.42    CRITERION= .1935
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7685E-01 CRITERION= .1848    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      2  COMPLETED.    CUM ITER =    74
*** TIME = .130773E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1663E-05    OSCILLATION LIMIT = .3776
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.38    CRITERION= .1935
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7931E-01 CRITERION= .1847    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      3  COMPLETED.    CUM ITER =    75
*** TIME = .133044E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1512E-05    OSCILLATION LIMIT = .3435
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.42    CRITERION= .1934
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7701E-01 CRITERION= .1846    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      4  COMPLETED.    CUM ITER =    76
*** TIME = .135315E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1554E-05    OSCILLATION LIMIT = .3529
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.39    CRITERION= .1934
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7888E-01 CRITERION= .1846    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      5  COMPLETED.    CUM ITER =    77
*** TIME = .137586E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1555E-05    OSCILLATION LIMIT = .3533
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.43    CRITERION= .1933
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7706E-01 CRITERION= .1845    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      6  COMPLETED.    CUM ITER =    78
*** TIME = .139857E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1483E-05    OSCILLATION LIMIT = .3367
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.39    CRITERION= .1932
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7866E-01 CRITERION= .1844    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      7  COMPLETED.    CUM ITER =    79
*** TIME = .142128E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1566E-05    OSCILLATION LIMIT = .3557
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.43    CRITERION= .1932
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
    HT FLOW CONVERGENCE VALUE= .7704E-01 CRITERION= .1844    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP      8  COMPLETED.    CUM ITER =    80
*** TIME = .144399E+08    TIME INC = 227107.
*** RESPONSE EIGENVALUE = .1441E-05    OSCILLATION LIMIT = .3273
*** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.39    CRITERION= .1931
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775

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HT FLOW CONVERGENCE VALUE= .7837E-01 CRITERION= .1843 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 81
 *** TIME = .146670E+08 TIME INC = 227107.
 *** RESPONSE EIGENVALUE = .1560E-05 OSCILLATION LIMIT = .3544
 *** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.43 CRITERION= .1930
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
 HT FLOW CONVERGENCE VALUE= .7698E-01 CRITERION= .1842 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 82
 *** TIME = .148941E+08 TIME INC = 227107.
 *** RESPONSE EIGENVALUE = .1414E-05 OSCILLATION LIMIT = .3211
 *** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.39 CRITERION= .1930
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
 HT FLOW CONVERGENCE VALUE= .7824E-01 CRITERION= .1842 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 83
 *** TIME = .151213E+08 TIME INC = 227107.
 *** RESPONSE EIGENVALUE = .1548E-05 OSCILLATION LIMIT = .3515
 *** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.43 CRITERION= .1929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
 HT FLOW CONVERGENCE VALUE= .7701E-01 CRITERION= .1841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 84
 *** TIME = .153484E+08 TIME INC = 227107.
 *** RESPONSE EIGENVALUE = .1395E-05 OSCILLATION LIMIT = .3167
 *** AUTO STEP TIME: NEXT TIME INC = .22711E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.39 CRITERION= .1928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1775
 HT FLOW CONVERGENCE VALUE= .7817E-01 CRITERION= .1840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 85
 *** TIME = .155755E+08 TIME INC = 227107.
 *** RESPONSE EIGENVALUE = .1532E-05 OSCILLATION LIMIT = .3480
 *** AUTO TIME STEP: NEXT TIME INC = .20336E+06 DECREASED (FACTOR = .8954)

HT FLOW CONVERGENCE VALUE= 51.43 CRITERION= .1911
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1589
 HT FLOW CONVERGENCE VALUE= .6870E-01 CRITERION= .1840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 86
 *** TIME = .157788E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1519E-05 OSCILLATION LIMIT = .3089

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:47:54 JUN 27, 1995 CP= 2967.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1354
 HT FLOW CONVERGENCE VALUE= .5941E-01 CRITERION= .1839 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 87
 *** TIME = .159822E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1828E-05 OSCILLATION LIMIT = .3718
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5779E-01 CRITERION= .1839 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 88
 *** TIME = .161856E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1825E-05 OSCILLATION LIMIT = .3711
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1890
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1353
 HT FLOW CONVERGENCE VALUE= .5938E-01 CRITERION= .1838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 89
 *** TIME = .163889E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1637E-05 OSCILLATION LIMIT = .3330
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1889
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5801E-01 CRITERION= .1838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 90
 *** TIME = .165923E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1697E-05 OSCILLATION LIMIT = .3452
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1889
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5928E-01 CRITERION= .1837 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 91
 *** TIME = .167956E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1698E-05 OSCILLATION LIMIT = .3453
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1888
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5811E-01 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 92
 *** TIME = .169990E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1627E-05 OSCILLATION LIMIT = .3309
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1888
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5914E-01 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 93
 *** TIME = .172024E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1715E-05 OSCILLATION LIMIT = .3487
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1887
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5814E-01 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 94
 *** TIME = .174057E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1591E-05 OSCILLATION LIMIT = .3235
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1887
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5903E-01 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 95
 *** TIME = .176091E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1711E-05 OSCILLATION LIMIT = .3480

*** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1886
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5816E-01 CRITERION= .1834 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 96
 *** TIME = .178125E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1570E-05 OSCILLATION LIMIT = .3192
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1886
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5895E-01 CRITERION= .1834 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 97
 *** TIME = .180158E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = .3458
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1885
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5814E-01 CRITERION= .1833 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 98
 *** TIME = .182192E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1556E-05 OSCILLATION LIMIT = .3165
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1885
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5887E-01 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 99
 *** TIME = .184226E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1687E-05 OSCILLATION LIMIT = .3431
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1884
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5813E-01 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 100
 *** TIME = .186259E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1547E-05 OSCILLATION LIMIT = .3146
 *** AUTO STEP TIME: NEXT TIME INC = .20336E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1883
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1352
 HT FLOW CONVERGENCE VALUE= .5881E-01 CRITERION= .1831 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 101
 *** TIME = .188293E+08 TIME INC = 203363.
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = .3403
 *** AUTO TIME STEP: NEXT TIME INC = .10531E+06 DECREASED (FACTOR = .5179)

HT FLOW CONVERGENCE VALUE= 22.68 CRITERION= .1845
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7003E-01
 HT FLOW CONVERGENCE VALUE= .2940E-01 CRITERION= .1831 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 102
 *** TIME = .189346E+08 TIME INC = 105315.
 *** RESPONSE EIGENVALUE = .2738E-05 OSCILLATION LIMIT = .2884

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:10:03 JUN 27, 1995 CP= 3603.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 19.82 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6134E-01
 HT FLOW CONVERGENCE VALUE= .2651E-01 CRITERION= .1831 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 103
 *** TIME = .190399E+08 TIME INC = 105315.
 *** RESPONSE EIGENVALUE = .2472E-05 OSCILLATION LIMIT = .2603
 *** AUTO STEP TIME: NEXT TIME INC = .10531E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.84 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6128E-01
 HT FLOW CONVERGENCE VALUE= .2602E-01 CRITERION= .1831 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 104
 *** TIME = .191452E+08 TIME INC = 105315.
 *** RESPONSE EIGENVALUE = .1911E-05 OSCILLATION LIMIT = .2012
 *** AUTO TIME STEP: NEXT TIME INC = .26171E+06 INCREASED (FACTOR = 2.4850)

HT FLOW CONVERGENCE VALUE= 49.24 CRITERION= .1896
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6675E-01 CRITERION= .1830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 105
 *** TIME = .194069E+08 TIME INC = 261706.
 *** RESPONSE EIGENVALUE = .1165E-05 OSCILLATION LIMIT = .3050
 *** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.26 CRITERION= .1895
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6533E-01 CRITERION= .1829 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 106
 *** TIME = .196686E+08 TIME INC = 261706.
 *** RESPONSE EIGENVALUE = .1605E-05 OSCILLATION LIMIT = .4199
 *** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.24 CRITERION= .1894
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .1828 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 107
 *** TIME = .199303E+08 TIME INC = 261706.
 *** RESPONSE EIGENVALUE = .1963E-05 OSCILLATION LIMIT = .5137
 *** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.26 CRITERION= .1894
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6520E-01 CRITERION= .1828 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 108
 *** TIME = .201920E+08 TIME INC = 261706.
 *** RESPONSE EIGENVALUE = .1618E-05 OSCILLATION LIMIT = .4235
 *** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.24 CRITERION= .1893
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6543E-01 CRITERION= .1827 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 109
 *** TIME = .204538E+08 TIME INC = 261706.
 *** RESPONSE EIGENVALUE = .1891E-05 OSCILLATION LIMIT = .4950
 *** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.26 CRITERION= .1892
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
 HT FLOW CONVERGENCE VALUE= .6509E-01 CRITERION= .1826 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 110
*** TIME = .207155E+08 TIME INC = 261706.
*** RESPONSE EIGENVALUE = .1659E-05 OSCILLATION LIMIT = .4342
*** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.24 CRITERION= .1891
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
HT FLOW CONVERGENCE VALUE= .6542E-01 CRITERION= .1826 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 111
*** TIME = .209772E+08 TIME INC = 261706.
*** RESPONSE EIGENVALUE = .1848E-05 OSCILLATION LIMIT = .4837
*** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.26 CRITERION= .1891
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
HT FLOW CONVERGENCE VALUE= .6488E-01 CRITERION= .1825 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 112
*** TIME = .212389E+08 TIME INC = 261706.
*** RESPONSE EIGENVALUE = .1680E-05 OSCILLATION LIMIT = .4398
*** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.24 CRITERION= .1890
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
HT FLOW CONVERGENCE VALUE= .6543E-01 CRITERION= .1824 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 113
*** TIME = .215006E+08 TIME INC = 261706.
*** RESPONSE EIGENVALUE = .1822E-05 OSCILLATION LIMIT = .4767
*** AUTO STEP TIME: NEXT TIME INC = .26171E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.26 CRITERION= .1889
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1523
HT FLOW CONVERGENCE VALUE= .6498E-01 CRITERION= .1823 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 114
*** TIME = .217623E+08 TIME INC = 261706.
*** RESPONSE EIGENVALUE = .1690E-05 OSCILLATION LIMIT = .4422
*** AUTO STEP TIME: NEXT TIME INC = .16403E+06 DECREASED (FACTOR = .6268)

HT FLOW CONVERGENCE VALUE= 30.87 CRITERION= .1849
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9550E-01
HT FLOW CONVERGENCE VALUE= .4049E-01 CRITERION= .1823 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 115
*** TIME = .219263E+08 TIME INC = 164034.
*** RESPONSE EIGENVALUE = .2695E-05 OSCILLATION LIMIT = .4420
*** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.89 CRITERION= .1849
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9545E-01
HT FLOW CONVERGENCE VALUE= .4042E-01 CRITERION= .1822 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 116
*** TIME = .220904E+08 TIME INC = 164034.
*** RESPONSE EIGENVALUE = .1910E-05 OSCILLATION LIMIT = .3133

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:29:57 JUN 27, 1995 CP= 4170.040
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1843

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8578E-01
 HT FLOW CONVERGENCE VALUE= .3700E-01 CRITERION= .1822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 117
 *** TIME = .222544E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1829E-05 OSCILLATION LIMIT = .3000
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3597E-01 CRITERION= .1822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 118
 *** TIME = .224184E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = .3671
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8571E-01
 HT FLOW CONVERGENCE VALUE= .3687E-01 CRITERION= .1821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 119
 *** TIME = .225825E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1853E-05 OSCILLATION LIMIT = .3040
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3616E-01 CRITERION= .1821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 120
 *** TIME = .227465E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .2037E-05 OSCILLATION LIMIT = .3342
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8568E-01
 HT FLOW CONVERGENCE VALUE= .3673E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 121
 *** TIME = .229105E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1959E-05 OSCILLATION LIMIT = .3213
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1841
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3622E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 122
 *** TIME = .230746E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1958E-05 OSCILLATION LIMIT = .3213
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1841
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8567E-01
 HT FLOW CONVERGENCE VALUE= .3666E-01 CRITERION= .1819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 123
 *** TIME = .232386E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1990E-05 OSCILLATION LIMIT = .3265
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3624E-01 CRITERION= .1819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 124
 *** TIME = .234026E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1928E-05 OSCILLATION LIMIT = .3162
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8566E-01
 HT FLOW CONVERGENCE VALUE= .3662E-01 CRITERION= .1819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 125
 *** TIME = .235667E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1995E-05 OSCILLATION LIMIT = .3272
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3625E-01 CRITERION= .1818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 126
 *** TIME = .237307E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1914E-05 OSCILLATION LIMIT = .3140
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3658E-01 CRITERION= .1818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 127
 *** TIME = .238947E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1989E-05 OSCILLATION LIMIT = .3263
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3624E-01 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 128
 *** TIME = .240588E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1907E-05 OSCILLATION LIMIT = .3128
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3656E-01 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 129
 *** TIME = .242228E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1981E-05 OSCILLATION LIMIT = .3250
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3624E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 130
 *** TIME = .243868E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1902E-05 OSCILLATION LIMIT = .3120
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1837
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3652E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 131
 *** TIME = .245509E+08 TIME INC = 164034.
 *** RESPONSE EIGENVALUE = .1973E-05 OSCILLATION LIMIT = .3236
 *** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1837
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
 HT FLOW CONVERGENCE VALUE= .3624E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 132
 *** TIME = .247149E+08 TIME INC = 164034.

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*** RESPONSE EIGENVALUE = .1898E-05 OSCILLATION LIMIT = .3113
*** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.70 CRITERION= .1837
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
HT FLOW CONVERGENCE VALUE= .3650E-01 CRITERION= .1815 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 133
*** TIME = .248789E+08 TIME INC = 164034.
*** RESPONSE EIGENVALUE = .1965E-05 OSCILLATION LIMIT = .3222
*** AUTO STEP TIME: NEXT TIME INC = .16403E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 27.72 CRITERION= .1836
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8565E-01
HT FLOW CONVERGENCE VALUE= .3623E-01 CRITERION= .1815 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 134
*** TIME = .250430E+08 TIME INC = 164034.
*** RESPONSE EIGENVALUE = .1895E-05 OSCILLATION LIMIT = .3108
*** AUTO TIME STEP: NEXT TIME INC = .10158E+06 DECREASED (FACTOR = .6192)

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HT FLOW CONVERGENCE VALUE= 17.16 CRITERION= .1823
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5313E-01
HT FLOW CONVERGENCE VALUE= .2235E-01 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 135
*** TIME = .251445E+08 TIME INC = 101575.
*** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = .2871
*** AUTO STEP TIME: NEXT TIME INC = .10158E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 17.17 CRITERION= .1822
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5304E-01
HT FLOW CONVERGENCE VALUE= .2223E-01 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 136
*** TIME = .252461E+08 TIME INC = 101575.
*** RESPONSE EIGENVALUE = .2246E-05 OSCILLATION LIMIT = .2281

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:57:44 JUN 27, 1995 CP= 4973.830
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 15.55 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4824E-01
HT FLOW CONVERGENCE VALUE= .2064E-01 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 137
*** TIME = .253477E+08 TIME INC = 101575.
*** RESPONSE EIGENVALUE = .1921E-05 OSCILLATION LIMIT = .1951
*** AUTO STEP TIME: NEXT TIME INC = .10158E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 15.57 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4809E-01
HT FLOW CONVERGENCE VALUE= .2004E-01 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 138
*** TIME = .254493E+08 TIME INC = 101575.
*** RESPONSE EIGENVALUE = .2495E-05 OSCILLATION LIMIT = .2534
*** AUTO TIME STEP: NEXT TIME INC = .20040E+06 INCREASED (FACTOR = 1.9729)

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HT FLOW CONVERGENCE VALUE= 30.68 CRITERION= .1839
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9487E-01
HT FLOW CONVERGENCE VALUE= .4072E-01 CRITERION= .1813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 139
*** TIME = .256497E+08 TIME INC = 200399.
*** RESPONSE EIGENVALUE = .1482E-05 OSCILLATION LIMIT = .2970
*** AUTO TIME STEP: NEXT TIME INC = .33732E+06 INCREASED (FACTOR = 1.6833)

HT FLOW CONVERGENCE VALUE= 51.65 CRITERION= .1885
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1597
HT FLOW CONVERGENCE VALUE= .6806E-01 CRITERION= .1812 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 140
*** TIME = .259870E+08 TIME INC = 337324.
*** RESPONSE EIGENVALUE = .1521E-05 OSCILLATION LIMIT = .5131
*** AUTO STEP TIME: NEXT TIME INC = .33732E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.63 CRITERION= .1884
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1597
HT FLOW CONVERGENCE VALUE= .6746E-01 CRITERION= .1811 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 141
*** TIME = .263243E+08 TIME INC = 337324.
*** RESPONSE EIGENVALUE = .2093E-05 OSCILLATION LIMIT = .7059
*** AUTO TIME STEP: NEXT TIME INC = .23893E+06 DECREASED (FACTOR = .7083)

HT FLOW CONVERGENCE VALUE= 36.59 CRITERION= .1848
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
HT FLOW CONVERGENCE VALUE= .4702E-01 CRITERION= .1811 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 142
*** TIME = .265632E+08 TIME INC = 238925.
*** RESPONSE EIGENVALUE = .2681E-05 OSCILLATION LIMIT = .6405
*** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
HT FLOW CONVERGENCE VALUE= .4765E-01 CRITERION= .1810 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 143
*** TIME = .268022E+08 TIME INC = 238925.
*** RESPONSE EIGENVALUE = .2157E-05 OSCILLATION LIMIT = .5154
*** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.59 CRITERION= .1847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
HT FLOW CONVERGENCE VALUE= .4759E-01 CRITERION= .1809 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 144
*** TIME = .270411E+08 TIME INC = 238925.
*** RESPONSE EIGENVALUE = .1983E-05 OSCILLATION LIMIT = .4738
*** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1846
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
HT FLOW CONVERGENCE VALUE= .4764E-01 CRITERION= .1809 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 145
*** TIME = .272800E+08 TIME INC = 238925.
*** RESPONSE EIGENVALUE = .2153E-05 OSCILLATION LIMIT = .5143
*** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.59 CRITERION= .1845
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
HT FLOW CONVERGENCE VALUE= .4749E-01 CRITERION= .1808 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 146
*** TIME = .275189E+08 TIME INC = 238925.
*** RESPONSE EIGENVALUE = .2018E-05 OSCILLATION LIMIT = .4821
*** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1845
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131

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HT FLOW CONVERGENCE VALUE= .4795E-01 CRITERION= .1808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 147
 *** TIME = .277579E+08 TIME INC = 238925.
 *** RESPONSE EIGENVALUE = .2118E-05 OSCILLATION LIMIT = .5060
 *** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.59 CRITERION= .1844
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
 HT FLOW CONVERGENCE VALUE= .4831E-01 CRITERION= .1807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 148
 *** TIME = .279968E+08 TIME INC = 238925.
 *** RESPONSE EIGENVALUE = .2035E-05 OSCILLATION LIMIT = .4863
 *** AUTO STEP TIME: NEXT TIME INC = .23893E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1844
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1131
 HT FLOW CONVERGENCE VALUE= .4847E-01 CRITERION= .1806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 149
 *** TIME = .282357E+08 TIME INC = 238925.
 *** RESPONSE EIGENVALUE = .2101E-05 OSCILLATION LIMIT = .5019
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 DECREASED (FACTOR = .6954)

HT FLOW CONVERGENCE VALUE= 25.45 CRITERION= .1824
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7866E-01
 HT FLOW CONVERGENCE VALUE= .3319E-01 CRITERION= .1806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 150
 *** TIME = .284019E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2629E-05 OSCILLATION LIMIT = .4369
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 102.41 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 103.11 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 104.60 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 5537.230 TIME= 12:17:04
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 12:17:04 JUN 27, 1995 CP= 5537.230
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 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= 23.52 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7275E-01
HT FLOW CONVERGENCE VALUE= .3103E-01 CRITERION= .1806 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 151
*** TIME = .285680E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2406E-05 OSCILLATION LIMIT = .3997
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.53 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .1805 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 152
*** TIME = .287342E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2252E-05 OSCILLATION LIMIT = .3742
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.52 CRITERION= .1820
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7275E-01
HT FLOW CONVERGENCE VALUE= .3109E-01 CRITERION= .1805 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 153
*** TIME = .289003E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2282E-05 OSCILLATION LIMIT = .3791
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.53 CRITERION= .1820
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
 HT FLOW CONVERGENCE VALUE= .3085E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 154
 *** TIME = .290665E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2250E-05 OSCILLATION LIMIT = .3739
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.52 CRITERION= .1819
 EQUIL ITER, 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7275E-01
 HT FLOW CONVERGENCE VALUE= .3107E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 155
 *** TIME = .292327E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2281E-05 OSCILLATION LIMIT = .3791
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.53 CRITERION= .1819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
 HT FLOW CONVERGENCE VALUE= .3084E-01 CRITERION= .1803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 156
 *** TIME = .293988E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2244E-05 OSCILLATION LIMIT = .3729
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.52 CRITERION= .1819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7274E-01
 HT FLOW CONVERGENCE VALUE= .3105E-01 CRITERION= .1803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 157
 *** TIME = .295650E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2278E-05 OSCILLATION LIMIT = .3786
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.53 CRITERION= .1818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
 HT FLOW CONVERGENCE VALUE= .3084E-01 CRITERION= .1802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 158
 *** TIME = .297311E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2241E-05 OSCILLATION LIMIT = .3723
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.52 CRITERION= .1818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7274E-01
 HT FLOW CONVERGENCE VALUE= .3104E-01 CRITERION= .1802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 159
 *** TIME = .298973E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2274E-05 OSCILLATION LIMIT = .3779
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.53 CRITERION= .1817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
 HT FLOW CONVERGENCE VALUE= .3084E-01 CRITERION= .1802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 160
 *** TIME = .300635E+08 TIME INC = 166158.
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = .3718
 *** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.52 CRITERION= .1817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
 HT FLOW CONVERGENCE VALUE= .3102E-01 CRITERION= .1801 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 161
 *** TIME = .302296E+08 TIME INC = 166158.

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*** RESPONSE EIGENVALUE = .2270E-05  OSCILLATION LIMIT = .3772
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.53  CRITERION= .1817
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .1801  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 162
*** TIME = .303958E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2236E-05  OSCILLATION LIMIT = .3715
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.52  CRITERION= .1816
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3100E-01 CRITERION= .1800  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 163
*** TIME = .305619E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2265E-05  OSCILLATION LIMIT = .3764
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.53  CRITERION= .1816
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3082E-01 CRITERION= .1800  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 164
*** TIME = .307281E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2233E-05  OSCILLATION LIMIT = .3711
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.52  CRITERION= .1815
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3098E-01 CRITERION= .1800  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 165
*** TIME = .308942E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2261E-05  OSCILLATION LIMIT = .3757
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.53  CRITERION= .1815
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3081E-01 CRITERION= .1799  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 166
*** TIME = .310604E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2231E-05  OSCILLATION LIMIT = .3707
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.52  CRITERION= .1814
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3097E-01 CRITERION= .1799  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 167
*** TIME = .312266E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2256E-05  OSCILLATION LIMIT = .3749
*** AUTO STEP TIME: NEXT TIME INC = .16616E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.53  CRITERION= .1814
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7273E-01
  HT FLOW CONVERGENCE VALUE= .3080E-01 CRITERION= .1798  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 168
*** TIME = .313927E+08 TIME INC = 166158.
*** RESPONSE EIGENVALUE = .2228E-05  OSCILLATION LIMIT = .3702
*** AUTO STEP TIME: NEXT TIME INC = .16491E+06 DECREASED (FACTOR = .9925)

  HT FLOW CONVERGENCE VALUE= 23.34  CRITERION= .1813
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7218E-01
  HT FLOW CONVERGENCE VALUE= .3071E-01 CRITERION= .1798  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 169
 *** TIME = .315576E+08 TIME INC = 164910.
 *** RESPONSE EIGENVALUE = .2262E-05 OSCILLATION LIMIT = .3731

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:43:56 JUN 27, 1995 CP= 6304.610
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 170
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1479E-05 OSCILLATION LIMIT = 1.167
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 171
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2708E-05 OSCILLATION LIMIT = 2.136
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1092 CRITERION= .1793 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 172
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2490E-05 OSCILLATION LIMIT = 1.965
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1110 CRITERION= .1791 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 173
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2602E-05 OSCILLATION LIMIT = 2.053
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1131 CRITERION= .1790 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 174
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2499E-05 OSCILLATION LIMIT = 1.971
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1128 CRITERION= .1788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 175
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2589E-05 OSCILLATION LIMIT = 2.043
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1145 CRITERION= .1786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 176
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2501E-05 OSCILLATION LIMIT = 1.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1141 CRITERION= .1784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 177
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2575E-05 OSCILLATION LIMIT = 2.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1143 CRITERION= .1783 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 178
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2501E-05 OSCILLATION LIMIT = 1.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1140 CRITERION= .1781 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 179
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2559E-05 OSCILLATION LIMIT = 2.019
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1140 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 180
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2498E-05 OSCILLATION LIMIT = 1.971
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1138 CRITERION= .1778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 181
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2546E-05 OSCILLATION LIMIT = 2.008
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1138 CRITERION= .1776 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 182
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2495E-05 OSCILLATION LIMIT = 1.968
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .1774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 183
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2534E-05 OSCILLATION LIMIT = 1.999

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1963
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .1773 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 184
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2492E-05 OSCILLATION LIMIT = 1.966
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1134 CRITERION= .1771 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 185
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2524E-05 OSCILLATION LIMIT = 1.991
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1960
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1148 CRITERION= .1769 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 186
*** TIME = .449696E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2488E-05 OSCILLATION LIMIT = 1.963
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1958
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1160 CRITERION= .1767 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 187
*** TIME = .457586E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2516E-05 OSCILLATION LIMIT = 1.985
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1155 CRITERION= .1766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 188
*** TIME = .465475E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2487E-05 OSCILLATION LIMIT = 1.962
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1157 CRITERION= .1764 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 189
*** TIME = .473364E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2509E-05 OSCILLATION LIMIT = 1.979
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .1762 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 190
*** TIME = .481254E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2482E-05 OSCILLATION LIMIT = 1.958
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1155 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 191

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*** TIME = .489143E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2499E-05    OSCILLATION LIMIT = 1.971
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99    CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1154    CRITERION= .1759    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 192
*** TIME = .497033E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2475E-05    OSCILLATION LIMIT = 1.953
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97    CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1153    CRITERION= .1757    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 193
*** TIME = .504922E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2489E-05    OSCILLATION LIMIT = 1.964
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99    CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1151    CRITERION= .1756    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 194
*** TIME = .512811E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2470E-05    OSCILLATION LIMIT = 1.948
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97    CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1193    CRITERION= .1754    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 195
*** TIME = .520701E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2481E-05    OSCILLATION LIMIT = 1.957
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99    CRITERION= .1944
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1198    CRITERION= .1752    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 196
*** TIME = .528590E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2468E-05    OSCILLATION LIMIT = 1.947
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97    CRITERION= .1943
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1204    CRITERION= .1750    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 197
*** TIME = .536480E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2478E-05    OSCILLATION LIMIT = 1.955
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99    CRITERION= .1941
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1217    CRITERION= .1749    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 198
*** TIME = .544369E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2467E-05    OSCILLATION LIMIT = 1.946
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97    CRITERION= .1940
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1214    CRITERION= .1747    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 199
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2476E-05 OSCILLATION LIMIT = 1.953
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1938
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1213 CRITERION= .1745 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 200
*** TIME = .560148E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2463E-05 OSCILLATION LIMIT = 1.943
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1937
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1212 CRITERION= .1744 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 201
*** TIME = .568037E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2469E-05 OSCILLATION LIMIT = 1.948
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1935
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1212 CRITERION= .1742 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 202
*** TIME = .575927E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2458E-05 OSCILLATION LIMIT = 1.939
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1934
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1210 CRITERION= .1740 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 203
*** TIME = .583816E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2460E-05 OSCILLATION LIMIT = 1.941
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1932
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1211 CRITERION= .1739 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 204
*** TIME = .591705E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2448E-05 OSCILLATION LIMIT = 1.932
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1931
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1220 CRITERION= .1737 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 205
*** TIME = .599595E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2451E-05 OSCILLATION LIMIT = 1.934
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1221 CRITERION= .1735 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 206
*** TIME = .607484E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2442E-05 OSCILLATION LIMIT = 1.927
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1928

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1220 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 207
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2445E-05 OSCILLATION LIMIT = 1.929
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .1926
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1219 CRITERION= .1732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 208
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2436E-05 OSCILLATION LIMIT = 1.922
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.97 CRITERION= .1925
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1221 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 209
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2439E-05 OSCILLATION LIMIT = 1.924

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:39:47 JUN 27, 1995 CP= 7906.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .7918E-01 CRITERION= .1729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 210
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4186E-05 OSCILLATION LIMIT = 3.303
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .7914E-01 CRITERION= .1727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 211
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3856E-05 OSCILLATION LIMIT = 3.042
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8067E-01 CRITERION= .1726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 212
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3149E-05 OSCILLATION LIMIT = 2.485
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1814
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8081E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 213
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3845E-05 OSCILLATION LIMIT = 3.033
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8247E-01 CRITERION= .1723 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 214
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3205E-05 OSCILLATION LIMIT = 2.529
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8164E-01 CRITERION= .1722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 215
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3778E-05 OSCILLATION LIMIT = 2.981
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8228E-01 CRITERION= .1720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 216
 *** TIME = .686378E+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= 55.85 CRITERION= .1809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8218E-01 CRITERION= .1719 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 217
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3720E-05 OSCILLATION LIMIT = 2.935
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8257E-01 CRITERION= .1717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 218
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3287E-05 OSCILLATION LIMIT = 2.593
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8209E-01 CRITERION= .1716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 219
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3672E-05 OSCILLATION LIMIT = 2.897
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8258E-01 CRITERION= .1715 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 220
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 2.613
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1803
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8208E-01 CRITERION= .1713 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 221
 *** TIME = .725825E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .3629E-05 OSCILLATION LIMIT = 2.863
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8335E-01 CRITERION= .1712 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 222
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3334E-05 OSCILLATION LIMIT = 2.630
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1800
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8293E-01 CRITERION= .1710 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 223
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3596E-05 OSCILLATION LIMIT = 2.837
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8323E-01 CRITERION= .1709 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 224
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3351E-05 OSCILLATION LIMIT = 2.644
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1798
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8295E-01 CRITERION= .1707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 225
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3566E-05 OSCILLATION LIMIT = 2.813
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8356E-01 CRITERION= .1706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 226
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3363E-05 OSCILLATION LIMIT = 2.653
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1795
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8322E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 227
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3541E-05 OSCILLATION LIMIT = 2.794
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1793
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8345E-01 CRITERION= .1703 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 228
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3373E-05 OSCILLATION LIMIT = 2.661
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8311E-01 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 229
*** TIME = .788940E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3519E-05 OSCILLATION LIMIT = 2.776
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1791
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8334E-01 CRITERION= .1700 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 230
*** TIME = .796830E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3379E-05 OSCILLATION LIMIT = 2.666
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1790
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8313E-01 CRITERION= .1699 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 231
*** TIME = .804719E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3500E-05 OSCILLATION LIMIT = 2.761
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1788
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8330E-01 CRITERION= .1697 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 232
*** TIME = .812609E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3384E-05 OSCILLATION LIMIT = 2.669
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1787
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8305E-01 CRITERION= .1696 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 233
*** TIME = .820498E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3483E-05 OSCILLATION LIMIT = 2.748
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1785
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8326E-01 CRITERION= .1694 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 234
*** TIME = .828387E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3385E-05 OSCILLATION LIMIT = 2.671
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1784
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8312E-01 CRITERION= .1693 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 235
*** TIME = .836277E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3468E-05 OSCILLATION LIMIT = 2.736
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1783
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
HT FLOW CONVERGENCE VALUE= .8333E-01 CRITERION= .1692 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 236
*** TIME = .844166E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3387E-05 OSCILLATION LIMIT = 2.672
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1781
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728

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HT FLOW CONVERGENCE VALUE= .8303E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 237
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3455E-05 OSCILLATION LIMIT = 2.726
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8313E-01 CRITERION= .1689 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 238
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3386E-05 OSCILLATION LIMIT = 2.672
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8281E-01 CRITERION= .1687 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 239
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3443E-05 OSCILLATION LIMIT = 2.716
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8313E-01 CRITERION= .1686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 240
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3383E-05 OSCILLATION LIMIT = 2.669
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1776
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8303E-01 CRITERION= .1684 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 241
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3429E-05 OSCILLATION LIMIT = 2.705
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8337E-01 CRITERION= .1683 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 242
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3380E-05 OSCILLATION LIMIT = 2.667
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8339E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 243
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3419E-05 OSCILLATION LIMIT = 2.697
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8344E-01 CRITERION= .1680 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 244
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3376E-05 OSCILLATION LIMIT = 2.664
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8323E-01 CRITERION= .1678 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 245
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3409E-05 OSCILLATION LIMIT = 2.689
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8338E-01 CRITERION= .1677 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 246
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3373E-05 OSCILLATION LIMIT = 2.661
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8334E-01 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 247
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3400E-05 OSCILLATION LIMIT = 2.682
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.88 CRITERION= .1766
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8358E-01 CRITERION= .1674 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 248
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3369E-05 OSCILLATION LIMIT = 2.658
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1765
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1728
 HT FLOW CONVERGENCE VALUE= .8340E-01 CRITERION= .1673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 249
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3391E-05 OSCILLATION LIMIT = 2.675

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:34:37 JUN 27, 1995 CP= 9496.050
 FOR SUPPORT CALL, ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6103E-01 CRITERION= .1672 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 250
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4699E-05 OSCILLATION LIMIT = 3.708
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6084E-01 CRITERION= .1670 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 251
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4507E-05 OSCILLATION LIMIT = 3.556

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6134E-01 CRITERION= .1669 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 252
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3971E-05 OSCILLATION LIMIT = 3.133
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6080E-01 CRITERION= .1668 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 253
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4494E-05 OSCILLATION LIMIT = 3.545
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6123E-01 CRITERION= .1667 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 254
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4009E-05 OSCILLATION LIMIT = 3.163
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6072E-01 CRITERION= .1665 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 255
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4441E-05 OSCILLATION LIMIT = 3.504
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6108E-01 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 256
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4040E-05 OSCILLATION LIMIT = 3.187
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1715
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6063E-01 CRITERION= .1663 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 257
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4397E-05 OSCILLATION LIMIT = 3.469
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6094E-01 CRITERION= .1662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 258
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4065E-05 OSCILLATION LIMIT = 3.207
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6059E-01 CRITERION= .1660 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 259

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*** TIME = .102562E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4360E-05    OSCILLATION LIMIT = 3.440
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.41    CRITERION= .1711
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6090E-01 CRITERION= .1659    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 260
*** TIME = .103351E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4083E-05    OSCILLATION LIMIT = 3.221
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.38    CRITERION= .1710
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6053E-01 CRITERION= .1658    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 261
*** TIME = .104140E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4328E-05    OSCILLATION LIMIT = 3.414
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.41    CRITERION= .1709
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6096E-01 CRITERION= .1657    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 262
*** TIME = .104929E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4098E-05    OSCILLATION LIMIT = 3.233
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.38    CRITERION= .1708
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6140E-01 CRITERION= .1655    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 263
*** TIME = .105718E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4301E-05    OSCILLATION LIMIT = 3.393
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.41    CRITERION= .1706
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6184E-01 CRITERION= .1655    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 264
*** TIME = .106507E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4107E-05    OSCILLATION LIMIT = 3.240
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.38    CRITERION= .1705
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6151E-01 CRITERION= .1653    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 265
*** TIME = .107296E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4275E-05    OSCILLATION LIMIT = 3.372
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.41    CRITERION= .1704
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6172E-01 CRITERION= .1652    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 266
*** TIME = .108085E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4114E-05    OSCILLATION LIMIT = 3.246
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.38    CRITERION= .1703
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
    HT FLOW CONVERGENCE VALUE= .6170E-01 CRITERION= .1651    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 267
*** TIME = .108874E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4254E-05 OSCILLATION LIMIT = 3.356
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1702
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6220E-01 CRITERION= .1650 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 268
*** TIME = .109663E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4120E-05 OSCILLATION LIMIT = 3.250
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1701
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6192E-01 CRITERION= .1648 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 269
*** TIME = .110452E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4235E-05 OSCILLATION LIMIT = 3.341
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1699
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6210E-01 CRITERION= .1647 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 270
*** TIME = .111241E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4122E-05 OSCILLATION LIMIT = 3.252
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1698
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6182E-01 CRITERION= .1646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 271
*** TIME = .112030E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4219E-05 OSCILLATION LIMIT = 3.329
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6198E-01 CRITERION= .1645 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 272
*** TIME = .112818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4124E-05 OSCILLATION LIMIT = 3.254
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6171E-01 CRITERION= .1643 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 273
*** TIME = .113607E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4205E-05 OSCILLATION LIMIT = 3.317
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6187E-01 CRITERION= .1642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 274
*** TIME = .114396E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4124E-05 OSCILLATION LIMIT = 3.254
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1694

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EQUIL ITER 1 COMPLETEJ. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6161E-01 CRITERION= .1641 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 275
*** TIME = .115185E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4192E-05 OSCILLATION LIMIT = 3.307
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6175E-01 CRITERION= .1640 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 276
*** TIME = .115974E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4123E-05 OSCILLATION LIMIT = 3.253
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1691
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6150E-01 CRITERION= .1638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 277
*** TIME = .116763E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4180E-05 OSCILLATION LIMIT = 3.297
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6164E-01 CRITERION= .1637 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 278
*** TIME = .117552E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4121E-05 OSCILLATION LIMIT = 3.251
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1689
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6141E-01 CRITERION= .1636 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 279
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4168E-05 OSCILLATION LIMIT = 3.289
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1687
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6152E-01 CRITERION= .1635 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 280
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4118E-05 OSCILLATION LIMIT = 3.249
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1686
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6132E-01 CRITERION= .1633 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 281
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4158E-05 OSCILLATION LIMIT = 3.280
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1685
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
HT FLOW CONVERGENCE VALUE= .6144E-01 CRITERION= .1632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 282
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4114E-05 OSCILLATION LIMIT = 3.245
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1684
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6121E-01 CRITERION= .1631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 283
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4147E-05 OSCILLATION LIMIT = 3.272
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6133E-01 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 284
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4109E-05 OSCILLATION LIMIT = 3.242
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1682
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6112E-01 CRITERION= .1629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 285
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4138E-05 OSCILLATION LIMIT = 3.265
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6124E-01 CRITERION= .1628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 286
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4105E-05 OSCILLATION LIMIT = 3.239
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1679
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6044E-01 CRITERION= .1626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 287
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4129E-05 OSCILLATION LIMIT = 3.258
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6054E-01 CRITERION= .1625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 288
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4099E-05 OSCILLATION LIMIT = 3.234
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .1677
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1283
 HT FLOW CONVERGENCE VALUE= .6034E-01 CRITERION= .1624 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 289
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4119E-05 OSCILLATION LIMIT = 3.250

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:29:31 JUN 27, 1995 CP= 11087.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4853E-01 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 290
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4506E-05 OSCILLATION LIMIT = 3.555
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4829E-01 CRITERION= .1622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 291
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4378E-05 OSCILLATION LIMIT = 3.454
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4842E-01 CRITERION= .1621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 292
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = 3.210
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4806E-01 CRITERION= .1620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 293
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4369E-05 OSCILLATION LIMIT = 3.447
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4833E-01 CRITERION= .1619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 294
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4087E-05 OSCILLATION LIMIT = 3.225
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4799E-01 CRITERION= .1618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 295
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4339E-05 OSCILLATION LIMIT = 3.423
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4825E-01 CRITERION= .1617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 296
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4104E-05 OSCILLATION LIMIT = 3.238
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1651
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4792E-01 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 297
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4312E-05 OSCILLATION LIMIT = 3.402
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1650
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4815E-01 CRITERION= .1615 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 298
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4116E-05 OSCILLATION LIMIT = 3.248
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1649
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4786E-01 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 299
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4290E-05 OSCILLATION LIMIT = 3.384
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1648
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4807E-01 CRITERION= .1613 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 300
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4126E-05 OSCILLATION LIMIT = 3.255
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1647
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4778E-01 CRITERION= .1612 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 301
*** TIME = .135698E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4270E-05 OSCILLATION LIMIT = 3.369
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1646
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4798E-01 CRITERION= .1611 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 302
*** TIME = .136487E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4133E-05 OSCILLATION LIMIT = 3.261
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1645
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4772E-01 CRITERION= .1610 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 303
*** TIME = .137276E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4253E-05 OSCILLATION LIMIT = 3.356
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1644
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
HT FLOW CONVERGENCE VALUE= .4787E-01 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 304
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4138E-05 OSCILLATION LIMIT = 3.264
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1643
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034

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HT FLOW CONVERGENCE VALUE= .4763E-01 CRITERION= .1608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 305
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4238E-05 OSCILLATION LIMIT = 3.343
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4782E-01 CRITERION= .1607 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 306
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4140E-05 OSCILLATION LIMIT = 3.266
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4757E-01 CRITERION= .1606 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 307
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4224E-05 OSCILLATION LIMIT = 3.333
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4774E-01 CRITERION= .1605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 308
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4142E-05 OSCILLATION LIMIT = 3.267
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4750E-01 CRITERION= .1604 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 309
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4212E-05 OSCILLATION LIMIT = 3.323
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4767E-01 CRITERION= .1603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 310
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4142E-05 OSCILLATION LIMIT = 3.268
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4741E-01 CRITERION= .1602 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 311
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4201E-05 OSCILLATION LIMIT = 3.314
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4760E-01 CRITERION= .1601 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 312
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4140E-05 OSCILLATION LIMIT = 3.266
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1635
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4739E-01 CRITERION= .1600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 313
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4190E-05 OSCILLATION LIMIT = 3.305
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4754E-01 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 314
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4138E-05 OSCILLATION LIMIT = 3.265
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4732E-01 CRITERION= .1598 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 315
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4180E-05 OSCILLATION LIMIT = 3.298
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4743E-01 CRITERION= .1597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 316
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4136E-05 OSCILLATION LIMIT = 3.263
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4725E-01 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 317
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4171E-05 OSCILLATION LIMIT = 3.291
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4739E-01 CRITERION= .1595 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 318
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4132E-05 OSCILLATION LIMIT = 3.260
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4719E-01 CRITERION= .1594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 319
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4163E-05 OSCILLATION LIMIT = 3.284
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4733E-01 CRITERION= .1593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 320
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4130E-05 OSCILLATION LIMIT = 3.258

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1627
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4715E-01 CRITERION= .1592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 321
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4155E-05 OSCILLATION LIMIT = 3.278
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4728E-01 CRITERION= .1591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 322
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4126E-05 OSCILLATION LIMIT = 3.255
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4709E-01 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 323
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4148E-05 OSCILLATION LIMIT = 3.272
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1624
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4722E-01 CRITERION= .1589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 324
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4122E-05 OSCILLATION LIMIT = 3.252
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4703E-01 CRITERION= .1588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 325
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4141E-05 OSCILLATION LIMIT = 3.267
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4715E-01 CRITERION= .1587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 326
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4118E-05 OSCILLATION LIMIT = 3.249
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4696E-01 CRITERION= .1586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 327
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4134E-05 OSCILLATION LIMIT = 3.261
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4739E-01 CRITERION= .1585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 328

*** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4113E-05 OSCILLATION LIMIT = 3.245
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.32 CRITERION= .1619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1034
 HT FLOW CONVERGENCE VALUE= .4763E-01 CRITERION= .1584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 329
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4127E-05 OSCILLATION LIMIT = 3.256

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:24:34 JUN 27, 1995 CP= 12679.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3977E-01 CRITERION= .1583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 330
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7388E-05 OSCILLATION LIMIT = 5.829
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3951E-01 CRITERION= .1581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 331
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7419E-05 OSCILLATION LIMIT = 5.853
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3981E-01 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 332
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6827E-05 OSCILLATION LIMIT = 5.386
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3946E-01 CRITERION= .1579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 333
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7388E-05 OSCILLATION LIMIT = 5.829
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3975E-01 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 334
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6867E-05 OSCILLATION LIMIT = 5.417
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3935E-01 CRITERION= .1576 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 335
*** TIME = .162522E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7335E-05 OSCILLATION LIMIT = 5.787
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3968E-01 CRITERION= .1576 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 336
*** TIME = .163311E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6898E-05 OSCILLATION LIMIT = 5.442
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3937E-01 CRITERION= .1574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 337
*** TIME = .164100E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7288E-05 OSCILLATION LIMIT = 5.750
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3961E-01 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 338
*** TIME = .164888E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6923E-05 OSCILLATION LIMIT = 5.462
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3932E-01 CRITERION= .1572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 339
*** TIME = .165677E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7250E-05 OSCILLATION LIMIT = 5.720
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3953E-01 CRITERION= .1571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 340
*** TIME = .166466E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6942E-05 OSCILLATION LIMIT = 5.477
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3926E-01 CRITERION= .1569 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 341
*** TIME = .167255E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7217E-05 OSCILLATION LIMIT = 5.694
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1595
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3944E-01 CRITERION= .1569 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 342
*** TIME = .168044E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6957E-05 OSCILLATION LIMIT = 5.489
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1594

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3920E-01 CRITERION= .1567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 343
 *** TIME = .168833E+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= 28.54 CRITERION= .1593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3938E-01 CRITERION= .1566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 344
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6967E-05 OSCILLATION LIMIT = 5.497
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3914E-01 CRITERION= .1565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 345
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7162E-05 OSCILLATION LIMIT = 5.651
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3931E-01 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 346
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6975E-05 OSCILLATION LIMIT = 5.503
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3908E-01 CRITERION= .1562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 347
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7140E-05 OSCILLATION LIMIT = 5.633
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3925E-01 CRITERION= .1562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 348
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6980E-05 OSCILLATION LIMIT = 5.507
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3902E-01 CRITERION= .1560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 349
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7121E-05 OSCILLATION LIMIT = 5.618
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3917E-01 CRITERION= .1559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 350
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6983E-05 OSCILLATION LIMIT = 5.509
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3896E-01 CRITERION= .1558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 351
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7104E-05 OSCILLATION LIMIT = 5.604
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3911E-01 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 352
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6984E-05 OSCILLATION LIMIT = 5.510
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3889E-01 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 353
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7088E-05 OSCILLATION LIMIT = 5.592
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3904E-01 CRITERION= .1554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 354
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6984E-05 OSCILLATION LIMIT = 5.510
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3883E-01 CRITERION= .1553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 355
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7073E-05 OSCILLATION LIMIT = 5.581
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3897E-01 CRITERION= .1552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 356
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6982E-05 OSCILLATION LIMIT = 5.508
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3877E-01 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 357
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7061E-05 OSCILLATION LIMIT = 5.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
 HT FLOW CONVERGENCE VALUE= .3891E-01 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 358
 *** TIME = .180667E+09 TIME INC = 788940.


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*** RESPONSE EIGENVALUE = .6980E-05  OSCILLATION LIMIT = 5.507
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.51  CRITERION= .1576
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3871E-01 CRITERION= .1548  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 359
*** TIME = .181456E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7049E-05  OSCILLATION LIMIT = 5.561
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.54  CRITERION= .1574
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3884E-01 CRITERION= .1547  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 360
*** TIME = .182245E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6977E-05  OSCILLATION LIMIT = 5.504
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.51  CRITERION= .1573
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3864E-01 CRITERION= .1546  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 361
*** TIME = .183034E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7037E-05  OSCILLATION LIMIT = 5.552
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.54  CRITERION= .1572
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3922E-01 CRITERION= .1545  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 362
*** TIME = .183823E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6973E-05  OSCILLATION LIMIT = 5.501
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.51  CRITERION= .1571
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3960E-01 CRITERION= .1544  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 363
*** TIME = .184612E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7026E-05  OSCILLATION LIMIT = 5.543
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.54  CRITERION= .1570
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3973E-01 CRITERION= .1543  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 364
*** TIME = .185401E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6966E-05  OSCILLATION LIMIT = 5.496
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.51  CRITERION= .1569
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3954E-01 CRITERION= .1541  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 365
*** TIME = .186190E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7015E-05  OSCILLATION LIMIT = 5.534
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.54  CRITERION= .1567
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
  HT FLOW CONVERGENCE VALUE= .3966E-01 CRITERION= .1540  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 366
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6961E-05 OSCILLATION LIMIT = 5.492
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1566
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3948E-01 CRITERION= .1539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 367
*** TIME = .187768E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7005E-05 OSCILLATION LIMIT = 5.527
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.54 CRITERION= .1565
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3960E-01 CRITERION= .1538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 368
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6956E-05 OSCILLATION LIMIT = 5.488
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .1564
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8856E-01
HT FLOW CONVERGENCE VALUE= .3988E-01 CRITERION= .1537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 369
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6995E-05 OSCILLATION LIMIT = 5.519

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:19:40 JUN 27, 1995 CP= 14273.820
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1557
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3555E-01 CRITERION= .1536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 370
*** TIME = .190135E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5750E-05 OSCILLATION LIMIT = 4.536
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1556
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3543E-01 CRITERION= .1535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 371
*** TIME = .190924E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5646E-05 OSCILLATION LIMIT = 4.454
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1555
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3558E-01 CRITERION= .1534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 372
*** TIME = .191712E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5571E-05 OSCILLATION LIMIT = 4.395
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1554
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01

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HT FLOW CONVERGENCE VALUE= .3538E-01 CRITERION= .1533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 373
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5647E-05 OSCILLATION LIMIT = 4.455
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3554E-01 CRITERION= .1532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 374
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5570E-05 OSCILLATION LIMIT = 4.395
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3535E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 375
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5636E-05 OSCILLATION LIMIT = 4.447
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3550E-01 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 376
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5569E-05 OSCILLATION LIMIT = 4.393
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3530E-01 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 377
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5627E-05 OSCILLATION LIMIT = 4.439
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3545E-01 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 378
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5567E-05 OSCILLATION LIMIT = 4.392
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3526E-01 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 379
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5618E-05 OSCILLATION LIMIT = 4.432
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3540E-01 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 380
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5565E-05 OSCILLATION LIMIT = 4.390
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3522E-01 CRITERION= .1526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 381
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5610E-05 OSCILLATION LIMIT = 4.426
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3536E-01 CRITERION= .1525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 382
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5562E-05 OSCILLATION LIMIT = 4.388
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3517E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 383
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5602E-05 OSCILLATION LIMIT = 4.420
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3532E-01 CRITERION= .1523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 384
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5559E-05 OSCILLATION LIMIT = 4.385
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3514E-01 CRITERION= .1522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 385
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5595E-05 OSCILLATION LIMIT = 4.414
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3527E-01 CRITERION= .1521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 386
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5554E-05 OSCILLATION LIMIT = 4.382
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3509E-01 CRITERION= .1520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 387
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5587E-05 OSCILLATION LIMIT = 4.408
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
 HT FLOW CONVERGENCE VALUE= .3522E-01 CRITERION= .1520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 388
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5550E-05 OSCILLATION LIMIT = 4.379

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3504E-01 CRITERION= .1518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 389
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5581E-05 OSCILLATION LIMIT = 4.403
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3517E-01 CRITERION= .1518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 390
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5546E-05 OSCILLATION LIMIT = 4.376
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3500E-01 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 391
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5574E-05 OSCILLATION LIMIT = 4.398
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3512E-01 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 392
*** TIME = .207491E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5542E-05 OSCILLATION LIMIT = 4.372
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3495E-01 CRITERION= .1515 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 393
*** TIME = .208280E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5568E-05 OSCILLATION LIMIT = 4.393
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3508E-01 CRITERION= .1514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 394
*** TIME = .209069E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5538E-05 OSCILLATION LIMIT = 4.369
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3491E-01 CRITERION= .1513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 395
*** TIME = .209858E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5562E-05 OSCILLATION LIMIT = 4.388
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3503E-01 CRITERION= .1512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 396

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*** TIME = .210647E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5533E-05 OSCILLATION LIMIT = 4.366
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3486E-01 CRITERION= .1511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 397
*** TIME = .211436E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5556E-05 OSCILLATION LIMIT = 4.384
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3499E-01 CRITERION= .1510 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 398
*** TIME = .212225E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5529E-05 OSCILLATION LIMIT = 4.362
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1531
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3482E-01 CRITERION= .1509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 399
*** TIME = .213014E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5550E-05 OSCILLATION LIMIT = 4.379
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1530
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3494E-01 CRITERION= .1509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 400
*** TIME = .213803E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5524E-05 OSCILLATION LIMIT = 4.358
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1529
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3477E-01 CRITERION= .1507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 401
*** TIME = .214592E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5544E-05 OSCILLATION LIMIT = 4.374
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1528
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3489E-01 CRITERION= .1507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 402
*** TIME = .215381E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5519E-05 OSCILLATION LIMIT = 4.354
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1527
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3473E-01 CRITERION= .1506 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 403
*** TIME = .216170E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5538E-05 OSCILLATION LIMIT = 4.369
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3485E-01 CRITERION= .1505 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 404
*** TIME = .216959E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5514E-05 OSCILLATION LIMIT = 4.350
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3468E-01 CRITERION= .1504 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 405
*** TIME = .217747E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5532E-05 OSCILLATION LIMIT = 4.365
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3480E-01 CRITERION= .1503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 406
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5509E-05 OSCILLATION LIMIT = 4.346
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3464E-01 CRITERION= .1502 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 407
*** TIME = .219325E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5527E-05 OSCILLATION LIMIT = 4.360
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.10 CRITERION= .1523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3475E-01 CRITERION= .1501 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 408
*** TIME = .220114E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5504E-05 OSCILLATION LIMIT = 4.342
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.06 CRITERION= .1522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7785E-01
HT FLOW CONVERGENCE VALUE= .3459E-01 CRITERION= .1500 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 409
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5521E-05 OSCILLATION LIMIT = 4.356

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:14:39 JUN 27, 1995 CP= 15870.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3106E-01 CRITERION= .1500 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 410
*** TIME = .221692E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6154E-05 OSCILLATION LIMIT = 4.855
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1516

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3091E-01 CRITERION= .1498 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 411
*** TIME = .222481E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6131E-05 OSCILLATION LIMIT = 4.837
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3108E-01 CRITERION= .1498 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 412
*** TIME = .223270E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5922E-05 OSCILLATION LIMIT = 4.672
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3088E-01 CRITERION= .1497 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 413
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6120E-05 OSCILLATION LIMIT = 4.829
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3104E-01 CRITERION= .1496 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 414
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5932E-05 OSCILLATION LIMIT = 4.680
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3084E-01 CRITERION= .1495 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 415
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6100E-05 OSCILLATION LIMIT = 4.813
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3099E-01 CRITERION= .1494 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 416
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5940E-05 OSCILLATION LIMIT = 4.686
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1511
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3080E-01 CRITERION= .1493 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 417
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6083E-05 OSCILLATION LIMIT = 4.799
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
HT FLOW CONVERGENCE VALUE= .3095E-01 CRITERION= .1493 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 418
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5945E-05 OSCILLATION LIMIT = 4.690
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3077E-01 CRITERION= .1491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 419
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6067E-05 OSCILLATION LIMIT = 4.787
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3091E-01 CRITERION= .1491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 420
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5949E-05 OSCILLATION LIMIT = 4.693
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3073E-01 CRITERION= .1490 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 421
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6054E-05 OSCILLATION LIMIT = 4.776
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3087E-01 CRITERION= .1489 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 422
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5951E-05 OSCILLATION LIMIT = 4.695
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3070E-01 CRITERION= .1488 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 423
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6041E-05 OSCILLATION LIMIT = 4.766
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1505
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .1487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 424
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5951E-05 OSCILLATION LIMIT = 4.695
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3066E-01 CRITERION= .1486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 425
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6030E-05 OSCILLATION LIMIT = 4.757
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3079E-01 CRITERION= .1486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 426
 *** TIME = .234315E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5951E-05 OSCILLATION LIMIT = 4.695
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3062E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 427
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6020E-05 OSCILLATION LIMIT = 4.749
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3075E-01 CRITERION= .1484 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 428
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5950E-05 OSCILLATION LIMIT = 4.694
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3058E-01 CRITERION= .1483 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 429
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6011E-05 OSCILLATION LIMIT = 4.742
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3070E-01 CRITERION= .1482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 430
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5948E-05 OSCILLATION LIMIT = 4.693
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1499
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3055E-01 CRITERION= .1481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 431
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6002E-05 OSCILLATION LIMIT = 4.735
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3066E-01 CRITERION= .1481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 432
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5946E-05 OSCILLATION LIMIT = 4.691
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3051E-01 CRITERION= .1479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 433
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5994E-05 OSCILLATION LIMIT = 4.729
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.59 CRITERION= .1496
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3063E-01 CRITERION= .1479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 434
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5943E-05 OSCILLATION LIMIT = 4.689
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1496
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3048E-01 CRITERION= .1478 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 435
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5986E-05 OSCILLATION LIMIT = 4.723
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3059E-01 CRITERION= .1477 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 436
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5940E-05 OSCILLATION LIMIT = 4.686
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .1476 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 437
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5979E-05 OSCILLATION LIMIT = 4.717
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3055E-01 CRITERION= .1475 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 438
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5936E-05 OSCILLATION LIMIT = 4.683
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1492
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3041E-01 CRITERION= .1474 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 439
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5972E-05 OSCILLATION LIMIT = 4.712
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1491
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3051E-01 CRITERION= .1474 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 440
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5932E-05 OSCILLATION LIMIT = 4.680
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1491
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .1472 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 441
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5965E-05 OSCILLATION LIMIT = 4.706
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1490
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01

HT FLOW CONVERGENCE VALUE= .3047E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 442
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5928E-05 OSCILLATION LIMIT = 4.677
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1489
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3033E-01 CRITERION= .1471 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 443
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5959E-05 OSCILLATION LIMIT = 4.701
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1488
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .1470 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 444
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5924E-05 OSCILLATION LIMIT = 4.673
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3030E-01 CRITERION= .1469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 445
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5953E-05 OSCILLATION LIMIT = 4.696
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1486
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3040E-01 CRITERION= .1468 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 446
 *** TIME = .250094E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5919E-05 OSCILLATION LIMIT = 4.670
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1486
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3026E-01 CRITERION= .1467 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 447
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5947E-05 OSCILLATION LIMIT = 4.691
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.58 CRITERION= .1485
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .1467 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 448
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5915E-05 OSCILLATION LIMIT = 4.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.55 CRITERION= .1484
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7007E-01
 HT FLOW CONVERGENCE VALUE= .3022E-01 CRITERION= .1466 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 449
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5941E-05 OSCILLATION LIMIT = 4.687

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:09:04 JUN 27, 1995 CP= 17457.630
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1474
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2020E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 450
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 8.824
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1473
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2002E-01 CRITERION= .1464 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 451
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 8.798
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2030E-01 CRITERION= .1463 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 452
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9884E-05 OSCILLATION LIMIT = 7.798
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2001E-01 CRITERION= .1462 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 453
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 8.760
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1471
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2026E-01 CRITERION= .1462 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 454
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9974E-05 OSCILLATION LIMIT = 7.869
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1470
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1999E-01 CRITERION= .1461 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 455
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1100E-04 OSCILLATION LIMIT = 8.680
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1469
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2022E-01 CRITERION= .1460 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 456
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 7.928

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1468
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1998E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 457

*** TIME = .258772E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1092E-04 OSCILLATION LIMIT = 8.614

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2019E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 458

*** TIME = .259561E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 7.977

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1996E-01 CRITERION= .1458 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 459

*** TIME = .260350E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1085E-04 OSCILLATION LIMIT = 8.559

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2016E-01 CRITERION= .1457 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 460

*** TIME = .261139E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 8.016

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1465
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1995E-01 CRITERION= .1456 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 461

*** TIME = .261928E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1079E-04 OSCILLATION LIMIT = 8.512

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2013E-01 CRITERION= .1455 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 462

*** TIME = .262717E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1020E-04 OSCILLATION LIMIT = 8.049

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1993E-01 CRITERION= .1454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 463

*** TIME = .263506E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1074E-04 OSCILLATION LIMIT = 8.473

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1463
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .2010E-01 CRITERION= .1454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 464

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*** TIME = .264295E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1023E-04    OSCILLATION LIMIT = 8.075
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.50    CRITERION= .1462
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .1991E-01 CRITERION= .1453    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 465
*** TIME = .265084E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1070E-04    OSCILLATION LIMIT = 8.439
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.54    CRITERION= .1461
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .2008E-01 CRITERION= .1452    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 466
*** TIME = .265873E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1026E-04    OSCILLATION LIMIT = 8.095
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.50    CRITERION= .1460
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .1989E-01 CRITERION= .1451    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 467
*** TIME = .266662E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1066E-04    OSCILLATION LIMIT = 8.411
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.54    CRITERION= .1459
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .2005E-01 CRITERION= .1451    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 468
*** TIME = .267451E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1028E-04    OSCILLATION LIMIT = 8.112
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.50    CRITERION= .1459
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .1987E-01 CRITERION= .1449    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 469
*** TIME = .268240E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1063E-04    OSCILLATION LIMIT = 8.387
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.54    CRITERION= .1458
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .2002E-01 CRITERION= .1449    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 470
*** TIME = .269029E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1030E-04    OSCILLATION LIMIT = 8.125
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.50    CRITERION= .1457
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .1985E-01 CRITERION= .1448    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 471
*** TIME = .269818E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1060E-04    OSCILLATION LIMIT = 8.366
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.54    CRITERION= .1456
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
    HT FLOW CONVERGENCE VALUE= .2000E-01 CRITERION= .1447    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 472
*** TIME = .270606E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1031E-04 OSCILLATION LIMIT = 8.135
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1456
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1983E-01 CRITERION= .1446 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 473
*** TIME = .271395E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1058E-04 OSCILLATION LIMIT = 8.348
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1455
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1997E-01 CRITERION= .1446 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 474
*** TIME = .272184E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1032E-04 OSCILLATION LIMIT = 8.143
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1454
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1980E-01 CRITERION= .1445 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 475
*** TIME = .272973E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1056E-04 OSCILLATION LIMIT = 8.332
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1453
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1994E-01 CRITERION= .1444 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 476
*** TIME = .273762E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1033E-04 OSCILLATION LIMIT = 8.148
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1978E-01 CRITERION= .1443 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 477
*** TIME = .274551E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1054E-04 OSCILLATION LIMIT = 8.318
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1992E-01 CRITERION= .1443 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 478
*** TIME = .275340E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1033E-04 OSCILLATION LIMIT = 8.152
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
HT FLOW CONVERGENCE VALUE= .1976E-01 CRITERION= .1441 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 479
*** TIME = .276129E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1053E-04 OSCILLATION LIMIT = 8.305
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1450

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1989E-01 CRITERION= .1441 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 480
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 8.154
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1974E-01 CRITERION= .1440 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 481
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = 8.294
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1987E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 482
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 8.155
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1972E-01 CRITERION= .1438 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 483
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1050E-04 OSCILLATION LIMIT = 8.284
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1984E-01 CRITERION= .1438 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 484
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 8.156
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1446
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1969E-01 CRITERION= .1437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 485
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 8.275
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1445
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1982E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 486
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 8.155
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1444
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1967E-01 CRITERION= .1435 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 487
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1048E-04 OSCILLATION LIMIT = 8.266
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.54 CRITERION= .1443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1979E-01 CRITERION= .1434 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 488
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 8.154
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.50 CRITERION= .1443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4832E-01
 HT FLOW CONVERGENCE VALUE= .1965E-01 CRITERION= .1433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 489
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1047E-04 OSCILLATION LIMIT = 8.258
 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
 6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.
 1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1
 56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1
 3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 142.11 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 142.65 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 143.80 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 19031.840 TIME= 20:02:04
 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 20:02:04 JUN 27, 1995 CP= 19031.840

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

LOAD STEP OPTIONS

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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 CONTROLS . . . . . NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . . ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP
    
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HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1791E-01 CRITERION= .1433 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 490
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8435E-05 OSCILLATION LIMIT = 6.655
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
    
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HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1779E-01 CRITERION= .1432 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 491
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8381E-05 OSCILLATION LIMIT = 6.612
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
    
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HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1439
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1792E-01 CRITERION= .1432 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 492
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8309E-05 OSCILLATION LIMIT = 6.556
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
    
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HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1438
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1778E-01 CRITERION= .1431 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 493
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8385E-05 OSCILLATION LIMIT = 6.616
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
    
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HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1437
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1790E-01 CRITERION= .1430 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 494
    
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*** TIME = .287963E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8304E-05    OSCILLATION LIMIT = 6.551
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.88    CRITERION= .1437
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1776E-01    CRITERION= .1430    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 495
*** TIME = .288752E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8381E-05    OSCILLATION LIMIT = 6.612
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.91    CRITERION= .1436
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1789E-01    CRITERION= .1429    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 496
*** TIME = .289541E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8299E-05    OSCILLATION LIMIT = 6.548
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.88    CRITERION= .1436
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1775E-01    CRITERION= .1428    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 497
*** TIME = .290330E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8376E-05    OSCILLATION LIMIT = 6.608
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.91    CRITERION= .1435
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1788E-01    CRITERION= .1428    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 498
*** TIME = .291119E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8295E-05    OSCILLATION LIMIT = 6.544
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.88    CRITERION= .1435
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1774E-01    CRITERION= .1427    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 499
*** TIME = .291908E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8371E-05    OSCILLATION LIMIT = 6.604
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.91    CRITERION= .1434
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1786E-01    CRITERION= .1427    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 500
*** TIME = .292697E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8290E-05    OSCILLATION LIMIT = 6.540
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.88    CRITERION= .1433
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1772E-01    CRITERION= .1426    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 501
*** TIME = .293486E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8366E-05    OSCILLATION LIMIT = 6.601
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.91    CRITERION= .1432
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
    HT FLOW CONVERGENCE VALUE= .1784E-01    CRITERION= .1425    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 502
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8285E-05 OSCILLATION LIMIT = 6.537
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VA_UE= 13.88 CRITERION= .1432
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1771E-01 CRITERION= .1424 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 503
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8362E-05 OSCILLATION LIMIT = 6.597
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1431
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1783E-01 CRITERION= .1424 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 504
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8281E-05 OSCILLATION LIMIT = 6.533
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1431
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1769E-01 CRITERION= .1423 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 505
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8357E-05 OSCILLATION LIMIT = 6.593
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1430
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1781E-01 CRITERION= .1423 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 506
*** TIME = .297430E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8276E-05 OSCILLATION LIMIT = 6.530
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .1422 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 507
*** TIME = .298219E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8352E-05 OSCILLATION LIMIT = 6.589
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1781E-01 CRITERION= .1421 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 508
*** TIME = .299008E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8272E-05 OSCILLATION LIMIT = 6.526
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1428
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .1421 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 509
*** TIME = .299797E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8347E-05 OSCILLATION LIMIT = 6.585
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1427

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1781E-01 CRITERION= .1420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 510
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8267E-05 OSCILLATION LIMIT = 6.522
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .1419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 511
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8341E-05 OSCILLATION LIMIT = 6.581
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1779E-01 CRITERION= .1419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 512
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8263E-05 OSCILLATION LIMIT = 6.519
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1766E-01 CRITERION= .1418 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 513
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8337E-05 OSCILLATION LIMIT = 6.577
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .1418 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 514
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8259E-05 OSCILLATION LIMIT = 6.516
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .1417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 515
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8332E-05 OSCILLATION LIMIT = 6.573
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1776E-01 CRITERION= .1416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 516
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8254E-05 OSCILLATION LIMIT = 6.512
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .1415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 517
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8327E-05 OSCILLATION LIMIT = 6.569
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1774E-01 CRITERION= .1415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 518
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8250E-05 OSCILLATION LIMIT = 6.509
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1762E-01 CRITERION= .1414 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 519
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8322E-05 OSCILLATION LIMIT = 6.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1774E-01 CRITERION= .1414 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 520
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8246E-05 OSCILLATION LIMIT = 6.505
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1761E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 521
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8317E-05 OSCILLATION LIMIT = 6.561
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1772E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 522
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8241E-05 OSCILLATION LIMIT = 6.502
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1419
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1760E-01 CRITERION= .1412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 523
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8312E-05 OSCILLATION LIMIT = 6.558
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1770E-01 CRITERION= .1411 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 524
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8237E-05 OSCILLATION LIMIT = 6.498
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1759E-01 CRITERION= .1410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 525
 *** TIME = .312420E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8307E-05 OSCILLATION LIMIT = 6.554
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1770E-01 CRITERION= .1410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 526
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8233E-05 OSCILLATION LIMIT = 6.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1758E-01 CRITERION= .1409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 527
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8302E-05 OSCILLATION LIMIT = 6.550
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .1416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .1409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 528
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8228E-05 OSCILLATION LIMIT = 6.492
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.88 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4340E-01
 HT FLOW CONVERGENCE VALUE= .1756E-01 CRITERION= .1408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 529
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8297E-05 OSCILLATION LIMIT = 6.546

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1
 ***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:55:44 JUN 27, 1995 CP= 20606.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8961E-01 CRITERION= .1402 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 530
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2340E-04 OSCILLATION LIMIT = 184.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8839E-01 CRITERION= .1395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 531
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2526E-04 OSCILLATION LIMIT = 199.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351

HT FLOW CONVERGENCE VALUE= .8818E-01 CRITERION= .1390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 532
 *** 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= 75.19 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8756E-01 CRITERION= .1383 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 533
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2511E-04 OSCILLATION LIMIT = 198.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8737E-01 CRITERION= .1377 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 534
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2472E-04 OSCILLATION LIMIT = 195.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8675E-01 CRITERION= .1371 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 535
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2507E-04 OSCILLATION LIMIT = 197.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8657E-01 CRITERION= .1365 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 536
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2468E-04 OSCILLATION LIMIT = 194.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8615E-01 CRITERION= .1358 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 537
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2502E-04 OSCILLATION LIMIT = 197.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8596E-01 CRITERION= .1352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 538
 *** TIME = .386581E+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= 75.19 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8555E-01 CRITERION= .1346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 539
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2497E-04 OSCILLATION LIMIT = 197.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8533E-01 CRITERION= .1340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 540
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2460E-04 OSCILLATION LIMIT = 194.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8477E-01 CRITERION= .1333 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 541
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2493E-04 OSCILLATION LIMIT = 196.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8474E-01 CRITERION= .1327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 542
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2456E-04 OSCILLATION LIMIT = 193.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8460E-01 CRITERION= .1321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 543
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2488E-04 OSCILLATION LIMIT = 196.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8461E-01 CRITERION= .1315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 544
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2452E-04 OSCILLATION LIMIT = 193.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8437E-01 CRITERION= .1308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 545
 *** TIME = .441806E+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= 75.23 CRITERION= .1509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8427E-01 CRITERION= .1302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 546
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2448E-04 OSCILLATION LIMIT = 193.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8386E-01 CRITERION= .1296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 547
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2479E-04 OSCILLATION LIMIT = 195.5

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8372E-01 CRITERION= .1290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 548
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2444E-04 OSCILLATION LIMIT = 192.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8327E-01 CRITERION= .1284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 549
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2474E-04 OSCILLATION LIMIT = 195.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8321E-01 CRITERION= .1278 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 550
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2439E-04 OSCILLATION LIMIT = 192.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.19 CRITERION= .1482
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8277E-01 CRITERION= .1271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 551
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2469E-04 OSCILLATION LIMIT = 194.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.23 CRITERION= .1477
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8268E-01 CRITERION= .1265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 552
 *** TIME = .497032E+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= 75.19 CRITERION= .1471
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8228E-01 CRITERION= .1259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 553
 *** TIME = .504922E+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= 75.23 CRITERION= .1466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8217E-01 CRITERION= .1253 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 554
 *** TIME = .512811E+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= 75.19 CRITERION= .1461
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
 HT FLOW CONVERGENCE VALUE= .8155E-01 CRITERION= .1246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 555

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*** TIME = .520700E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2460E-04    OSCILLATION LIMIT = 194.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.22    CRITERION= .1455
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .8130E-01    CRITERION= .1240    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 556
*** TIME = .528590E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2427E-04    OSCILLATION LIMIT = 191.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.19    CRITERION= .1450
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .8069E-01    CRITERION= .1234    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 557
*** TIME = .536479E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2455E-04    OSCILLATION LIMIT = 193.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.22    CRITERION= .1445
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .8044E-01    CRITERION= .1228    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 558
*** TIME = .544369E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2422E-04    OSCILLATION LIMIT = 191.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.18    CRITERION= .1439
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .7984E-01    CRITERION= .1221    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 559
*** TIME = .552258E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2450E-04    OSCILLATION LIMIT = 193.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.22    CRITERION= .1434
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .7960E-01    CRITERION= .1215    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 560
*** TIME = .560147E+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= 75.18    CRITERION= .1429
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .7900E-01    CRITERION= .1209    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 561
*** TIME = .568037E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2446E-04    OSCILLATION LIMIT = 193.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.21    CRITERION= .1423
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .7877E-01    CRITERION= .1203    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 562
*** TIME = .575926E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2415E-04    OSCILLATION LIMIT = 190.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.17    CRITERION= .1418
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
    HT FLOW CONVERGENCE VALUE= .7817E-01    CRITERION= .1197    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 563
*** TIME = .583816E+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= 75.21 CRITERION= .1413
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7792E-01 CRITERION= .1191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 564
*** TIME = .591705E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2411E-04 OSCILLATION LIMIT = 190.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.17 CRITERION= .1408
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7733E-01 CRITERION= .1184 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 565
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2437E-04 OSCILLATION LIMIT = 192.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.20 CRITERION= .1402
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7707E-01 CRITERION= .1178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 566
*** TIME = .607484E+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= 75.16 CRITERION= .1397
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7649E-01 CRITERION= .1172 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 567
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2433E-04 OSCILLATION LIMIT = 191.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.20 CRITERION= .1392
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7623E-01 CRITERION= .1166 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 568
*** TIME = .623263E+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= 75.16 CRITERION= .1387
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2351
HT FLOW CONVERGENCE VALUE= .7564E-01 CRITERION= .1159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 569
*** TIME = .631152E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2428E-04 OSCILLATION LIMIT = 191.6

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM, REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:49:09 JUN 27, 1995 CP= 22181.350
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 40.01 CRITERION= .1226

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3925E-01 CRITERION= .1155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 570
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4470E-04 OSCILLATION LIMIT = 352.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.97 CRITERION= .1222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3893E-01 CRITERION= .1150 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 571
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4338E-04 OSCILLATION LIMIT = 342.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3892E-01 CRITERION= .1146 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 572
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4264E-04 OSCILLATION LIMIT = 336.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.97 CRITERION= .1213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3861E-01 CRITERION= .1141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 573
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4344E-04 OSCILLATION LIMIT = 342.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3859E-01 CRITERION= .1136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 574
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4263E-04 OSCILLATION LIMIT = 336.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1204
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3829E-01 CRITERION= .1131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 575
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4342E-04 OSCILLATION LIMIT = 342.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3827E-01 CRITERION= .1127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 576
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4261E-04 OSCILLATION LIMIT = 336.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3797E-01 CRITERION= .1122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 577
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4340E-04 OSCILLATION LIMIT = 342.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .1118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 578
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4260E-04 OSCILLATION LIMIT = 336.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3764E-01 CRITERION= .1113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 579
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4337E-04 OSCILLATION LIMIT = 342.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3762E-01 CRITERION= .1109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 580
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4259E-04 OSCILLATION LIMIT = 336.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3732E-01 CRITERION= .1104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 581
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4335E-04 OSCILLATION LIMIT = 342.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3729E-01 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 582
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4257E-04 OSCILLATION LIMIT = 335.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3700E-01 CRITERION= .1094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 583
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 341.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.00 CRITERION= .1165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3697E-01 CRITERION= .1090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 584
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4256E-04 OSCILLATION LIMIT = 335.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3667E-01 CRITERION= .1085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 585
 *** TIME = .757382E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .4330E-04 OSCILLATION LIMIT = 341.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3664E-01 CRITERION= .1081 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 586
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4254E-04 OSCILLATION LIMIT = 335.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.96 CRITERION= .1152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3635E-01 CRITERION= .1076 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 587
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4328E-04 OSCILLATION LIMIT = 341.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3632E-01 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 588
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4253E-04 OSCILLATION LIMIT = 335.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3602E-01 CRITERION= .1066 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 589
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4325E-04 OSCILLATION LIMIT = 341.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3599E-01 CRITERION= .1062 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 590
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4252E-04 OSCILLATION LIMIT = 335.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3570E-01 CRITERION= .1057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 591
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4323E-04 OSCILLATION LIMIT = 341.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3567E-01 CRITERION= .1053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 592
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4250E-04 OSCILLATION LIMIT = 335.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3538E-01 CRITERION= .1048 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 593
*** TIME = .820498E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4321E-04 OSCILLATION LIMIT = 340.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1121
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3534E-01 CRITERION= .1044 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 594
*** TIME = .828387E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4249E-04 OSCILLATION LIMIT = 335.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3505E-01 CRITERION= .1039 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 595
*** TIME = .836276E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4318E-04 OSCILLATION LIMIT = 340.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1113
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3502E-01 CRITERION= .1034 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 596
*** TIME = .844166E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4247E-04 OSCILLATION LIMIT = 335.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1109
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3473E-01 CRITERION= .1029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 597
*** TIME = .852055E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4316E-04 OSCILLATION LIMIT = 340.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.99 CRITERION= .1104
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3470E-01 CRITERION= .1025 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 598
*** TIME = .859945E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4246E-04 OSCILLATION LIMIT = 335.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1100
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3441E-01 CRITERION= .1020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 599
*** TIME = .867834E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4314E-04 OSCILLATION LIMIT = 340.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.98 CRITERION= .1095
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3437E-01 CRITERION= .1016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 600
*** TIME = .875723E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4245E-04 OSCILLATION LIMIT = 334.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.95 CRITERION= .1091
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254

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HT FLOW CONVERGENCE VALUE= .3409E-01 CRITERION= .1011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 601
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4312E-04 OSCILLATION LIMIT = 340.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.98 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3405E-01 CRITERION= .1007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 602
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4243E-04 OSCILLATION LIMIT = 334.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.94 CRITERION= .1083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3377E-01 CRITERION= .1002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 603
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4309E-04 OSCILLATION LIMIT = 340.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.98 CRITERION= .1078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3373E-01 CRITERION= .9973E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 604
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4242E-04 OSCILLATION LIMIT = 334.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.94 CRITERION= .1074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3345E-01 CRITERION= .9923E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 605
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4307E-04 OSCILLATION LIMIT = 339.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.98 CRITERION= .1069
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3341E-01 CRITERION= .9880E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 606
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4240E-04 OSCILLATION LIMIT = 334.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.94 CRITERION= .1065
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3313E-01 CRITERION= .9830E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 607
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4305E-04 OSCILLATION LIMIT = 339.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.98 CRITERION= .1061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
 HT FLOW CONVERGENCE VALUE= .3309E-01 CRITERION= .9787E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 608
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4238E-04 OSCILLATION LIMIT = 334.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 39.94      CRITERION= .1057
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254
HT FLOW CONVERGENCE VALUE= .3282E-01 CRITERION= .9737E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 609
*** TIME = .946728E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4302E-04 OSCILLATION LIMIT = 339.4

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 22:42:31 JUN 27, 1995 CP= 23758.810
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 16.88      CRITERION= .9880E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1311
HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .9706E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 610
*** TIME = .954617E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7181E-04 OSCILLATION LIMIT = 566.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .9848E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
HT FLOW CONVERGENCE VALUE= .1539E-01 CRITERION= .9666E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 611
*** TIME = .962507E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04 OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.88      CRITERION= .9810E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1277
HT FLOW CONVERGENCE VALUE= .1535E-01 CRITERION= .9635E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 612
*** TIME = .970396E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7145E-04 OSCILLATION LIMIT = 563.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .9778E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
HT FLOW CONVERGENCE VALUE= .1529E-01 CRITERION= .9596E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 613
*** TIME = .978286E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7216E-04 OSCILLATION LIMIT = 569.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.88      CRITERION= .9740E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1278
HT FLOW CONVERGENCE VALUE= .1524E-01 CRITERION= .9564E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 614
*** TIME = .986175E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7145E-04 OSCILLATION LIMIT = 563.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .9709E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .9525E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 615
*** TIME = .994064E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7216E-04 OSCILLATION LIMIT = 569.3

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.88 CRITERION= .9671E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1279
 HT FLOW CONVERGENCE VALUE= .1513E-01 CRITERION= .9493E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 616
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9639E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
 HT FLOW CONVERGENCE VALUE= .1506E-01 CRITERION= .9454E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 617
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7216E-04 OSCILLATION LIMIT = 569.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.88 CRITERION= .9601E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1280
 HT FLOW CONVERGENCE VALUE= .1502E-01 CRITERION= .9423E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 618
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9569E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1495E-01 CRITERION= .9384E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 619
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7216E-04 OSCILLATION LIMIT = 569.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.88 CRITERION= .9531E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1281
 HT FLOW CONVERGENCE VALUE= .1491E-01 CRITERION= .9352E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 620
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9500E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1483E-01 CRITERION= .9313E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 621
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7215E-04 OSCILLATION LIMIT = 569.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.88 CRITERION= .9462E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1282
 HT FLOW CONVERGENCE VALUE= .1479E-01 CRITERION= .9281E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 622
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9430E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
 HT FLOW CONVERGENCE VALUE= .1472E-01 CRITERION= .9242E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 623

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*** TIME = .105718E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7215E-04    OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.88    CRITERION= .9392E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1283
    HT FLOW CONVERGENCE VALUE= .1468E-01    CRITERION= .9210E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 624
*** TIME = .106507E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04    OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.84    CRITERION= .9361E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1296
    HT FLOW CONVERGENCE VALUE= .1461E-01    CRITERION= .9171E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 625
*** TIME = .107296E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7215E-04    OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.88    CRITERION= .9323E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1284
    HT FLOW CONVERGENCE VALUE= .1457E-01    CRITERION= .9140E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 626
*** TIME = .108085E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04    OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.84    CRITERION= .9291E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1296
    HT FLOW CONVERGENCE VALUE= .1449E-01    CRITERION= .9101E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 627
*** TIME = .108874E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7215E-04    OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.88    CRITERION= .9253E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
    HT FLOW CONVERGENCE VALUE= .1446E-01    CRITERION= .9069E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 628
*** TIME = .109663E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04    OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.84    CRITERION= .9222E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1297
    HT FLOW CONVERGENCE VALUE= .1438E-01    CRITERION= .9030E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 629
*** TIME = .110452E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04    OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.87    CRITERION= .9184E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1286
    HT FLOW CONVERGENCE VALUE= .1434E-01    CRITERION= .8998E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 630
*** TIME = .111241E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04    OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.84    CRITERION= .9152E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1297
    HT FLOW CONVERGENCE VALUE= .1427E-01    CRITERION= .8959E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 631
*** TIME = .112029E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04 OSCILLATION LIMIT = 569.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .9114E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1287
HT FLOW CONVERGENCE VALUE= .1423E-01 CRITERION= .8927E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 632
*** TIME = .112818E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9082E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1298
HT FLOW CONVERGENCE VALUE= .1415E-01 CRITERION= .8888E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 633
*** TIME = .113607E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .9045E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1287
HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .8857E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 634
*** TIME = .114396E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7146E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .9013E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1299
HT FLOW CONVERGENCE VALUE= .1404E-01 CRITERION= .8818E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 635
*** TIME = .115185E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8975E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .8786E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 636
*** TIME = .115974E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .8943E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1299
HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .8747E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 637
*** TIME = .116763E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7214E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8906E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .8715E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 638
*** TIME = .117552E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .8874E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1300
HT FLOW CONVERGENCE VALUE= .1382E-01 CRITERION= .8676E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 639
*** TIME = .118341E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7213E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8836E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
HT FLOW CONVERGENCE VALUE= .1379E-01 CRITERION= .8645E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 640
*** TIME = .119130E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .8805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1300
HT FLOW CONVERGENCE VALUE= .1370E-01 CRITERION= .8606E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 641
*** TIME = .119919E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7213E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8767E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1291
HT FLOW CONVERGENCE VALUE= .1367E-01 CRITERION= .8574E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 642
*** TIME = .120708E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .8735E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1301
HT FLOW CONVERGENCE VALUE= .1359E-01 CRITERION= .8535E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 643
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7213E-04 OSCILLATION LIMIT = 569.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8697E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
HT FLOW CONVERGENCE VALUE= .1356E-01 CRITERION= .8503E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 644
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .8666E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1301
HT FLOW CONVERGENCE VALUE= .1348E-01 CRITERION= .8464E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 645
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7213E-04 OSCILLATION LIMIT = 569.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8628E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
HT FLOW CONVERGENCE VALUE= .1345E-01 CRITERION= .8432E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 646
*** TIME = .123864E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.83 CRITERION= .8596E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1302
 HT FLOW CONVERGENCE VALUE= .1336E-01 CRITERION= .8393E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 647
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7212E-04 OSCILLATION LIMIT = 569.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .8559E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1334E-01 CRITERION= .8362E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 648
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7147E-04 OSCILLATION LIMIT = 563.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.83 CRITERION= .8527E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1303
 HT FLOW CONVERGENCE VALUE= .1325E-01 CRITERION= .8323E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 649
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7212E-04 OSCILLATION LIMIT = 569.0

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=NP 9000/7XX 23:34:55 JUN 27, 1995 CP= 25340.090
 FOR SUPPORT CALL ROBERT BAINEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 4.977 CRITERION= .8335E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1320
 HT FLOW CONVERGENCE VALUE= .1002E-01 CRITERION= .8297E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 650
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.938 CRITERION= .8310E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1316
 HT FLOW CONVERGENCE VALUE= .9932E-02 CRITERION= .8265E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 651
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 14.89 CRITERION= .8392E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4033
 HT FLOW CONVERGENCE VALUE= .2948E-01 CRITERION= .8182E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 652
 *** TIME = .130175E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 39.64 CRITERION= .9078E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.076
 HT FLOW CONVERGENCE VALUE= .7684E-01 CRITERION= .7949E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 653
 *** TIME = .136487E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.68 CRITERION= .8869E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.052
 HT FLOW CONVERGENCE VALUE= .7443E-01 CRITERION= .7722E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 654
 *** TIME = .142798E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.64 CRITERION= .8665E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.057
 HT FLOW CONVERGENCE VALUE= .7259E-01 CRITERION= .7487E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 655
 *** TIME = .149110E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.68 CRITERION= .8458E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.058
 HT FLOW CONVERGENCE VALUE= .7046E-01 CRITERION= .7259E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 656
 *** TIME = .155421E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= 14.85 CRITERION= .7404E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3762
 HT FLOW CONVERGENCE VALUE= .2588E-01 CRITERION= .7167E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 657
 *** TIME = .157788E+10 TIME INC = .236682E+08

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:45:47 JUN 27, 1995 CP= 25659.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 5.585 CRITERION= .7184E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3622
 HT FLOW CONVERGENCE VALUE= .2681E-01 CRITERION= .7103E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 658
 *** TIME = .160155E+10 TIME INC = .236682E+08
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.624 CRITERION= .7120E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3625
 HT FLOW CONVERGENCE VALUE= .2655E-01 CRITERION= .7031E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 659
 *** TIME = .162522E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 14.93 CRITERION= .7175E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9884
 HT FLOW CONVERGENCE VALUE= .6931E-01 CRITERION= .6855E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3608E-01
 HT FLOW CONVERGENCE VALUE= .1040E-02 CRITERION= .6853E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 661
 *** TIME = .168833E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.96 CRITERION= .7001E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.005
 HT FLOW CONVERGENCE VALUE= .6814E-01 CRITERION= .6670E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3567E-01

HT FLOW CONVERGENCE VALUE= .9989E-03 CRITERION= .6668E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 663
 *** TIME = .175145E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.93 CRITERION= .6820E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.005
 HT FLOW CONVERGENCE VALUE= .6645E-01 CRITERION= .6492E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3482E-01
 HT FLOW CONVERGENCE VALUE= .9494E-03 CRITERION= .6490E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 665
 *** TIME = .181456E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)

HT FLOW CONVERGENCE VALUE= 9.360 CRITERION= .6549E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6301
 HT FLOW CONVERGENCE VALUE= .4106E-01 CRITERION= .6374E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 666
 *** TIME = .185401E+10 TIME INC = .394470E+08
 *** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.322 CRITERION= .6434E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6075
 HT FLOW CONVERGENCE VALUE= .3983E-01 CRITERION= .6264E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 667
 *** TIME = .189346E+10 TIME INC = .394470E+08

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:57:04 JUN 27, 1995 CP= 25995.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .6570E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5267
 HT FLOW CONVERGENCE VALUE= .3785E-01 CRITERION= .6169E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 668
 *** TIME = .193290E+10 TIME INC = .394470E+08
 *** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.00 CRITERION= .6479E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5280
 HT FLOW CONVERGENCE VALUE= .3718E-01 CRITERION= .6081E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 669
 *** TIME = .197235E+10 TIME INC = .394470E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 1.6000)

HT FLOW CONVERGENCE VALUE= 32.05 CRITERION= .6864E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8583
 HT FLOW CONVERGENCE VALUE= .5855E-01 CRITERION= .5931E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 670
 *** TIME = .203547E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.01 CRITERION= .6731E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8475
 HT FLOW CONVERGENCE VALUE= .5720E-01 CRITERION= .5789E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 671

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*** TIME = .209858E+10    TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.05    CRITERION= .6607E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8503
HT FLOW CONVERGENCE VALUE= .5622E-01 CRITERION= .5638E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 672
*** TIME = .216170E+10    TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .47336E+08 DECREASED (FACTOR = .7500)

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HT FLOW CONVERGENCE VALUE= 24.00    CRITERION= .6121E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6310
HT FLOW CONVERGENCE VALUE= .4120E-01 CRITERION= .5532E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 673
*** TIME = .220903E+10    TIME INC = .473364E+08

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX    00:04:58 JUN 28, 1995 CP= 26235.910
FOR SUPPORT CALL ROBERT BAHNEY  PHONE (702) 794-5337  FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 57.76    CRITERION= .7993E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6336
HT FLOW CONVERGENCE VALUE= .5222E-01 CRITERION= .5439E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 674
*** TIME = .225637E+10    TIME INC = .473364E+08
*** RESPONSE EIGENVALUE = .1520E-04  OSCILLATION LIMIT = 719.4
*** AUTO TIME STEP: NEXT TIME INC = .15779E+08 DECREASED (FACTOR = .3333)

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HT FLOW CONVERGENCE VALUE= 19.23    CRITERION= .5767E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1950
HT FLOW CONVERGENCE VALUE= .1689E-01 CRITERION= .5412E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 675
*** TIME = .227215E+10    TIME INC = .157788E+08
*** AUTO STEP TIME: NEXT TIME INC = .15779E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 19.27    CRITERION= .5743E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2113
HT FLOW CONVERGENCE VALUE= .1724E-01 CRITERION= .5379E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 676
*** TIME = .228793E+10    TIME INC = .157788E+08
*** RESPONSE EIGENVALUE = .1520E-04  OSCILLATION LIMIT = 239.8
*** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .5000)

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HT FLOW CONVERGENCE VALUE= 9.606    CRITERION= .5463E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1012
HT FLOW CONVERGENCE VALUE= .8434E-02 CRITERION= .5367E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 677
*** TIME = .229582E+10    TIME INC = .788940E+07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.644    CRITERION= .5452E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1058
HT FLOW CONVERGENCE VALUE= .8610E-02 CRITERION= .5349E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 678
*** TIME = .230370E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1527E-04  OSCILLATION LIMIT = 120.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5434E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1050
 HT FLOW CONVERGENCE VALUE= .8478E-02 CRITERION= .5338E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 679
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 28.89 CRITERION= .6066E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3240
 HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .5290E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 680
 *** TIME = .233526E+10 TIME INC = .236682E+08
 *** RESPONSE EIGENVALUE = .1559E-04 OSCILLATION LIMIT = 368.9
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5375E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9764E-01
 HT FLOW CONVERGENCE VALUE= .8207E-02 CRITERION= .5278E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 681
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.644 CRITERION= .5364E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1059
 HT FLOW CONVERGENCE VALUE= .8455E-02 CRITERION= .5260E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 682
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1528E-04 OSCILLATION LIMIT = 120.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5346E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1052
 HT FLOW CONVERGENCE VALUE= .8327E-02 CRITERION= .5248E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 683
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 28.89 CRITERION= .5988E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3242
 HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .5200E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 684
 *** TIME = .238260E+10 TIME INC = .236682E+08
 *** RESPONSE EIGENVALUE = .1559E-04 OSCILLATION LIMIT = 369.0
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5288E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9799E-01
 HT FLOW CONVERGENCE VALUE= .8078E-02 CRITERION= .5189E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 685
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.644 CRITERION= .5277E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1060
 HT FLOW CONVERGENCE VALUE= .8313E-02 CRITERION= .5170E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 686
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1528E-04 OSCILLATION LIMIT = 120.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5258E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1055
HT FLOW CONVERGENCE VALUE= .8198E-02 CRITERION= .5159E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 687
*** TIME = .240627E+10 TIME INC = .788940E+07
*** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 28.89 CRITERION= .5910E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3244
HT FLOW CONVERGENCE VALUE= .2470E-01 CRITERION= .5111E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 688
*** TIME = .242994E+10 TIME INC = .236682E+08
*** RESPONSE EIGENVALUE = .1559E-04 OSCILLATION LIMIT = 369.1
*** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5200E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9832E-01
HT FLOW CONVERGENCE VALUE= .7960E-02 CRITERION= .5100E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 689
*** TIME = .243782E+10 TIME INC = .788940E+07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.645 CRITERION= .5189E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1060
HT FLOW CONVERGENCE VALUE= .8183E-02 CRITERION= .5081E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 690
*** TIME = .244571E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1528E-04 OSCILLATION LIMIT = 120.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .5170E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1057
HT FLOW CONVERGENCE VALUE= .8082E-02 CRITERION= .5070E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 691
*** TIME = .245360E+10 TIME INC = .788940E+07
*** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .5832E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3246
HT FLOW CONVERGENCE VALUE= .2435E-01 CRITERION= .5022E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 692
*** TIME = .247727E+10 TIME INC = .236682E+08
*** RESPONSE EIGENVALUE = .1560E-04 OSCILLATION LIMIT = 369.1
*** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 9.607 CRITERION= .5112E-01
EQUIL ITER 1 COMPLETE). NEW TRIANG MATRIX. MAX DOF INC= -.9866E-01
HT FLOW CONVERGENCE VALUE= .7860E-02 CRITERION= .5010E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 693
*** TIME = .248516E+10 TIME INC = .788940E+07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.645 CRITERION= .5101E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1061
HT FLOW CONVERGENCE VALUE= .8071E-02 CRITERION= .4992E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 694
*** TIME = .249305E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1528E-04 OSCILLATION LIMIT = 120.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.607 CRITERION= .5083E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1059
HT FLOW CONVERGENCE VALUE= .7977E-02 CRITERION= .4981E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 695
*** TIME = .250094E+10 TIME INC = .788940E+07
*** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)
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```
HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .5755E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3249
HT FLOW CONVERGENCE VALUE= .2402E-01 CRITERION= .4933E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 696
*** TIME = .252461E+10 TIME INC = .236682E+08
*** RESPONSE EIGENVALUE = .1560E-04 OSCILLATION LIMIT = 369.2
```

***** ANSYS SOLVE COMMAND *****

1
***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:35:20 JUN 28, 1995 CP= 27146.480
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

```
HT FLOW CONVERGENCE VALUE= 24.95 CRITERION= .5526E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2550
HT FLOW CONVERGENCE VALUE= .1968E-01 CRITERION= .4901E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 697
*** TIME = .254828E+10 TIME INC = .236682E+08
*** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .5498E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570
HT FLOW CONVERGENCE VALUE= .1965E-01 CRITERION= .4862E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 698
*** TIME = .257194E+10 TIME INC = .236682E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)
```

```
HT FLOW CONVERGENCE VALUE= 66.57 CRITERION= .8240E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7000
HT FLOW CONVERGENCE VALUE= .5148E-01 CRITERION= .4772E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2225E-01
HT FLOW CONVERGENCE VALUE= .6322E-03 CRITERION= .4772E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 700
*** TIME = .263506E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 66.61 CRITERION= .8189E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7091
HT FLOW CONVERGENCE VALUE= .5083E-01 CRITERION= .4675E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2203E-01
HT FLOW CONVERGENCE VALUE= .6146E-03 CRITERION= .4674E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 702
*** TIME = .269817E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED
```

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HT FLOW CONVERGENCE VALUE= 66.57 CRITERION= .8131E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7099
HT FLOW CONVERGENCE VALUE= .4993E-01 CRITERION= .4585E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2164E-01
HT FLOW CONVERGENCE VALUE= .5932E-03 CRITERION= .4584E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 704
*** TIME = .276129E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)
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HT FLOW CONVERGENCE VALUE= 41.64 CRITERION= .6189E-01
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4440
 HT FLOW CONVERGENCE VALUE= .3096E-01 CRITERION= .4522E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 705
 *** TIME = .280074E+10 TIME INC = .394470E+08
 *** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.60 CRITERION= .6142E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4307
 HT FLOW CONVERGENCE VALUE= .3026E-01 CRITERION= .4467E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 706
 *** TIME = .284018E+10 TIME INC = .394470E+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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 155.62 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 155.81 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 156.19 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 27482.450 TIME= 00:46:23
 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 . 00:46:23 JUN 28, 1995 CP= 27482.450
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 36.86 CRITERION= .5788E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3769
HT FLOW CONVERGENCE VALUE= .2641E-01 CRITERION= .4412E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 707
*** TIME = .287963E+10 TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 36.83 CRITERION= .5745E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3789
HT FLOW CONVERGENCE VALUE= .2610E-01 CRITERION= .4365E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 708
*** TIME = .291908E+10 TIME INC = .394470E+08
*** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 1.6000)
  
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HT FLOW CONVERGENCE VALUE= 58.97 CRITERION= .7332E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6132
HT FLOW CONVERGENCE VALUE= .4115E-01 CRITERION= .4279E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 709
*** TIME = .298219E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 58.94 CRITERION= .7280E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6073
HT FLOW CONVERGENCE VALUE= .4023E-01 CRITERION= .4201E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 710
*** TIME = .304531E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 58.98 CRITERION= .7236E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6080
HT FLOW CONVERGENCE VALUE= .3955E-01 CRITERION= .4115E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 711
*** TIME = .310842E+10 TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .47336E+08 DECREASED (FACTOR = .7500)
  
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HT FLOW CONVERGENCE VALUE= 44.20 CRITERION= .6037E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4524
HT FLOW CONVERGENCE VALUE= .2917E-01 CRITERION= .4057E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 712
  
```


*** TIME = .315576E+10 TIME INC = .473364E+08

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:54:31 JUN 28, 1995 CP= 27722.950
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 45.65 CRITERION= .6105E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3642
 HT FLOW CONVERGENCE VALUE= .2632E-01 CRITERION= .4009E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 713
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.62 CRITERION= .6072E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3661
 HT FLOW CONVERGENCE VALUE= .2600E-01 CRITERION= .3969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 714
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 136.9 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.121
 HT FLOW CONVERGENCE VALUE= .7558E-01 CRITERION= .3835E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3103E-01
 HT FLOW CONVERGENCE VALUE= .7731E-03 CRITERION= .3835E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 716
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 136.9 CRITERION= .1422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.133
 HT FLOW CONVERGENCE VALUE= .7326E-01 CRITERION= .3708E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3028E-01
 HT FLOW CONVERGENCE VALUE= .7261E-03 CRITERION= .3707E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 718
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 365.2 CRITERION= .3670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.024
 HT FLOW CONVERGENCE VALUE= .1749 CRITERION= .3356E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7300E-01
 HT FLOW CONVERGENCE VALUE= .1553E-02 CRITERION= .3354E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 720
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 365.2 CRITERION= .3667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.035
 HT FLOW CONVERGENCE VALUE= .1572 CRITERION= .3010E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6626E-01
 HT FLOW CONVERGENCE VALUE= .1259E-02 CRITERION= .3008E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 722
 *** TIME = .504922E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 365.3 CRITERION= .3665
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.045
HT FLOW CONVERGENCE VALUE= .1394 CRITERION= .2657E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5934E-01
HT FLOW CONVERGENCE VALUE= .9917E-03 CRITERION= .2655E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 724
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 365.3 CRITERION= .3663
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.055
HT FLOW CONVERGENCE VALUE= .1214 CRITERION= .2310E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5215E-01
HT FLOW CONVERGENCE VALUE= .7524E-03 CRITERION= .2309E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 726
*** TIME = .631152E+10 TIME INC = .631152E+09

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***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:09:01 JUN 28, 1995 CP= 28153.780
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 245.0 CRITERION= .2461
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.355
HT FLOW CONVERGENCE VALUE= .6717E-01 CRITERION= .2197E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2534E-01
HT FLOW CONVERGENCE VALUE= .4155E-03 CRITERION= .2197E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 728
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 245.0 CRITERION= .2460
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.356
HT FLOW CONVERGENCE VALUE= .6394E-01 CRITERION= .2093E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2424E-01
HT FLOW CONVERGENCE VALUE= .3779E-03 CRITERION= .2092E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 730
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 245.1 CRITERION= .2460
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.358
HT FLOW CONVERGENCE VALUE= .5985E-01 CRITERION= .1980E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2317E-01
HT FLOW CONVERGENCE VALUE= .3432E-03 CRITERION= .1980E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 732
*** TIME = .820498E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 245.0 CRITERION= .2459
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.359
HT FLOW CONVERGENCE VALUE= .5374E-01 CRITERION= .1876E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2208E-01
HT FLOW CONVERGENCE VALUE= .3063E-03 CRITERION= .1876E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 734
*** TIME = .883613E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 245.1 CRITERION= .2458

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.361
HT FLOW CONVERGENCE VALUE= .4968E-01 CRITERION= .1764E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2105E-01
HT FLOW CONVERGENCE VALUE= .2755E-03 CRITERION= .1764E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 736
*** 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 01:18:48 JUN 28, 1995 CP= 28448.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 140.1 CRITERION= .1412
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7681
HT FLOW CONVERGENCE VALUE= .2706E-01 CRITERION= .1707E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1168E-01
HT FLOW CONVERGENCE VALUE= .1488E-03 CRITERION= .1707E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 738
*** TIME = .100984E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 140.2 CRITERION= .1412
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7690
HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .1644E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1136E-01
HT FLOW CONVERGENCE VALUE= .1381E-03 CRITERION= .1644E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 740
*** TIME = .107296E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 140.1 CRITERION= .1411
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7691
HT FLOW CONVERGENCE VALUE= .2458E-01 CRITERION= .1587E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1101E-01
HT FLOW CONVERGENCE VALUE= .1272E-03 CRITERION= .1587E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 742
*** TIME = .113607E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 140.2 CRITERION= .1410
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7701
HT FLOW CONVERGENCE VALUE= .2344E-01 CRITERION= .1523E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1068E-01
HT FLOW CONVERGENCE VALUE= .1157E-03 CRITERION= .1523E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 744
*** TIME = .119919E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 140.1 CRITERION= .1409
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7702
HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .1467E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1031E-01
HT FLOW CONVERGENCE VALUE= .1049E-03 CRITERION= .1467E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 746
*** TIME = .126230E+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 01:28:23 JUN 28, 1995 CP= 28742.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 115.4 CRITERION= .1164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5792
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .1424E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7776E-02
 HT FLOW CONVERGENCE VALUE= .7747E-04 CRITERION= .1424E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 748
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.4 CRITERION= .1163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5791
 HT FLOW CONVERGENCE VALUE= .1658E-01 CRITERION= .1388E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7499E-02
 HT FLOW CONVERGENCE VALUE= .7084E-04 CRITERION= .1388E-01 <<< CONVERGED.
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 750
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.4 CRITERION= .1163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5798
 HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .1345E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7224E-02
 HT FLOW CONVERGENCE VALUE= .6586E-04 CRITERION= .1345E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 752
 *** TIME = .145165E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.4 CRITERION= .1162
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5797
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .1309E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6909E-02
 HT FLOW CONVERGENCE VALUE= .6123E-04 CRITERION= .1308E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 754
 *** TIME = .151476E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.4 CRITERION= .1162
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5803
 HT FLOW CONVERGENCE VALUE= .1504E-01 CRITERION= .1265E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6614E-02
 HT FLOW CONVERGENCE VALUE= .5772E-04 CRITERION= .1265E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 756
 *** TIME = .157788E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:38:15 JUN 28, 1995 CP= 29036.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 130.8 CRITERION= .1314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5812
 HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .1237E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6764E-02

HT FLOW CONVERGENCE VALUE= .6036E-04 CRITERION= .1237E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 758
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.9 CRITERION= .1314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5819
 HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .1202E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6617E-02
 HT FLOW CONVERGENCE VALUE= .5754E-04 CRITERION= .1202E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 760
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.8 CRITERION= .1314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5817
 HT FLOW CONVERGENCE VALUE= .1533E-01 CRITERION= .1175E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6453E-02
 HT FLOW CONVERGENCE VALUE= .5467E-04 CRITERION= .1175E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 762
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.9 CRITERION= .1314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5823
 HT FLOW CONVERGENCE VALUE= .1495E-01 CRITERION= .1140E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6304E-02
 HT FLOW CONVERGENCE VALUE= .5196E-04 CRITERION= .1140E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 764
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.8 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5822
 HT FLOW CONVERGENCE VALUE= .1453E-01 CRITERION= .1112E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6138E-02
 HT FLOW CONVERGENCE VALUE= .4922E-04 CRITERION= .1112E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 766
 *** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:48:10 JUN 28, 1995 CP= 29331.540
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 118.1 CRITERION= .1186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4998
 HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .1084E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5279E-02
 HT FLOW CONVERGENCE VALUE= .4224E-04 CRITERION= .1084E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 768
 *** TIME = .195657E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.0 CRITERION= .1186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4996
 HT FLOW CONVERGENCE VALUE= .1244E-01 CRITERION= .1064E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5167E-02
 HT FLOW CONVERGENCE VALUE= .4046E-04 CRITERION= .1064E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 770
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.1 CRITERION= .1186
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5001
HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .1037E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5070E-02
HT FLOW CONVERGENCE VALUE= .3880E-04 CRITERION= .1037E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 772
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.0 CRITERION= .1185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4999
HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .1016E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4957E-02
HT FLOW CONVERGENCE VALUE= .3709E-04 CRITERION= .1016E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 774
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.1 CRITERION= .1185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5004
HT FLOW CONVERGENCE VALUE= .1165E-01 CRITERION= .9891E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4859E-02
HT FLOW CONVERGENCE VALUE= .3549E-04 CRITERION= .9891E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 776
*** TIME = .220903E+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 01:57:57 JUN 28, 1995 CP= 29626.230
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 104.3 CRITERION= .1048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4387
HT FLOW CONVERGENCE VALUE= .1007E-01 CRITERION= .9721E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4190E-02
HT FLOW CONVERGENCE VALUE= .3009E-04 CRITERION= .9721E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 778
*** TIME = .227215E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.3 CRITERION= .1048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4392
HT FLOW CONVERGENCE VALUE= .9875E-02 CRITERION= .9481E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4116E-02
HT FLOW CONVERGENCE VALUE= .2893E-04 CRITERION= .9481E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 780
*** TIME = .233526E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.3 CRITERION= .1047
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4389
HT FLOW CONVERGENCE VALUE= .9655E-02 CRITERION= .9311E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4028E-02
HT FLOW CONVERGENCE VALUE= .2772E-04 CRITERION= .9312E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
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*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 782
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.3 CRITERION= .1047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4394
 HT FLOW CONVERGENCE VALUE= .9462E-02 CRITERION= .9071E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3954E-02
 HT FLOW CONVERGENCE VALUE= .2660E-04 CRITERION= .9071E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 784
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.3 CRITERION= .1047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4391
 HT FLOW CONVERGENCE VALUE= .9242E-02 CRITERION= .8901E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3866E-02
 HT FLOW CONVERGENCE VALUE= .2544E-04 CRITERION= .8902E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 786
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=IP 9000/7XX 02:07:42 JUN 28, 1995 CP= 29920.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 94.07 CRITERION= .9448E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3840
 HT FLOW CONVERGENCE VALUE= .8150E-02 CRITERION= .8703E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 787
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 94.03 CRITERION= .9444E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3803
 HT FLOW CONVERGENCE VALUE= .7980E-02 CRITERION= .8575E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 788
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 94.07 CRITERION= .9445E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3808
 HT FLOW CONVERGENCE VALUE= .7845E-02 CRITERION= .8376E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 789
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 94.03 CRITERION= .9441E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3806
 HT FLOW CONVERGENCE VALUE= .7685E-02 CRITERION= .8248E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 790
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 94.07 CRITERION= .9442E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3811
 HT FLOW CONVERGENCE VALUE= .7549E-02 CRITERION= .8050E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 791

*** 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 02:14:33 JUN 28, 1995 CP= 30121.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 82.58 CRITERION= .8298E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3291
HT FLOW CONVERGENCE VALUE= .6497E-02 CRITERION= .7950E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 792
*** TIME = .290330E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.62 CRITERION= .8299E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3300
HT FLOW CONVERGENCE VALUE= .6402E-02 CRITERION= .7780E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 793
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.58 CRITERION= .8295E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3297
HT FLOW CONVERGENCE VALUE= .6284E-02 CRITERION= .7680E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 794
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.62 CRITERION= .8296E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3302
HT FLOW CONVERGENCE VALUE= .6188E-02 CRITERION= .7510E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 795
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.58 CRITERION= .8293E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3299
HT FLOW CONVERGENCE VALUE= .6070E-02 CRITERION= .7411E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 796
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 30321.890

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12b.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 02:21:25 JUN 28, 1995 CP= 30325.690
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1298 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	1298 TEMP	peakclad	138.6	.3156E+11	216.8	.3156E+09

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 315576032.

***** ROUTINE COMPLETED ***** CP = 30325.900

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:21:27 JUN 28, 1995 CP= 30325.920
FOR SUPPORT CALL ROBERT BAINEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 .76525E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

2845 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

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= 529
TIME/FREQUENCY= .31558E+09

TITLE=
12 PWR UCF/WP at Time of Peak Temp. (10.000001 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=
12 PWR UCF/WP at Time of Peak Temp. (10.000001 years)

*** WARNING *** CP= 30350.720 TIME= 02:22:18
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= 529
TIME/FREQUENCY= .31558E+09

TITLE=
12 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 142.69 BY .58364 TO 216.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 10 years

*** WARNING *** CP= 30382.510 TIME= 02:23:26
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= 657
TIME/FREQUENCY= .15779E+10

TITLE=
12 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 142.69 BY .58364 TO 216.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 50 years

*** WARNING *** CP= 30413.860 TIME= 02:24:30
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= 6 CUMULATIVE ITERATION= 712
TIME/FREQUENCY= .31558E+10

TITLE=
12 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 142.69 BY .58364 TO 216.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 100 years

*** WARNING *** CP= 30445.170 TIME= 02:25:33
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED, ***** CP = 30451.630

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 02:25:45 JUN 28, 1995 CP= 30451.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t010045
 VARIABLE 3 IS AT NODE 31 ITEM= TEMP COMP= NAME= s010l45
 VARIABLE 4 IS AT NODE 1105 ITEM= TEMP COMP= NAME= s01il45
 VARIABLE 5 IS AT NODE 1242 ITEM= TEMP COMP= NAME= c01i045
 VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c045
 VARIABLE 7 IS AT NODE 1353 ITEM= TEMP COMP= NAME= c01o045
 VARIABLE 8 IS AT NODE 1063 ITEM= TEMP COMP= NAME= s01ir45
 VARIABLE 9 IS AT NODE 229 ITEM= TEMP COMP= NAME= s01or45
 VARIABLE 10 IS AT NODE 243 ITEM= TEMP COMP= NAME= g01o045
 VARIABLE 11 IS AT NODE 2682 ITEM= TEMP COMP= NAME= i01i045
 VARIABLE 12 IS AT NODE 2631 ITEM= TEMP COMP= NAME= i01o045
 VARIABLE 13 IS AT NODE 2845 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 3 and 5
 VARIABLE 14 IS AT NODE 2309 ITEM= TEMP COMP= NAME= c03c045
 VARIABLE 15 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c045
 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	2 TEMP	t010045	109.9	.1000E-05	196.8	.3156E+09
3	NSOL	31 TEMP	s010l45	109.9	.1000E-05	196.8	.3156E+09
4	NSOL	1105 TEMP	s01il45	109.9	.1000E-05	196.8	.3156E+09
5	NSOL	1242 TEMP	c01i045	127.7	.1000E-05	206.8	.3156E+09
6	NSOL	1298 TEMP	c01c045	138.6	.3156E+11	216.8	.3156E+09
7	NSOL	1353 TEMP	c01o045	136.4	.1000E-05	209.5	.3156E+09
8	NSOL	1063 TEMP	s01ir45	104.2	.1000E-05	188.7	.6312E+09
9	NSOL	229 TEMP	s01or45	102.6	.1000E-05	187.7	.6312E+09
10	NSOL	243 TEMP	g01o045	99.61	.1000E-05	185.9	.6312E+09
11	NSOL	2682 TEMP	i01i045	28.01	.1000E-05	160.9	.1578E+10
12	NSOL	2631 TEMP	i01o045	27.27	.1000E-05	160.5	.1578E+10
13	NSOL	2845 TEMP	o08o045	26.14	.1000E-05	159.9	.1578E+10
14	NSOL	2309 TEMP	c03c045	122.6	.1000E-05	199.5	.3156E+09
15	NSOL	1635 TEMP	c05c045	121.4	.1000E-05	198.6	.3156E+09

1
 ***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:48 JUN 28, 1995 CP= 30453.080
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s010l45	s01il45	c01i045	c01c045
.10000E-05	109.921	109.923	109.934	127.749	146.312
.20000E-05	137.362	137.364	137.375	153.559	170.210
31.558	137.362	137.365	137.375	153.559	170.209
.31558E+07	156.691	156.697	156.712	171.788	187.179
.63116E+07	161.730	161.737	161.752	176.515	191.565

.94673E+07	164.887	164.894	164.909	179.459	194.273
.12623E+08	167.261	167.268	167.283	181.648	196.258
.15779E+08	169.138	169.145	169.160	183.367	197.803
.18935E+08	170.696	170.703	170.717	184.785	199.068
.22090E+08	172.029	172.036	172.050	185.995	200.144
.25246E+08	173.199	173.206	173.221	187.049	201.074
.28402E+08	174.242	174.249	174.264	187.987	201.898
.31558E+08	175.186	175.192	175.207	188.829	202.632
.63115E+08	182.059	182.065	182.080	194.926	207.890
.94673E+08	186.173	186.180	186.193	198.463	210.808
.12623E+09	189.005	189.011	189.024	200.838	212.696
.15779E+09	191.281	191.287	191.300	202.746	214.214
.18935E+09	192.766	192.773	192.785	203.846	214.918
.22090E+09	194.263	194.269	194.282	205.033	215.785
.25246E+09	195.557	195.563	195.575	206.040	216.497
.28402E+09	196.132	196.138	196.150	206.370	216.579
.31558E+09	196.772	196.778	196.789	206.808	216.814
.63115E+09	196.211	196.216	196.225	204.519	212.821
.94673E+09	193.974	193.978	193.987	201.022	208.091
.12623E+10	190.680	190.684	190.691	196.777	202.924
.15779E+10	186.937	186.940	186.946	192.255	197.637
.18935E+10	183.304	183.307	183.313	188.008	192.783
.22090E+10	180.061	180.063	180.068	184.262	188.541
.25246E+10	176.650	176.652	176.656	180.447	184.328
.28402E+10	173.864	173.866	173.870	177.334	180.888
.31558E+10	171.409	171.411	171.415	174.588	177.851
.63115E+10	159.160	159.161	159.163	161.054	163.019
.94673E+10	153.321	153.322	153.324	154.802	156.347
.12623E+11	150.010	150.011	150.012	151.254	152.555
.15779E+11	147.470	147.470	147.471	148.555	149.693
.18935E+11	144.850	144.850	144.852	145.809	146.815
.22090E+11	142.571	142.572	142.573	143.434	144.341
.25246E+11	140.568	140.568	140.569	141.346	142.165
.28402E+11	138.800	138.800	138.801	139.510	140.259
.31558E+11	137.265	137.266	137.266	137.919	138.610

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:48 JUN 28, 1995 CP= 30453.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s01ir45	s01or45	g01o045	i01i045
.10000E-05	136.385	104.186	102.620	99.6121	28.0052
.20000E-05	160.549	129.729	128.191	125.217	59.3360
31.558	160.548	129.729	128.191	125.217	59.3360
.31558E+07	177.747	148.052	146.541	143.620	82.3240
.63116E+07	182.181	152.763	151.257	148.351	88.2865
.94673E+07	184.935	155.745	154.247	151.355	92.1867
.12623E+08	186.965	157.982	156.490	153.612	95.1953
.15779E+08	188.554	159.761	158.275	155.412	97.6535
.18935E+08	189.859	161.242	159.763	156.913	99.7436
.22090E+08	190.974	162.518	161.046	158.209	101.571
.25246E+08	191.941	163.641	162.175	159.351	103.209
.28402E+08	192.801	164.648	163.188	160.377	104.693
.31558E+08	193.570	165.561	164.107	161.308	106.065
.63115E+08	199.135	172.293	170.890	168.194	116.368
.94673E+08	202.317	176.429	175.070	172.462	123.203
.12623E+09	204.428	179.335	178.015	175.481	128.249
.15779E+09	206.130	181.684	180.396	177.923	132.308
.18935E+09	207.047	183.328	182.078	179.676	135.763
.22090E+09	208.082	184.938	183.717	181.370	138.807
.25246E+09	208.953	186.350	185.157	182.863	141.543
.28402E+09	209.183	187.068	185.901	183.655	143.409

.31558E+09	209.536	187.814	186.667	184.461	145.082
.63115E+09	206.703	188.658	187.709	185.882	153.973
.94673E+09	202.865	187.573	186.772	185.232	158.615
.12623E+10	198.392	185.210	184.522	183.202	160.465
.15779E+10	193.693	182.253	181.659	180.518	160.889
.18935E+10	189.308	179.245	178.724	177.726	160.512
.22090E+10	185.450	176.507	176.046	175.162	159.900
.25246E+10	181.548	173.513	173.101	172.311	158.612
.28402E+10	178.359	171.053	170.680	169.964	157.509
.31558E+10	175.543	168.881	168.541	167.890	156.533
.63115E+10	161.672	157.794	157.600	157.226	150.609
.94673E+10	155.305	152.307	152.158	151.871	146.740
.12623E+11	151.685	149.183	149.059	148.821	144.529
.15779E+11	148.937	146.763	146.656	146.450	142.715
.18935E+11	146.151	144.239	144.145	143.964	140.671
.22090E+11	143.746	142.033	141.949	141.787	138.829
.25246E+11	141.631	140.090	140.015	139.870	137.204
.28402E+11	139.772	138.371	138.302	138.171	135.740
.31558E+11	138.164	136.876	136.813	136.692	134.455

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:48 JUN 28, 1995 CP= 30453.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
	101o045	o08o045	c03c045	c05c045
.10000E-05	27.2739	26.1375	122.614	121.351
.20000E-05	58.5043	57.2838	146.986	145.592
31.558	58.5043	57.2838	146.985	145.592
.31558E+07	81.4274	80.1526	164.372	163.352
.63116E+07	87.3757	86.0897	168.883	167.858
.94673E+07	91.2693	89.9794	171.724	170.692
.12623E+08	94.2742	92.9816	173.820	172.787
.15779E+08	96.7318	95.4378	175.478	174.444
.18935E+08	98.8221	97.5276	176.846	175.813
.22090E+08	100.650	99.3558	178.023	176.990
.25246E+08	102.290	100.996	179.049	178.018
.28402E+08	103.775	102.483	179.967	178.936
.31558E+08	105.148	103.858	180.793	179.764
.63115E+08	115.468	114.197	186.834	185.820
.94673E+08	122.322	121.075	190.416	189.424
.12623E+09	127.389	126.166	192.871	191.896
.15779E+09	131.466	130.263	194.857	193.894
.18935E+09	134.943	133.767	196.101	195.158
.22090E+09	138.003	136.849	197.394	196.465
.25246E+09	140.756	139.622	198.509	197.596
.28402E+09	142.638	141.525	198.963	198.063
.31558E+09	144.323	143.227	199.497	198.605
.63115E+09	153.345	152.430	198.367	197.610
.94673E+09	158.087	157.313	195.808	195.160
.12623E+10	160.015	159.352	192.321	191.759
.15779E+10	160.502	159.932	188.434	187.949
.18935E+10	160.176	159.679	184.690	184.268
.22090E+10	159.604	159.167	181.352	180.982
.25246E+10	158.349	157.961	177.876	177.546
.28402E+10	157.271	156.922	175.024	174.729
.31558E+10	156.318	156.002	172.506	172.241
.63115E+10	150.489	150.312	159.920	159.774
.94673E+10	146.649	146.515	153.957	153.848
.12623E+11	144.454	144.344	150.562	150.473
.15779E+11	142.650	142.556	147.962	147.885
.18935E+11	140.614	140.532	145.295	145.228
.22090E+11	138.779	138.706	142.979	142.919

.25246E+11	137.159	137.093	140.942	140.889
.28402E+11	135.699	135.640	139.146	139.098
.31558E+11	134.418	134.364	137.588	137.545

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 30453.220 TIME= 02:25:49
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135

VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135

VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135

VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135

VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135

VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135

VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s020r135

VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135

VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135

VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135

VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
 Add centers of assemblies 4 and 6

VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135

VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	109.9	.1000E-05	196.8	.3156E+09
3	NSOL	1 TEMP	s02o0135	109.9	.1000E-05	196.8	.3156E+09
4	NSOL	402 TEMP	s02i0135	109.9	.1000E-05	196.8	.3156E+09
5	NSOL	486 TEMP	c02i0135	127.7	.1000E-05	206.6	.3156E+09
6	NSOL	542 TEMP	c02c0135	138.6	.3156E+11	216.5	.3156E+09
7	NSOL	597 TEMP	c02o0135	136.4	.1000E-05	209.2	.3156E+09
8	NSOL	417 TEMP	s02ir135	104.4	.1000E-05	188.3	.6312E+09
9	NSOL	316 TEMP	s020r135	102.8	.1000E-05	187.4	.6312E+09
10	NSOL	315 TEMP	g02o0135	99.81	.1000E-05	185.5	.6312E+09
11	NSOL	2473 TEMP	i02i0135	28.02	.1000E-05	160.5	.1578E+10
12	NSOL	2422 TEMP	i02o0135	27.29	.1000E-05	160.1	.1578E+10
13	NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	159.5	.1578E+10
14	NSOL	1972 TEMP	c04c0135	122.7	.1000E-05	199.3	.3156E+09
15	NSOL	961 TEMP	c06c0135	122.7	.1000E-05	199.1	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:51 JUN 28, 1995 CP= 30454.550
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
	t0200135	s0200135	s02i0135	c02i0135	c02c0135
.10000E-05	109.921	109.918	109.924	127.688	146.272
.20000E-05	137.362	137.359	137.364	153.486	170.161
31.558	137.362	137.359	137.364	153.486	170.160
.31558E+07	156.691	156.683	156.684	171.554	186.798
.63116E+07	161.730	161.722	161.723	176.278	191.175
.94673E+07	164.887	164.880	164.880	179.221	193.884
.12623E+08	167.261	167.253	167.254	181.409	195.867
.15779E+08	169.138	169.131	169.131	183.128	197.412
.18935E+08	170.696	170.688	170.689	184.545	198.676
.22090E+08	172.029	172.021	172.022	185.755	199.752
.25246E+08	173.199	173.192	173.192	186.810	200.683
.28402E+08	174.242	174.235	174.236	187.748	201.507
.31558E+08	175.186	175.178	175.179	188.590	202.241
.63115E+08	182.059	182.051	182.052	194.691	207.506
.94673E+08	186.173	186.166	186.166	198.230	210.427
.12623E+09	189.005	188.997	188.997	200.609	212.321
.15779E+09	191.281	191.274	191.274	202.522	213.846
.18935E+09	192.766	192.760	192.760	203.627	214.557
.22090E+09	194.263	194.257	194.256	204.818	215.430
.25246E+09	195.557	195.550	195.550	205.828	216.148
.28402E+09	196.132	196.126	196.126	206.162	216.237
.31558E+09	196.772	196.765	196.765	206.605	216.479
.63115E+09	196.211	196.205	196.205	204.347	212.536
.94673E+09	193.974	193.970	193.969	200.873	207.843
.12623E+10	190.680	190.676	190.676	196.649	202.708
.15779E+10	186.937	186.934	186.933	192.143	197.446
.18935E+10	183.304	183.301	183.301	187.907	192.612
.22090E+10	180.061	180.058	180.058	184.172	188.385
.25246E+10	176.650	176.647	176.647	180.366	184.187
.28402E+10	173.864	173.861	173.861	177.259	180.757
.31558E+10	171.409	171.407	171.407	174.519	177.729
.63115E+10	159.160	159.158	159.158	161.012	162.944
.94673E+10	153.321	153.320	153.320	154.769	156.287
.12623E+11	150.010	150.009	150.009	151.226	152.504
.15779E+11	147.470	147.469	147.469	148.531	149.648
.18935E+11	144.850	144.849	144.849	145.787	146.776
.22090E+11	142.571	142.571	142.571	143.415	144.306
.25246E+11	140.568	140.567	140.567	141.329	142.134
.28402E+11	138.800	138.799	138.799	139.494	140.229
.31558E+11	137.265	137.265	137.265	137.905	138.583

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:51 JUN 28, 1995 CP= 30454.560
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP	417 TEMP	316 TEMP	315 TEMP	2473 TEMP
	c0200135	s02ir135	s020r135	g0200135	i02i0135
.10000E-05	136.438	104.368	102.808	99.8115	28.0225
.20000E-05	160.609	129.940	128.409	125.449	59.4070
31.558	160.608	129.940	128.409	125.449	59.4070
.31558E+07	177.342	147.581	146.068	143.142	81.2130
.63116E+07	181.767	152.283	150.776	147.865	87.1688
.94673E+07	184.522	155.268	153.767	150.872	91.0785
.12623E+08	186.551	157.506	156.012	153.130	94.0954
.15779E+08	188.140	159.285	157.798	154.931	96.5600
.18935E+08	189.445	160.767	159.286	156.433	98.6563
.22090E+08	190.560	162.045	160.570	157.730	100.489
.25246E+08	191.528	163.168	161.700	158.873	102.133

.28402E+08	192.388	164.176	162.714	159.899	103.623
.31558E+08	193.158	165.090	163.635	160.832	104.999
.63115E+08	198.730	171.832	170.428	167.728	115.345
.94673E+08	201.916	175.972	174.611	171.999	122.206
.12623E+09	204.034	178.886	177.564	175.027	127.282
.15779E+09	205.743	181.245	179.956	177.479	131.371
.18935E+09	206.668	182.898	181.647	179.241	134.853
.22090E+09	207.710	184.516	183.294	180.944	137.921
.25246E+09	208.587	185.935	184.741	182.444	140.678
.28402E+09	208.825	186.663	185.495	183.246	142.567
.31558E+09	209.187	187.420	186.272	184.063	144.264
.63115E+09	206.406	188.325	187.374	185.545	153.302
.94673E+09	202.605	187.282	186.480	184.937	158.044
.12623E+10	198.165	184.957	184.268	182.945	159.975
.15779E+10	193.491	182.027	181.432	180.289	160.459
.18935E+10	189.126	179.040	178.518	177.518	160.128
.22090E+10	185.283	176.317	175.855	174.970	159.550
.25246E+10	181.396	173.340	172.927	172.135	158.295
.28402E+10	178.217	170.890	170.516	169.798	157.213
.31558E+10	175.410	168.726	168.386	167.733	156.256
.63115E+10	161.587	157.693	157.498	157.124	150.436
.94673E+10	155.236	152.225	152.076	151.788	146.601
.12623E+11	151.627	149.112	148.988	148.749	144.410
.15779E+11	148.886	146.702	146.594	146.387	142.612
.18935E+11	146.106	144.185	144.091	143.909	140.579
.22090E+11	143.705	141.984	141.900	141.738	138.748
.25246E+11	141.594	140.046	139.970	139.825	137.129
.28402E+11	139.738	138.329	138.261	138.128	135.671
.31558E+11	138.132	136.837	136.774	136.653	134.391

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:25:51 JUN 28, 1995 CP= 30454.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	i02o0135	o02o0135	c04c0135	c06c0135
.10000E-05	27.2860	26.1375	122.659	122.659
.20000E-05	58.5687	57.3338	147.045	147.055
31.558	58.5687	57.3338	147.044	147.054
.31558E+07	80.3082	79.0146	164.125	163.902
.63116E+07	86.2493	84.9439	168.632	168.408
.94673E+07	90.1521	88.8425	171.473	171.251
.12623E+08	93.1641	91.8517	173.571	173.350
.15779E+08	95.6280	94.3143	175.229	175.009
.18935E+08	97.7244	96.4100	176.598	176.380
.22090E+08	99.5579	98.2438	177.775	177.558
.25246E+08	101.203	99.8895	178.802	178.585
.28402E+08	102.694	101.382	179.720	179.504
.31558E+08	104.072	102.761	180.547	180.332
.63115E+08	114.434	113.142	186.593	186.385
.94673E+08	121.314	120.046	190.178	189.971
.12623E+09	126.411	125.167	192.637	192.435
.15779E+09	130.517	129.294	194.628	194.431
.18935E+09	134.022	132.826	195.877	195.684
.22090E+09	137.106	135.932	197.174	196.985
.25246E+09	139.880	138.726	198.293	198.108
.28402E+09	141.785	140.652	198.751	198.570
.31558E+09	143.495	142.379	199.290	199.114
.63115E+09	152.665	151.732	198.192	198.044
.94673E+09	157.508	156.719	195.654	195.525
.12623E+10	159.518	158.843	192.187	192.074
.15779E+10	160.066	159.486	188.314	188.214
.18935E+10	159.786	159.280	184.582	184.491

.22090E+10	159.249	158.804	181.252	181.170
.25246E+10	158.027	157.632	177.784	177.709
.28402E+10	156.972	156.615	174.938	174.868
.31558E+10	156.038	155.715	172.425	172.359
.63115E+10	150.313	150.133	159.868	159.825
.94673E+10	146.508	146.372	153.915	153.880
.12623E+11	144.333	144.221	150.525	150.496
.15779E+11	142.545	142.449	147.930	147.904
.18935E+11	140.522	140.437	145.266	145.243
.22090E+11	138.696	138.622	142.954	142.934
.25246E+11	137.083	137.017	140.919	140.900
.28402E+11	135.629	135.569	139.124	139.107
.31558E+11	134.353	134.298	137.568	137.552

***** ROUTINE COMPLETED ***** CP = 30454.580

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12b.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 23
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

*-----*
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|               REV. 5.0 A               |               HP 9000/7XX               |
|               CP TIME (sec) = 30457.240           |               TIME = 02:25:56           |
|               ELAPSED TIME (sec) = 62382.000       |               DATE = 06/28/95           |
|-----|
|               WELCOME TO THE ANSYS PROGRAM               |
|-----|
  
```

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf12b
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
 WORK SPACE REQUESTED = 8388608 32.000 MB DEFAULT
 MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
 MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
 WORK SPACE OBTAINED = 8388606 32.000 MB
 BYTES PER WORD = 4

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
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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 resume,
2 /COM, *****
3 /COM,      Print time/temperature output at specific locations
4 /COM,      Save profile from center to edge
5 /COM,
6 /COM,      Variable Legend: A01i000
7 /COM,      c = center of assembly
8 /COM,      h = halfway between center and tube
9 /COM,      s = inside structural stainless tube layer
10 /COM,     t = stainless tube cladding
11 /COM,     g = tube guide
12 /COM,     i = inner barrier of DC
13 /COM,     o = outer barrier of DC
14 /COM,     ## = ID number of assembly (01 is center)
15 /COM,     i = side of assembly toward center of WP
16 /COM,     o = side of assembly toward edge of WP
17 /COM,     000 = profile center down
18 /COM,     045 = profile 45 deg down
19 /COM,     090 = profile center side
20 /COM,     135 = profile 45 deg up
21 /COM,     180 = profile center up
22 /POST26,
23 NUMVAR,30,
24 /COM,
25 /COM,
26 /COM, *****
27 /COM, * Temperature Profile from center to lower right (45 deg.) *
28 /COM, *****
29 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t010045,
30 NSOL, 3,(NODE(TWALL/2.0, (0.0-TWALL/2.0),0.0)),TEMP,,s01o145,
31 NSOL, 4,(NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL),0.0)),TEMP,,s01i145,
32 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL), (-TWALL/2.-SWALL-QCELL),0)),TEMP,,c01i045,
33 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0),0.0)),TEMP,,c01o045,
34 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL),0)),TEMP,,c01o045
35 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL), (-PITCH-TWALL/2.+SWALL),0)),TEMP,,s01i145,
36 NSOL, 9,(NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH),0.0)),TEMP,,s01o145,
37 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL), (-TWALL/2.-PITCH-GWALL),0)),TEMP,,g01o045,
38 NSOL,11,(NODE( D145, (-1.0*D145),0.0)),TEMP,,i01i045,
39 NSOL,12,(NODE( D145, (-1.0*D145),0.0)),TEMP,,i01o045,
40 NSOL,13,(NODE( D045, (-1.0*D045),0.0)),TEMP,,o08o045,
41 /COM,      Add centers of assemblies 3 and 5
42 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH) , -(SCCELL+TWALL/2.0),0.0)),TEMP,,c03c045,

```

```

43 NSOL,15,(NODE( (SCCELL+TWALL/2.0) , (-SCCELL-TWALL/2.0-PITCH),0.0)),TEMP,,c05c045,
44 PRVAR, 2, 3, 4, 5, 6,
45 PRVAR, 7, 8, 9, 10,11,
46 PRVAR, 12,13,14,15,
47 /COM,
48 /COM,
49 /COM, *****
50 /COM, * Temperature Profile from center to upper right (135 deg.) *
51 /COM, *****
52 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,t0200135,
53 NSOL, 3,(NODE(TWALL/2.0, TWALL/2.0,0.0)),TEMP,,s02o0135,
54 NSOL, 4,(NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0)),TEMP,,s02i0135,
55 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),(TWALL/2.+SWALL+QCELL),0)),TEMP,,c02i0135,
56 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0),0.0)),TEMP,,c02c0135,
57 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL),(TWALL/2+SWALL+3*QCELL),0)),TEMP,,c02o0135,
58 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL),(PITCH+TWALL/2.-SWALL),0)),TEMP,,s02ir135,
59 NSOL, 9,(NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH),0.0)),TEMP,,s02or135,
60 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL),(TWALL/2.+PITCH+GWALL),0)),TEMP,,g02o0135,
61 NSOL,11,(NODE( D145, D145,0.0)),TEMP,,i02i0135,
62 NSOL,12,(NODE( DM45, DM45,0.0)),TEMP,,i02o0135,
63 NSOL,13,(NODE( DO45, DO45,0.0)),TEMP,,o02o0135,
64 /COM, Add centers of assemblies 4 and 6
65 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH) , (SCCELL+TWALL/2.0),0.0)),TEMP,,c04c0135,
66 NSOL,15,(NODE( (SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0+PITCH),0.0)),TEMP,,c06c0135,
67 PRVAR, 2, 3, 4, 5, 6,
68 PRVAR, 7, 8, 9, 10,11,
69 PRVAR, 12,13,14,15,
70 /COM, *****
71 /COM, * Temperature profile from the center of inner column
72 /COM, *****
73 NSOL,2,(NODE((TWALL/4.0+PITCH/2.0), 0.0,0.0)),TEMP,,t01c090,
74 NSOL,3,(NODE((TWALL/2.0+PITCH/2.0), -(TWALL/2.0),0.0)),TEMP,,s01ou90,
75 NSOL,4,(NODE((SCCELL+TWALL/2.0), -(TWALL/2.0+SWALL),0.0)),TEMP,,s01iu90,
76 NSOL,5,(NODE((SCCELL+TWALL/2.0), -(QCELL+TWALL/2.0+SWALL),0.0)),TEMP,,c01u090,
77 NSOL,6,(NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0),0.0)),TEMP,,c01c090,
78 NSOL,7,(NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0+QCELL),0.0)),TEMP,,c01l090,
79 NSOL,8,(NODE((SCCELL+TWALL/2.0), -(PITCH-SWALL+TWALL/2.0),0.0)),TEMP,,s01il90,
80 NSOL,9,(NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0),0.0)),TEMP,,s01ol90,
81 NSOL,10,(NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0+SWALL),0.0)),TEMP,,s05iu90,
82 NSOL,11,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0-QCELL),0)),TEMP,,c05u090,
83 NSOL,12,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0),0.0)),TEMP,,c05c090,
84 NSOL,13,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0+QCELL),0)),TEMP,,c05l090,
85 NSOL,14,(NODE((SCCELL+TWALL/2.0), -(2.0*PITCH-SWALL),0.0)),TEMP,,s05il90,
86 NSOL,15,(NODE((TWALL/2.0+PITCH/2.0), -(2.0*PITCH),0.0)),TEMP,,s05ol90,
87 NSOL,16,(NODE((DCIRD*SIN(.2157), -(DCIRD*COS(.2157)),0.0)),TEMP,,i05i090,
88 NSOL,17,(NODE((DCRAD-OWALL)*SIN(.2157), -(DCRAD-OWALL)*COS(.2157),0)),TEMP,,i5o90,
89 NSOL,18,(NODE((DCRAD*SIN(.2157), -DCRAD*COS(.2157),0.0)),TEMP,,o050090,
90 PRVAR,2,3,4,5,6,
91 PRVAR,7,8,9,10,11,
92 PRVAR,12,13,14,15,16,
93 PRVAR,17,18,
94 FINISH
95 /COM, *****
96 /COM, End of batch input file
97 /COM, *****
98 /EXIT,
99 /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

*****

```

RESUME ANSYS DATA FROM FILE NAME=ucfn12b.db

*** ANSYS GLOBAL STATUS ***

TITLE = 12 PWR UCF/WP at 100 years
 ANALYSIS TYPE = TRANSIENT
 NUMBER OF ELEMENT TYPES = 8
 3306 ELEMENTS CURRENTLY SELECTED. MAX ELEMENT NUMBER = 3530
 3379 NODES CURRENTLY SELECTED. MAX NODE NUMBER = 3633
 77 KEYPOINTS CURRENTLY SELECTED. MAX KEYPOINT NUMBER = 1001
 135 LINES CURRENTLY SELECTED. MAX LINE NUMBER = 143
 56 AREAS CURRENTLY SELECTED. MAX AREA NUMBER = 56
 MAXIMUM LINEAR PROPERTY NUMBER = 14
 ACTIVE COORDINATE SYSTEM = 0 (CARTESIAN)
 NUMBER OF SPECIFIED CONSTRAINTS = 109
 NUMBER OF SPECIFIED ELEM BODY FORCES = 1176

INITIAL JOBNAME = ucfn12b

CURRENT JOBNAME = ucfn12b

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 11:33:43 JUL 21, 1995 CP= 2.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2	IS AT NODE	2	ITEM= TEMP COMP=	NAME= t010045
VARIABLE 3	IS AT NODE	31	ITEM= TEMP COMP=	NAME= s01o145
VARIABLE 4	IS AT NODE	1105	ITEM= TEMP COMP=	NAME= s01i145
VARIABLE 5	IS AT NODE	1242	ITEM= TEMP COMP=	NAME= c01i045
VARIABLE 6	IS AT NODE	1298	ITEM= TEMP COMP=	NAME= c01c045
VARIABLE 7	IS AT NODE	1353	ITEM= TEMP COMP=	NAME= c01o045

VARIABLE 8 IS AT NODE 1063 ITEM= TEMP COMP= NAME= s01ir45
 VARIABLE 9 IS AT NODE 229 ITEM= TEMP COMP= NAME= s01or45
 VARIABLE 10 IS AT NODE 243 ITEM= TEMP COMP= NAME= g01o045
 VARIABLE 11 IS AT NODE 2682 ITEM= TEMP COMP= NAME= i01i045
 VARIABLE 12 IS AT NODE 2631 ITEM= TEMP COMP= NAME= i01o045
 VARIABLE 13 IS AT NODE 2845 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 3 and 5
 VARIABLE 14 IS AT NODE 2309 ITEM= TEMP COMP= NAME= c03c045
 VARIABLE 15 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c045

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	2 TEMP	t010045	109.9	.1000E-05	196.8 .3156E+09
3	NSOL	31 TEMP	s01ol45	109.9	.1000E-05	196.8 .3156E+09
4	NSOL	1105 TEMP	s01il45	109.9	.1000E-05	196.8 .3156E+09
5	NSOL	1242 TEMP	c01i045	127.7	.1000E-05	206.8 .3156E+09
6	NSOL	1298 TEMP	c01c045	138.6	.3156E+11	216.8 .3156E+09
7	NSOL	1353 TEMP	c01o045	136.4	.1000E-05	209.5 .3156E+09
8	NSOL	1063 TEMP	s01ir45	104.2	.1000E-05	188.7 .6312E+09
9	NSOL	229 TEMP	s01or45	102.6	.1000E-05	187.7 .6312E+09
10	NSOL	243 TEMP	g01o045	99.61	.1000E-05	185.9 .6312E+09
11	NSOL	2682 TEMP	i01i045	28.01	.1000E-05	160.9 .1578E+10
12	NSOL	2631 TEMP	i01o045	27.27	.1000E-05	160.5 .1578E+10
13	NSOL	2845 TEMP	o08o045	26.14	.1000E-05	159.9 .1578E+10
14	NSOL	2309 TEMP	c03c045	122.6	.1000E-05	199.5 .3156E+09
15	NSOL	1635 TEMP	c05c045	121.4	.1000E-05	198.6 .3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:53 JUL 21, 1995 CP= 3.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s01ol45	s01il45	c01i045	c01c045
.10000E-05	109.921	109.923	109.934	127.749	146.312
.20000E-05	137.362	137.364	137.375	153.559	170.210
31.558	137.362	137.365	137.375	153.559	170.209
.31558E+07	156.691	156.697	156.712	171.788	187.179
.63116E+07	161.730	161.737	161.752	176.515	191.565
.94673E+07	164.887	164.894	164.909	179.459	194.273
.12623E+08	167.261	167.268	167.283	181.648	196.258
.15779E+08	169.138	169.145	169.160	183.367	197.803
.18935E+08	170.696	170.703	170.717	184.785	199.068
.22090E+08	172.029	172.036	172.050	185.995	200.144
.25246E+08	173.199	173.206	173.221	187.049	201.074
.28402E+08	174.242	174.249	174.264	187.987	201.898
.31558E+08	175.186	175.192	175.207	188.829	202.632
.63115E+08	182.059	182.065	182.080	194.926	207.890
.94673E+08	186.173	186.180	186.193	198.463	210.808
.12623E+09	189.005	189.011	189.024	200.838	212.696
.15779E+09	191.281	191.287	191.300	202.746	214.214
.18935E+09	192.766	192.773	192.785	203.846	214.918
.22090E+09	194.263	194.269	194.282	205.033	215.785
.25246E+09	195.557	195.563	195.575	206.040	216.497

.28402E+09	196.132	196.138	196.150	206.370	216.579
.31558E+09	196.772	196.778	196.789	206.808	216.814
.63115E+09	196.211	196.216	196.225	204.519	212.821
.94673E+09	193.974	193.978	193.987	201.022	208.091
.12623E+10	190.680	190.684	190.691	196.777	202.924
.15779E+10	186.937	186.940	186.946	192.255	197.637
.18935E+10	183.304	183.307	183.313	188.008	192.783
.22090E+10	180.061	180.063	180.068	184.262	188.541
.25246E+10	176.650	176.652	176.656	180.447	184.328
.28402E+10	173.864	173.866	173.870	177.334	180.888
.31558E+10	171.409	171.411	171.415	174.588	177.851
.63115E+10	159.160	159.161	159.163	161.054	163.019
.94673E+10	153.321	153.322	153.324	154.802	156.347
.12623E+11	150.010	150.011	150.012	151.254	152.555
.15779E+11	147.470	147.470	147.471	148.555	149.693
.18935E+11	144.850	144.850	144.852	145.809	146.815
.22090E+11	142.571	142.572	142.573	143.434	144.341
.25246E+11	140.568	140.568	140.569	141.346	142.165
.28402E+11	138.800	138.800	138.801	139.510	140.259
.31558E+11	137.265	137.266	137.266	137.919	138.610

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:53 JUL 21, 1995 CP= 3.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s011r45	s01or45	g01o045	i01i045
.10000E-05	136.385	104.186	102.620	99.6121	28.0052
.20000E-05	160.549	129.729	128.191	125.217	59.3360
.31.558	160.548	129.729	128.191	125.217	59.3360
.31558E+07	177.747	148.052	146.541	143.620	82.3240
.63116E+07	182.181	152.763	151.257	148.351	88.2865
.94673E+07	184.935	155.745	154.247	151.355	92.1867
.12623E+08	186.965	157.982	156.490	153.612	95.1953
.15779E+08	188.554	159.761	158.275	155.412	97.6535
.18935E+08	189.859	161.242	159.763	156.913	99.7436
.22090E+08	190.974	162.518	161.046	158.209	101.571
.25246E+08	191.941	163.641	162.175	159.351	103.209
.28402E+08	192.801	164.648	163.188	160.377	104.693
.31558E+08	193.570	165.561	164.107	161.308	106.065
.63115E+08	199.135	172.293	170.890	168.194	116.368
.94673E+08	202.317	176.429	175.070	172.462	123.203
.12623E+09	204.428	179.335	178.015	175.481	128.249
.15779E+09	206.130	181.684	180.396	177.923	132.308
.18935E+09	207.047	183.328	182.078	179.676	135.763
.22090E+09	208.082	184.938	183.717	181.370	138.807
.25246E+09	208.953	186.350	185.157	182.863	141.543
.28402E+09	209.183	187.068	185.901	183.655	143.409
.31558E+09	209.536	187.814	186.667	184.461	145.082
.63115E+09	206.703	188.658	187.709	185.882	153.973
.94673E+09	202.865	187.573	186.772	185.232	158.615
.12623E+10	198.392	185.210	184.522	183.202	160.465
.15779E+10	193.693	182.253	181.659	180.518	160.889
.18935E+10	189.308	179.245	178.724	177.726	160.512
.22090E+10	185.450	176.507	176.046	175.162	159.900
.25246E+10	181.548	173.513	173.101	172.311	158.612
.28402E+10	178.359	171.053	170.680	169.964	157.509
.31558E+10	175.543	168.881	168.541	167.890	156.533
.63115E+10	161.672	157.794	157.600	157.226	150.609
.94673E+10	155.305	152.307	152.158	151.871	146.740
.12623E+11	151.685	149.183	149.059	148.821	144.529
.15779E+11	148.937	146.763	146.656	146.450	142.715
.18935E+11	146.151	144.239	144.145	143.964	140.671

.22090E+11	143.746	142.033	141.949	141.787	138.829
.25246E+11	141.631	140.090	140.015	139.870	137.204
.28402E+11	139.772	138.371	138.302	138.171	135.740
.31558E+11	138.164	136.876	136.813	136.692	134.455

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:53 JUL 21, 1995 CP= 3.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
	i01o045	o08o045	c03c045	c05c045
.10000E-05	27.2739	26.1375	122.614	121.351
.20000E-05	58.5043	57.2838	146.986	145.592
31.558	58.5043	57.2838	146.985	145.592
.31558E+07	81.4274	80.1526	164.372	163.352
.63116E+07	87.3757	86.0897	168.883	167.858
.94673E+07	91.2693	89.9794	171.724	170.692
.12623E+08	94.2742	92.9816	173.820	172.787
.15779E+08	96.7318	95.4378	175.478	174.444
.18935E+08	98.8221	97.5276	176.846	175.813
.22090E+08	100.650	99.3558	178.023	176.990
.25246E+08	102.290	100.996	179.049	178.018
.28402E+08	103.775	102.483	179.967	178.936
.31558E+08	105.148	103.858	180.793	179.764
.63115E+08	115.468	114.197	186.834	185.820
.94673E+08	122.322	121.075	190.416	189.424
.12623E+09	127.389	126.166	192.871	191.896
.15779E+09	131.466	130.263	194.857	193.894
.18935E+09	134.943	133.767	196.101	195.158
.22090E+09	138.003	136.849	197.394	196.465
.25246E+09	140.756	139.622	198.509	197.596
.28402E+09	142.638	141.525	198.963	198.063
.31558E+09	144.323	143.227	199.497	198.605
.63115E+09	153.345	152.430	198.367	197.610
.94673E+09	158.087	157.313	195.808	195.160
.12623E+10	160.015	159.352	192.321	191.759
.15779E+10	160.502	159.932	188.434	187.949
.18935E+10	160.176	159.679	184.690	184.268
.22090E+10	159.604	159.167	181.352	180.982
.25246E+10	158.349	157.961	177.876	177.546
.28402E+10	157.271	156.922	175.024	174.729
.31558E+10	156.318	156.002	172.506	172.241
.63115E+10	150.489	150.312	159.920	159.774
.94673E+10	146.649	146.515	153.957	153.848
.12623E+11	144.454	144.344	150.562	150.473
.15779E+11	142.650	142.556	147.962	147.885
.18935E+11	140.614	140.532	145.295	145.228
.22090E+11	138.779	138.706	142.979	142.919
.25246E+11	137.159	137.093	140.942	140.889
.28402E+11	135.699	135.640	139.146	139.098
.31558E+11	134.418	134.364	137.588	137.545

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 3.980 TIME= 11:33:53
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135
 VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135
 VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135
 VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135
 VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135
 VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135
 VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s02or135
 VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135
 VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135
 VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135
 VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
 Add centers of assemblies 4 and 6
 VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135
 VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	109.9	.1000E-05	196.8	.3156E+09
3 NSOL	1 TEMP	s02o0135	109.9	.1000E-05	196.8	.3156E+09
4 NSOL	402 TEMP	s02i0135	109.9	.1000E-05	196.8	.3156E+09
5 NSOL	486 TEMP	c02i0135	127.7	.1000E-05	206.6	.3156E+09
6 NSOL	542 TEMP	c02c0135	138.6	.3156E+11	216.5	.3156E+09
7 NSOL	597 TEMP	c02o0135	136.4	.1000E-05	209.2	.3156E+09
8 NSOL	417 TEMP	s02ir135	104.4	.1000E-05	188.3	.6312E+09
9 NSOL	316 TEMP	s02or135	102.8	.1000E-05	187.4	.6312E+09
10 NSOL	315 TEMP	g02o0135	99.81	.1000E-05	185.5	.6312E+09
11 NSOL	2473 TEMP	i02i0135	28.02	.1000E-05	160.5	.1578E+10
12 NSOL	2422 TEMP	i02o0135	27.29	.1000E-05	160.1	.1578E+10
13 NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	159.5	.1578E+10
14 NSOL	1972 TEMP	c04c0135	122.7	.1000E-05	199.3	.3156E+09
15 NSOL	961 TEMP	c06c0135	122.7	.1000E-05	199.1	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:55 JUL 21, 1995 CP= 5.450
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
	t0200135	s02o0135	s02i0135	c02i0135	c02c0135
.10000E-05	109.921	109.918	109.924	127.688	146.272
.20000E-05	137.362	137.359	137.364	153.486	170.161
31.558	137.362	137.359	137.364	153.486	170.160
.31558E+07	156.691	156.683	156.684	171.554	186.798
.63116E+07	161.730	161.722	161.723	176.278	191.175
.94673E+07	164.887	164.880	164.880	179.221	193.884
.12623E+08	167.261	167.253	167.254	181.409	195.867
.15779E+08	169.138	169.131	169.131	183.128	197.412
.18935E+08	170.696	170.688	170.689	184.545	198.676
.22090E+08	172.029	172.021	172.022	185.755	199.752

.25246E+08	173.199	173.192	173.192	186.810	200.683
.28402E+08	174.232	174.235	174.236	187.748	201.507
.31558E+08	175.186	175.178	175.179	188.590	202.241
.63115E+08	182.059	182.051	182.052	194.691	207.506
.94673E+08	186.173	186.166	186.166	198.230	210.427
.12623E+09	189.005	188.997	188.997	200.609	212.321
.15779E+09	191.281	191.274	191.274	202.522	213.846
.18935E+09	192.766	192.760	192.760	203.627	214.557
.22090E+09	194.263	194.257	194.256	204.818	215.430
.25246E+09	195.557	195.550	195.550	205.828	216.148
.28402E+09	196.132	196.126	196.126	206.162	216.237
.31558E+09	196.772	196.765	196.765	206.605	216.479
.63115E+09	196.211	196.205	196.205	204.347	212.536
.94673E+09	193.974	193.970	193.969	200.873	207.843
.12623E+10	190.680	190.676	190.676	196.649	202.708
.15779E+10	186.937	186.934	186.933	192.143	197.446
.18935E+10	183.304	183.301	183.301	187.907	192.612
.22090E+10	180.061	180.058	180.058	184.172	188.385
.25246E+10	176.650	176.647	176.647	180.366	184.187
.28402E+10	173.864	173.861	173.861	177.259	180.757
.31558E+10	171.409	171.407	171.407	174.519	177.729
.63115E+10	159.160	159.158	159.158	161.012	162.944
.94673E+10	153.321	153.320	153.320	154.769	156.287
.12623E+11	150.010	150.009	150.009	151.226	152.504
.15779E+11	147.470	147.469	147.469	148.531	149.648
.18935E+11	144.850	144.849	144.849	145.787	146.776
.22090E+11	142.571	142.571	142.571	143.415	144.306
.25246E+11	140.568	140.567	140.567	141.329	142.134
.28402E+11	138.800	138.799	138.799	139.494	140.229
.31558E+11	137.265	137.265	137.265	137.905	138.583

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=IP 9000/7XX 11:33:55 JUL 21, 1995 CP= 5.470
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP c02o0135	417 TEMP s02ir135	316 TEMP s020r135	315 TEMP g02o0135	2473 TEMP i02i0135
.10000E-05	136.438	104.368	102.808	99.8115	28.0225
.20000E-05	160.609	129.940	128.409	125.449	59.4070
31.558	160.608	129.940	128.409	125.449	59.4070
.31558E+07	177.342	147.581	146.068	143.142	81.2130
.63116E+07	181.767	152.283	150.776	147.865	87.1688
.94673E+07	184.522	155.268	153.767	150.872	91.0785
.12623E+08	186.551	157.506	156.012	153.130	94.0954
.15779E+08	188.140	159.285	157.798	154.931	96.5600
.18935E+08	189.445	160.767	159.286	156.433	98.6563
.22090E+08	190.560	162.045	160.570	157.730	100.489
.25246E+08	191.528	163.168	161.700	158.873	102.133
.28402E+08	192.388	164.176	162.714	159.899	103.623
.31558E+08	193.158	165.090	163.635	160.832	104.999
.63115E+08	198.730	171.832	170.428	167.728	115.345
.94673E+08	201.916	175.972	174.611	171.999	122.206
.12623E+09	204.034	178.886	177.564	175.027	127.282
.15779E+09	205.743	181.245	179.956	177.479	131.371
.18935E+09	206.668	182.898	181.647	179.241	134.853
.22090E+09	207.710	184.516	183.294	180.944	137.921
.25246E+09	208.587	185.935	184.741	182.444	140.678
.28402E+09	208.825	186.663	185.495	183.246	142.567
.31558E+09	209.187	187.420	186.272	184.063	144.264
.63115E+09	206.406	188.325	187.374	185.545	153.302
.94673E+09	202.605	187.282	186.480	184.937	158.044
.12623E+10	198.165	184.957	184.268	182.945	159.975
.15779E+10	193.491	182.027	181.432	180.289	160.459

.18935E+10	189.126	179.040	178.518	177.518	160.128
.22090E+10	185.283	176.317	175.855	174.970	159.550
.25246E+10	181.396	173.340	172.927	172.135	158.295
.28402E+10	178.217	170.890	170.516	169.798	157.213
.31558E+10	175.410	168.726	168.386	167.733	156.256
.63115E+10	161.587	157.693	157.498	157.124	150.436
.94673E+10	155.236	152.225	152.076	151.788	146.601
.12623E+11	151.627	149.112	148.988	148.749	144.410
.15779E+11	148.886	146.702	146.594	146.387	142.612
.18935E+11	146.106	144.185	144.091	143.909	140.579
.22090E+11	143.705	141.984	141.900	141.738	138.748
.25246E+11	141.594	140.046	139.970	139.825	137.129
.28402E+11	139.738	138.329	138.261	138.128	135.671
.31558E+11	138.132	136.837	136.774	136.653	134.391

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:55 JUL 21, 1995 CP= 5.490
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2422 TEMP i02o0135	3061 TEMP o02o0135	1972 TEMP c04c0135	961 TEMP c06c0135
.10000E-05	27.2860	26.1375	122.659	122.659
.20000E-05	58.5687	57.3338	147.045	147.055
.31558E+07	58.5687	57.3338	147.044	147.054
.63115E+07	80.3082	79.0146	164.125	163.902
.94673E+07	86.2493	84.9439	168.632	168.408
.12623E+08	90.1521	88.8425	171.473	171.251
.15779E+08	93.1641	91.8517	173.571	173.350
.18935E+08	95.6280	94.3143	175.229	175.009
.22090E+08	97.7244	96.4100	176.598	176.380
.25246E+08	99.5579	98.2438	177.775	177.558
.28402E+08	101.203	99.8895	178.802	178.585
.31558E+08	102.694	101.382	179.720	179.504
.63115E+08	104.072	102.761	180.547	180.332
.94673E+08	114.434	113.142	186.593	186.385
.12623E+09	121.314	120.046	190.178	189.971
.15779E+09	126.411	125.167	192.637	192.435
.18935E+09	130.517	129.294	194.628	194.431
.22090E+09	134.022	132.826	195.877	195.684
.25246E+09	137.106	135.932	197.174	196.985
.28402E+09	139.880	138.726	198.293	198.108
.31558E+09	141.785	140.652	198.751	198.570
.63115E+09	143.495	142.379	199.290	199.114
.94673E+09	152.665	151.732	198.192	198.044
.12623E+10	157.508	156.719	195.654	195.525
.15779E+10	159.518	158.843	192.187	192.074
.18935E+10	160.066	159.486	188.314	188.214
.22090E+10	159.786	159.280	184.582	184.491
.25246E+10	159.249	158.804	181.252	181.170
.28402E+10	158.027	157.632	177.784	177.709
.31558E+10	156.972	156.615	174.938	174.868
.63115E+10	156.038	155.715	172.425	172.359
.94673E+10	150.313	150.133	159.868	159.825
.12623E+11	146.508	146.372	153.915	153.880
.15779E+11	144.333	144.221	150.525	150.496
.18935E+11	142.545	142.449	147.930	147.904
.22090E+11	140.522	140.437	145.266	145.243
.25246E+11	138.696	138.622	142.954	142.934
.28402E+11	137.083	137.017	140.919	140.900
.31558E+11	135.629	135.569	139.124	139.107
	134.353	134.298	137.568	137.552

* Temperature profile from the center of inner column

VARIABLE 2 IS AT NODE 10 ITEM= TEMP COMP= NAME= t01c090

*** WARNING *** CP= 5.600 TIME= 11:33:55
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 39 ITEM= TEMP COMP= NAME= s01ou90

VARIABLE 4 IS AT NODE 1140 ITEM= TEMP COMP= NAME= s01iu90

VARIABLE 5 IS AT NODE 1294 ITEM= TEMP COMP= NAME= c01u090

VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= C01C090

VARIABLE 7 IS AT NODE 1302 ITEM= TEMP COMP= NAME= c01l090

VARIABLE 8 IS AT NODE 1071 ITEM= TEMP COMP= NAME= s01il90

VARIABLE 9 IS AT NODE 1056 ITEM= TEMP COMP= NAME= s01ol90

VARIABLE 10 IS AT NODE 1477 ITEM= TEMP COMP= NAME= s05iu90

VARIABLE 11 IS AT NODE 1631 ITEM= TEMP COMP= NAME= c05u090

VARIABLE 12 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c090

VARIABLE 13 IS AT NODE 1638 ITEM= TEMP COMP= NAME= c05l090

VARIABLE 14 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05il90

VARIABLE 15 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05ol90

VARIABLE 16 IS AT NODE 2666 ITEM= TEMP COMP= NAME= i05i090

VARIABLE 17 IS AT NODE 2651 ITEM= TEMP COMP= NAME= i5o90

VARIABLE 18 IS AT NODE 2865 ITEM= TEMP COMP= NAME= 0050090

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	10 TEMP	t01c090	108.4	.1000E-05	195.6	.3156E+09
3	NSOL	39 TEMP	s01ou90	108.3	.1000E-05	195.6	.3156E+09
4	NSOL	1140 TEMP	s01iu90	108.5	.1000E-05	195.7	.3156E+09
5	NSOL	1294 TEMP	c01u090	134.5	.1000E-05	210.3	.3156E+09
6	NSOL	1298 TEMP	C01C090	138.6	.3156E+11	216.8	.3156E+09
7	NSOL	1302 TEMP	c01l090	138.3	.3156E+11	212.4	.3156E+09
8	NSOL	1071 TEMP	s01il90	121.9	.1000E-05	201.7	.3156E+09
9	NSOL	1056 TEMP	s01ol90	121.8	.1000E-05	201.7	.3156E+09
10	NSOL	1477 TEMP	s05iu90	121.8	.1000E-05	201.7	.3156E+09
11	NSOL	1631 TEMP	c05u090	128.2	.1000E-05	204.0	.3156E+09
12	NSOL	1635 TEMP	c05c090	121.4	.1000E-05	198.6	.3156E+09
13	NSOL	1638 TEMP	c05l090	105.6	.1000E-05	189.2	.6312E+09
14	NSOL	1408 TEMP	s05il90	62.56	.1000E-05	170.3	.1262E+10
15	NSOL	1408 TEMP	s05ol90	62.56	.1000E-05	170.3	.1262E+10
16	NSOL	2666 TEMP	i05i090	28.62	.1000E-05	161.2	.1578E+10
17	NSOL	2651 TEMP	i5o90	28.12	.1000E-05	160.9	.1578E+10
18	NSOL	2865 TEMP	0050090	26.14	.1000E-05	160.2	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:58 JUL 21, 1995 CP= 7.410
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	10 TEMP	39 TEMP	1140 TEMP	1294 TEMP	1298 TEMP
	t01c090	s01ou90	s01iu90	c01u090	c01c090
.10000E-05	108.383	108.301	108.454	134.489	146.312
.20000E-05	135.839	135.758	135.904	159.571	170.210
31.558	135.839	135.758	135.904	159.571	170.209
.31558E+07	155.163	155.083	155.225	177.265	187.179
.63116E+07	160.207	160.127	160.268	181.859	191.565
.94673E+07	163.371	163.292	163.431	184.713	194.273
.12623E+08	165.751	165.672	165.811	186.824	196.258
.15779E+08	167.635	167.557	167.694	188.478	197.803
.18935E+08	169.199	169.121	169.258	189.838	199.068
.22090E+08	170.539	170.461	170.597	190.997	200.144
.25246E+08	171.716	171.639	171.774	192.006	201.074
.28402E+08	172.766	172.688	172.823	192.901	201.898
.31558E+08	173.715	173.639	173.772	193.704	202.632
.63115E+08	180.642	180.568	180.696	199.495	207.890
.94673E+08	184.802	184.731	184.853	202.808	210.808
.12623E+09	187.673	187.604	187.723	205.005	212.696
.15779E+09	189.982	189.914	190.029	206.772	214.214
.18935E+09	191.505	191.439	191.551	207.730	214.918
.22090E+09	193.031	192.967	193.076	208.802	215.785
.25246E+09	194.352	194.290	194.396	209.702	216.497
.28402E+09	194.954	194.893	194.997	209.944	216.579
.31558E+09	195.614	195.554	195.656	210.310	216.814
.63115E+09	195.255	195.205	195.289	207.420	212.821
.94673E+09	193.170	193.128	193.199	203.491	208.091
.12623E+10	189.992	189.956	190.017	198.923	202.924
.15779E+10	186.343	186.313	186.365	194.134	197.637
.18935E+10	182.785	182.758	182.804	189.674	192.783
.22090E+10	179.601	179.578	179.619	185.756	188.541
.25246E+10	176.240	176.218	176.255	181.803	184.328
.28402E+10	173.492	173.473	173.506	178.575	180.888
.31558E+10	171.072	171.054	171.084	175.728	177.851
.63115E+10	158.967	158.957	158.974	161.742	163.019
.94673E+10	153.174	153.166	153.179	155.343	156.347
.12623E+11	149.887	149.881	149.892	151.710	152.555
.15779E+11	147.364	147.358	147.368	148.954	149.693
.18935E+11	144.757	144.752	144.761	146.162	146.815
.22090E+11	142.488	142.484	142.492	143.752	144.341
.25246E+11	140.493	140.489	140.496	141.633	142.165
.28402E+11	138.732	138.729	138.735	139.772	140.259
.31558E+11	137.203	137.200	137.206	138.161	138.610

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:58 JUL 21, 1995 CP= 7.420
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1302 TEMP	1071 TEMP	1056 TEMP	1477 TEMP	1631 TEMP
	c01l090	s01l190	s01o190	s05iu90	c05u090
.10000E-05	139.761	121.880	121.818	121.826	128.190
.20000E-05	163.981	147.459	147.398	147.403	152.595
31.558	163.980	147.459	147.398	147.403	152.594
.31558E+07	181.271	165.850	165.790	165.793	170.262
.63116E+07	185.715	170.555	170.495	170.498	174.766
.94673E+07	188.469	173.491	173.431	173.434	177.580
.12623E+08	190.495	175.679	175.620	175.622	179.658
.15779E+08	192.079	177.402	177.342	177.345	181.294
.18935E+08	193.377	178.824	178.765	178.767	182.642
.22090E+08	194.485	180.040	179.982	179.984	183.796

.25246E+08	195.444	181.103	181.045	181.046	184.801
.28402E+08	196.296	182.049	181.991	181.993	185.697
.31558E+08	197.057	182.902	182.844	182.846	186.501
.63115E+08	202.541	189.092	189.036	189.037	192.353
.94673E+08	205.640	192.736	192.682	192.682	195.772
.12623E+09	207.677	195.213	195.160	195.161	198.083
.15779E+09	209.317	197.208	197.157	197.157	199.948
.18935E+09	210.158	198.430	198.380	198.380	201.050
.22090E+09	211.133	199.710	199.661	199.661	202.230
.25246E+09	211.947	200.808	200.761	200.761	203.239
.28402E+09	212.122	201.230	201.183	201.183	203.592
.31558E+09	212.430	201.739	201.694	201.693	204.043
.63115E+09	209.143	200.239	200.201	200.201	202.137
.94673E+09	204.949	197.370	197.338	197.338	198.992
.12623E+10	200.196	193.628	193.600	193.600	195.053
.15779E+10	195.259	189.530	189.506	189.506	190.796
.18935E+10	190.684	185.620	185.600	185.600	186.762
.22090E+10	186.671	182.151	182.133	182.133	183.189
.25246E+10	182.643	178.561	178.545	178.545	179.518
.28402E+10	179.353	175.626	175.611	175.611	176.515
.31558E+10	176.449	173.036	173.023	173.023	173.863
.63115E+10	162.194	160.166	160.158	160.159	160.699
.94673E+10	155.706	154.123	154.117	154.118	154.554
.12623E+11	152.019	150.690	150.685	150.685	151.059
.15779E+11	149.226	148.067	148.063	148.063	148.392
.18935E+11	146.405	145.382	145.378	145.378	145.673
.22090E+11	143.972	143.053	143.050	143.050	143.317
.25246E+11	141.834	141.005	141.002	141.002	141.245
.28402E+11	139.957	139.201	139.199	139.199	139.422
.31558E+11	138.332	137.636	137.634	137.634	137.841

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:58 JUL 21, 1995 CP= 7.440
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1635 TEMP	1638 TEMP	1408 TEMP	1408 TEMP	2666 TEMP
	c05c090	c05i090	s05i190	s05o190	i05i090
.10000E-05	121.351	105.601	62.5637	62.5637	28.6151
.20000E-05	145.592	130.598	90.2574	90.2574	59.7888
31.558	145.592	130.598	90.2575	90.2575	59.7887
.31558E+07	163.352	149.045	110.963	110.963	83.2161
.63116E+07	167.858	153.728	116.216	116.216	89.1614
.94673E+07	170.692	156.700	119.613	119.613	93.0425
.12623E+08	172.787	158.916	122.204	122.204	96.0370
.15779E+08	174.444	160.683	124.304	124.304	98.4843
.18935E+08	175.813	162.151	126.075	126.075	100.565
.22090E+08	176.990	163.419	127.618	127.618	102.383
.25246E+08	178.018	164.532	128.992	128.992	104.013
.28402E+08	178.936	165.531	130.233	130.233	105.490
.31558E+08	179.764	166.436	131.372	131.372	106.854
.63115E+08	185.820	173.109	139.892	139.892	117.101
.94673E+08	189.424	177.199	145.417	145.417	123.897
.12623E+09	191.896	180.068	149.445	149.445	128.911
.15779E+09	193.894	182.387	152.697	152.697	132.944
.18935E+09	195.158	184.007	155.324	155.324	136.373
.22090E+09	196.465	185.595	157.710	157.710	139.397
.25246E+09	197.596	186.990	159.845	159.845	142.116
.28402E+09	198.063	187.692	161.199	161.199	143.963
.31558E+09	198.605	188.425	162.456	162.456	145.620
.63115E+09	197.610	189.185	167.908	167.908	154.409
.94673E+09	195.160	188.037	170.168	170.168	158.980
.12623E+10	191.759	185.625	170.301	170.301	160.778
.15779E+10	187.949	182.627	169.368	169.368	161.164

.18935E+10	184.268	179.585	167.945	167.945	160.758
.22090E+10	180.982	176.821	166.491	166.491	160.124
.25246E+10	177.546	173.805	164.529	164.529	158.815
.28402E+10	174.729	171.326	162.893	162.893	157.698
.31558E+10	172.241	169.136	161.446	161.446	156.709
.63115E+10	159.774	157.962	153.481	153.481	150.720
.94673E+10	153.848	152.445	148.973	148.973	146.828
.12623E+11	150.473	149.300	146.401	146.401	144.605
.15779E+11	147.885	146.865	144.345	144.345	142.781
.18935E+11	145.228	144.330	142.111	142.111	140.730
.22090E+11	142.919	142.114	140.124	140.124	138.882
.25246E+11	140.889	140.164	138.372	138.372	137.252
.28402E+11	139.098	138.439	136.807	136.807	135.785
.31558E+11	137.545	136.938	135.438	135.438	134.496

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:33:58 JUL 21, 1995 CP= 7.450
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2651 TEMP	2865 TEMP
	15090	0050090
.10000E-05	28.1202	26.1375
.20000E-05	59.2287	57.2599
31.558	59.2287	57.2599
.31558E+07	82.6316	80.7165
.63116E+07	88.5682	86.6606
.94673E+07	92.4451	90.5462
.12623E+08	95.4380	93.5462
.15779E+08	97.8853	96.0002
.18935E+08	99.9659	98.0877
.22090E+08	101.785	99.9135
.25246E+08	103.416	101.552
.28402E+08	104.894	103.036
.31558E+08	106.259	104.409
.63115E+08	116.518	114.728
.94673E+08	123.328	121.591
.12623E+09	128.356	126.667
.15779E+09	132.400	130.749
.18935E+09	135.844	134.239
.22090E+09	138.879	137.309
.25246E+09	141.609	140.073
.28402E+09	143.466	141.963
.31558E+09	145.132	143.654
.63115E+09	154.005	152.782
.94673E+09	158.640	157.610
.12623E+10	160.488	159.607
.15779E+10	160.914	160.156
.18935E+10	160.541	159.879
.22090E+10	159.933	159.349
.25246E+10	158.645	158.125
.28402E+10	157.545	157.074
.31558E+10	156.571	156.144
.63115E+10	150.642	150.401
.94673E+10	146.769	146.586
.12623E+11	144.556	144.404
.15779E+11	142.739	142.608
.18935E+11	140.693	140.578
.22090E+11	138.849	138.747
.25246E+11	137.222	137.131
.28402E+11	135.758	135.675
.31558E+11	134.472	134.396

***** ROUTINE COMPLETED ***** CP = 7.460

```
*****
End of batch input file
*****
```

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucfn12b.db
FOR POSSIBLE RESUME FROM THIS POINT

```
NUMBER OF WARNING MESSAGES ENCOUNTERED= 2
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0
```

```

*-----*
                ANSYS RUN COMPLETED
*-----*

                REV. 5.0 A                                HP 9000/7XX

CP TIME      (sec) =                10.000              TIME = 11:34:02
ELAPSED TIME (sec) =                28.000              DATE  = 07/21/95
  
```

```

*-----*
| WELCOME TO THE ANSYS PROGRAM |
*-----*

```

```

***** ANSYS COMMAND LINE ARGUMENTS *****
JOB NAME           = ucf12w
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 Hongyan Wang
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf12w.inp
7 /COM, * 12 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: c12w5a.parm

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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (High 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 = 18.475 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, 12 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,c12w5a,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 /COM, DCRAD=1.1977/2.0
66 /COM, OWALL=0.05000
67 /COM, IWALL=0.0200
68 /COM, DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 /COM, GCORN=233.5/1000.0
71 /COM, 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 /COM, HCELL=223.5/1000.0/2.0
76 /COM, SWALL=5.0/1000.0
77 /COM, TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 /COM, ACTVL=141.8*2.54/100.0
81 /COM, 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=TWALL/2.0
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=TWALL/2.0+PITCH
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=TWALL/2.0+PITCH+GWALL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 /COM,
117 /COM,          MI45=MIRAD/SQRT(2.0)
118 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
119 /COM,          DI45=DCIRD/SQRT(2.0)
120 /COM,          DM45=(DCRAD-OWALL)/SQRT(2.0)
121 /COM,          DO45=DCRAD/SQRT(2.0)
122 /COM,
123 /COM,          Define Transient Time parameters based upon the following:
124 /COM,          Note: 1 year = 3.15576e7 seconds
125 /COM,          TM_START = start time (sec)
126 /COM,          TMI* = time increment for solution (sec)
127 /COM,          TME* = start and stop for time do-loops (sec)
128 /COM,          TMTMAX = time of maximum cladding temperature
129 /COM,
130 TM_START=(1.0E-6)*(3.15576E7)
131 TMI0=0.1*3.15576E7
132 TMI1=1.0*3.15576E7
133 TMI10=10.0*3.15576E7
134 TMI100=100.0*3.15576E7
135 TMI1000=1000.0*3.15576E7
136 TME0=0.9*3.15576E7+TM_START
137 TME1=TMI1+TM_START
138 TME9=9.0*3.15576E7+TM_START
139 TME10=TMI10+TM_START
140 TME50=50.0*3.15576E7+TM_START
141 TME90=90.0*3.15576E7+TM_START
142 TME100=TMI100+TM_START
143 TME1000=TMI1000+TM_START
144 /COM,
145 /COM,          *****
146 /COM,          Define different element types
147 /PREP7
148 ETYPE
149 ET, 1,55,
150 ET, 2,70,
151 ET, 7,32,
152 ET, 16,57,
153 ET, 17,32,
154 ET, 18,50,1,
155 ET, 19,31,
156 ET, 27,32,
157 /COM,          *****
158 /COM,          File props01.dat describes material properties

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159 /COM,          and thier reference numbers
160 MPREAD,props01,dat,
161 /COM,          Read in single assembly heat loads
162 /COM,          Calculate the volumetric heat generation
163 /COM,          (Assembly time is in years, FUEL is in seconds)
164 /INPUT,snf1048,dat
165 *VFACT,3.15576E7,
166 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
167 *VFACT,(PEAKF/FVOLUME),
168 *VFUN,FUEL(1),COPY,ASSY(1),
169 FUEL(0,1)=1.0
170 /COM,          *****
171 /COM,          Define new material 14 for SNF effective conductivity
172 /COM,          Density:      DENS      (kg/m^3)
173 /COM,          Conductivity: KXX      (W/m/K)
174 /COM,          Specific Heat: C      (J/kg/K)
175 MPTEMP
176 MPTEMP, 1, .00000E+00,
177 MPDATA,DENS,14, 1, .396004E+04,
178 MPDATA, C,14, 1, .27400E+03,
179 /COM,          Store average effective conductivities
180 IINC=1
181 TBSKT=25.0
182 MPTEMP
183 MPTEMP,IINC,TBSKT,
184 IINC=IINC+1
185 *DO,TBSKT,50.0,400.0,50.0,
186     MPTEMP,IINC,TBSKT,
187     IINC=IINC+1
188 *ENDDO
189 IINC=1
190 TBSKT=25.0
191 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
192 IINC=IINC+1
193 *DO,TBSKT,50.0,400.0,50.0,
194     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
195     IINC=IINC+1
196 *ENDDO
197 /COM,          *****
198 /COM,          Define new material 15 for low thermal loading
199 /COM,          outer barrier of 70/30 Copper Nikel (c71500)
200 /COM,          Density:      DENS      (kg/m^3)
201 /COM,          Conductivity: KXX      (W/m/k)
202 /COM,          Specific Heat: C      (J/kg/k)
203 MPTEMP
204 MPTEMP, 1, 0.000E+00
205 /COM,          Density (lb/F converted to J/kg/k)
206 MPDATA,DENS,15,1, (0.323*2.768E+04)
207 /COM,          Specific Heat (Btu/lb/F converted to J/kg/k)
208 MPDATA, C,15,1, (0.09/2.3886E-04)
209 /COM,          Conductivity (Btu/hr/ft/F converted to W/m/k)
210 MPTEMP
211 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
212 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
213 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
214 MPTEMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
215 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
216 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
217 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
218 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
219 /COM,          *****
220 /COM,          Construct geometry for Disposal Container
221 /COM,
222 /COM,          Define center and axis keypoints for waste package
223 /COM,          Also, create placeholder keypoints and lines
224 /COM,          (K's 1,2,3,4,5,6,7,8)
225 /COM,          (L's 1,2,3,4)
226 K,1,0.0,0.0,0.0,
227 K,2,0.0,0.0,1.0,
228 K,3,0.0,0.0,1.3,

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229 K,4,0.0,0.0,1.4,
230 K,5,0.0,0.0,1.5,
231 K,6,0.0,0.0,1.6,
232 K,7,0.0,0.0,1.7,
233 K,8,0.0,0.0,1.8,
234 L,3,4,
235 L,4,5,
236 L,5,6,
237 L,6,7,
238 /COM,          Define disposal container outer radius and material interface
239 /COM,          (K's 9,10,11,12,13,14)
240 /COM,          (L's 5,6,7,8,9,10,11)
241 /COM,          (A's 1,2)
242 K, 9,          0.0,          (0.0-DCRAD),0.0,
243 K,10,          DCRAD,          0.0,0.0,
244 K,11,          0.0,          DCRAD,0.0,
245 K,12,          0.0,)          (OWALL-DCRAD),0.0,
246 K,13,          (DCRAD-OWALL),          0.0,0.0,
247 K,14,          0.0,          (DCRAD-OWALL),0.0,
248 L,10,13,
249 LARC,10, 9,1,          DCRAD,
250 LARC,11,10,1,          DCRAD,
251 LARC,13,12,1,          (DCRAD-OWALL),
252 LARC,14,13,1,          (DCRAD-OWALL),
253 L,11,14,
254 L, 9,12,
255 AL, 5, 6,11, 8,
256 AL,10, 7, 5, 9,
257 /COM,          *****
258 /COM,          Define UCF shell inner edge and area
259 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,)
260 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
261 /COM,          (A's 3,4)
262 K,15, 0.0,          DCIRD,0.0,
263 K,16, GX22,          GY22,0.0,
264 K,17, GX23,          GY23,0.0,
265 K,18, GX24,          GY24,0.0,
266 K,19, GY24,          GX24,0.0,
267 K,20, GY23,          GX23,0.0,
268 K,21, GY22,          GX22,0.0,
269 K,22, DCIRD,          0.0,0.0,
270 K,23, GY22, (0.0-GX22),0.0,
271 K,24, GY23, (0.0-GX23),0.0,
272 K,25, GY24, (0.0-GX24),0.0,
273 K,26, GX24, (0.0-GY24),0.0,
274 K,27, GX23, (0.0-GY23),0.0,
275 K,28, GX22, (0.0-GY22),0.0,
276 K,29, 0.0,(0.0-DCIRD),0.0,
277 L,14,15,
278 LARC,16,15,1,DCIRD,
279 LARC,17,16,1,DCIRD,
280 LARC,18,17,1,DCIRD,
281 LARC,19,18,1,DCIRD,
282 LARC,20,19,1,DCIRD,
283 LARC,21,20,1,DCIRD,
284 LARC,22,21,1,DCIRD,
285 LARC,23,22,1,DCIRD,
286 LARC,24,23,1,DCIRD,
287 LARC,25,24,1,DCIRD,
288 LARC,26,25,1,DCIRD,
289 LARC,27,26,1,DCIRD,
290 LARC,28,27,1,DCIRD,
291 LARC,29,28,1,DCIRD,
292 L,29,12,
293 L,22,13,
294 LSEL,S,LINE,,12,19,
295 LSEL,A,LINE,, 9,
296 LSEL,A,LINE,,28,
297 AL,ALL,
298 LSEL,S,LINE,,20,28,

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299 LSEL,A,LINE,, 8,
300 AL,ALL,
301 LSEL,ALL,
302
303
304
305 /COM, *****
306 /COM,      Define tube guides
307 /COM,      (K's 30,31,32,33)
308 /COM,      (L's 29,30,31,32,33,34,35,36,37,38)
309 /COM,      (A's 5,6,7,8,9,10)
310 /COM,
311 /COM,      top guide
312 K,31,      GX23,      GX23,0.0,
313 K,30,      GX24,      GX24,0.0,
314 L,30,19,
315 L,18,30,
316 L,31,20,
317 L,17,31,
318 /COM,      bottom guide
319 K,33,      GX23, (0.0-GX23),0.0,
320 K,32,      GX24, (0.0-GX24),0.0,
321 L,25,32,
322 L,32,26,
323 L,24,33,
324 L,33,27,
325 L,30,31,
326 L,32,33,
327 /COM,      Guide gaps
328 AL,29,16,30,
329 AL,33,34,23,
330 /COM,      Guide steel
331 AL,35,38,33,22,
332 AL,36,24,34,38,
333 AL,37,31,17,29,
334 AL,15,32,37,30,
335 /COM, *****
336 /COM,      Define thermal shunts
337 /COM,      (K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)
338 /COM,      (L's 39,40,41,42,43,44,45,46,47,48,49)
339 /COM,      ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69
340 /COM,      (A's 11 - 22)
341 /COM,
342 /COM,      horizontal thermal shunt
343 K,34,      TWALL/2.0,      TWALL/2.0,0.0,
344 K,35,      TWALL/2.0,      (0.0-TWALL/2.0),0.0,
345 K,36,(TWALL/2.0+1.0*PITCH),      TWALL/2.0,0.0,
346 K,37,(TWALL/2.0+1.0*PITCH),      (0.0-TWALL/2.0),0.0,
347 K,38,(TWALL/2.0+2.0*PITCH),      TWALL/2.0,0.0,
348 K,39,(TWALL/2.0+2.0*PITCH),      (0.0-TWALL/2.0),0.0,
349 K,1000,(TWALL/2.0+1.0*PITCH),0.0,0.0,
350 K,1001,(TWALL/2.0+2.0*PITCH),0.0,0.0,
351 L,34,1,
352 L,1,1000,
353 L,1000,36,
354 L,36,34,
355 L,1,35,
356 L,35,37,
357 L,37,1000,
358 L,1000,1001,
359 L,1001,38,
360 L,38,36,
361 L,37,39,
362 L,39,1001
363 L,23,39,
364 L,38,21,
365 L,1001,22,
366 /COM,      vertical thermal shunt
367 K,40,TWALL/2.0,      (TWALL/2.0+1.0*PITCH),0.0,
368 K,41,      0.0,      (TWALL/2.0+1.0*PITCH),0.0,

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369 K,42,TWALL/2.0, (TWALL/2.0+2.0*PITCH),0.0,
370 K,43, 0.0, (TWALL/2.0+2.0*PITCH),0.0,
371 K,44,TWALL/2.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
372 K,45, 0.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
373 K,46,TWALL/2.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
374 K,47, 0.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
375 L,34,40,
376 L,40,41,
377 L,41,1,
378 L,40,42,
379 L,42,43,
380 L,43,41,
381 L,16,42,
382 L,15,43,
383 L,1,45,
384 L,45,44,
385 L,44,35,
386 L,45,47,
387 L,47,46,
388 L,46,44,
389 L,47,29,
390 L,46,28,
391 /COM, Define areas for thermal shunts
392 /COM, horizotal thermal shunts
393 AL,39,40,41,42,
394 AL,43,44,45,40,
395 AL,48,41,46,47,
396 AL,45,49,50,46,
397 AL,47,53,19,52,
398 AL,50,51,20,53,
399 /COM, vertical thermal shunts
400 AL,39,54,55,56,
401 AL,57,58,59,55,
402 AL,60,13,61,58,
403 AL,43,62,63,64,
404 AL,65,66,67,63,
405 AL,68,26,69,66,
406 /COM, *****
407 /COM, Define shell gaps at the exterior of the tube array
408 /COM, (L's 70 - 73)
409 /COM, (A's 23 - 26)
410 L,42,17,
411 L,20,38,
412 L,39,24,
413 L,27,46,
414 AL,60,70,14,
415 AL,18,71,52,
416 AL,51,72,21,
417 AL,69,25,73,
418 /COM, *****
419 /COM, Create mesh in tube guides, thermal shunts
420 /COM, Set mesh size for gaps.....
421 ESIZE,,2,
422 LSEL,S,LINE,,60,61,1,
423 LSEL,A,LINE,,68,69,1,
424 LSEL,A,LINE,,51,53,1,
425 LESIZE,ALL,,,4,
426 LSEL,S,LINE,,39,47,2,
427 LSEL,A,LINE,,19,20,1,
428 LSEL,A,LINE,,50,
429 LSEL,A,LINE,,13,
430 LSEL,A,LINE,,58,
431 LSEL,A,LINE,,55,
432 LSEL,A,LINE,,63,
433 LSEL,A,LINE,,66,
434 LSEL,A,LINE,,26,
435 LESIZE,ALL,,,1,
436 LSEL,S,LINE,,40,48,2,
437 LSEL,A,LINE,,54,56,2,
438 LSEL,A,LINE,,57,59,2,

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439 LSEL,A,LINE,,62,64,2,
440 LSEL,A,LINE,,65,67,2,
441 LSEL,A,LINE,,49,
442 LSEL,A,LINE,,33,34,1,
443 LSEL,A,LINE,,29,30,1,
444 LSEL,A,LINE,,70,73,1,
445 LESIZE,ALL,,,14,
446 /COM, Mesh thermal shunts
447 ESHAPE,2,
448 MAT,13,
449 TYPE,1,
450 AMESH,11,22,
451 /COM, Mesh corn guides
452 ESHAPE,2,
453 MAT,2,
454 TYPE,1,
455 AMESH,7,10,1,
456 /COM, *****
457 /COM, Define center tube
458 /COM, (K's 48-51)
459 /COM, (L's 74-83)
460 /COM, (A's 27-31)
461 K,48, (TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0,
462 K,49, (TWALL/2.0+SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
463 K,50, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
464 K,51, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+SWALL),0.0,
465 L,34,48,
466 L,48,49,
467 L,49,40,
468 L,49,50,
469 L,50,31,
470 L,31,40,
471 L,50,51,
472 L,51,36,
473 L,36,31,
474 L,51,48,
475 AL,76,79,78,77,
476 AL,54,74,75,76,
477 AL,74,42,81,83,
478 AL,81,82,78,80,
479 AL,75,83,80,77,
480 /COM, *****
481 /COM, Set element shapes and sizes for tubes
482 /COM, 14x14 mesh in fuel with 2
483 /COM, divisions per tube layer
484 ESHAPE,0,
485 ESIZE,,1,
486 LSEL,S,LINE,,74,83,1,
487 LSEL,U,LINE,,76,
488 LSEL,U,LINE,,78,
489 LSEL,U,LINE,,81,
490 LSEL,U,LINE,,74,
491 LESIZE,ALL,,,14,
492 LSEL,S,LINE,,76,
493 LSEL,A,LINE,,78,
494 LSEL,A,LINE,,81,
495 LSEL,A,LINE,,74,
496 LESIZE,ALL,,,2,
497 LSEL,ALL,
498 /COM,
499 /COM, Mesh areas
500 /COM, First fuel, then stainless tubes
501 MAT,14,
502 TYPE,1,
503 ASEL,ALL,
504 AMESH,31,
505 "MAT,1,
506 TYPE,1,
507 AMESH,27,30,1,
508 /COM, *****

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509 /COM,          Copy tube mesh
510 /COM,
511 /COM,          Center tubes above
512 /COM,          (A's 32 - 36)
513 AGEN,2,27,31,1,0.0,PITCH,0.0,0,0,
514 /COM,          Center tubes below
515 /COM,          (A's 37 - 46)
516 ARSYM,Y,27,36,1,
517 /COM,          (A's 47 - 51)
518 AGEN,2,27,31,1,PITCH,0.0,0.0,0,0,
519 /COM,          (A's 52 - 56)
520 AGEN,2,47,51,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
521 NUMMRG,NODE,
522 NUMMRG,KP,
523 /COM,          *****
524 /COM,          Create mesh in UCF inner shell
525 /COM,          (L's 105,108)
526 ESHAP,2,
527 LSEL,S,LINE,,14,18,2,
528 LSEL,A,LINE,,21,25,2,
529 LSIZE,ALL,,,20,
530 LSEL,ALL,
531 LSEL,S,LINE,,13,19,1,
532 LCCAT,ALL,
533 LSEL,S,LINE,,20,26,1,
534 LCCAT,ALL,
535 LSEL,ALL,
536 LESIZE,8,,,54,
537 LESIZE,9,,,54,
538 LESIZE,28,,,3,
539 LESIZE,12,,,3,
540 LESIZE,27,,,3,
541 LSEL,ALL,
542 MAT,2,
543 TYPE,1,
544 AMESH,3,4,1,
545 /COM,          Delete concatenatd lines
546 /COM,          (L's freed up 105,108).
547 /COM,          LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
548 /COM,
549 LSEL,S,LINE,,6,7,1,
550 LSIZE,ALL,,,54,
551 LSEL,ALL,
552 LESIZE,5,,,4,
553 LESIZE,10,,,4,
554 LESIZE,11,,,4,
555 MAT,15,
556 TYPE,1,
557 AMESH,1,2,1,
558 NUMMRG,NODE,
559 NUMMRG,KP,
560 /COM,          *****
561 /COM,          Create mesh in empty basket spaces
562 ESIZE,0.1,
563 ESHAPE,0,
564 MAT,7,
565 TYPE,1,
566 AMESH,5,6,1
567 ESIZE,0.1,
568 ESHAPE,0,
569 AMESH,23,26,1,
570 NUMMRG,NODE,
571 NUMMRG,KP,
572 /COM,          *****
573 /COM,          Create radiation surface elements
574 /COM,          Basket spaces
575 MAT,1,
576 TYPE,17,
577 LMESH,70,73,1,
578 LMESH,14,18,2,

```

```

579 LMESH,21,25,2,
580 MAT,2,
581 TYPE,17,
582 LMESH,29,30,1,
583 LMESH,33,34,1,
584 MAT,13,
585 TYPE,17,
586 LMESH,60,
587 LMESH,69,
588 LMESH,51,52,1,
589 /COM,
590 FINISH
591 /COM, *****
592 /COM,          Create element mesh plots to illustrate model
593 /COM,          View mesh for entire model
594 /RESET
595 /TRIAD,OFF,
596 /NUM, 1,
597 /PNUM,MAT, 1,
598 /TYPE,HIDP,
599 /GLINE,,0,
600 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
601 /TITLE, 12 PWR UCF/Waste Package - 1/2 FEM Model
602 /SHOW,meshfull,grph,1,8,
603 EPLOT
604 ESEL,U,MAT,, 7,
605 /SHOW,meshgap,grph,1,8,
606 EPLOT
607 ESEL,ALL,
608 /COM,          View mesh for radiation substructure
609 /PNUM,MAT, 0,
610 /PNUM,TYPE, 1,
611 ESEL,S,TYPE,,17,
612 /TITLE, 12 PWR UCF/Waste Package - Radiation Matrix
613 /SHOW,meshrad,grph,1,8,
614 EPLOT
615 ESEL,ALL,
616 /TITLE, 12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
617 /COM, *****
618 /COM,          Generate super-elements
619 /AUX12,
620 ESEL,S,TYPE,,17,
621 NSLE,S,
622 STEF,5.67E-8,
623 GEOM,1,0,
624 VTYPE,0,800,
625 WRITE,spaces,
626 ESEL,ALL,
627 NSEL,ALL,
628 FINISH
629 /PREP7,
630 TYPE,18,
631 SE,spaces,
632 /COM,          Delete radiation edge elements
633 LSEL,S,TYPE,,17,
634 LCLEAR,ALL,
635 LSEL,ALL,
636 FINISH
637
638
639
640
641
642
643
644 /COM, *****
645 /COM,          Set solution parameters and apply B.C.'s
646 /COM,
647 /COM,          Solve steady-state for initial conditions
648 /COM,          with WP surface equal to drift ambient

```

```

649 /COM,          temperature from repository model.
650 /SOLU
651 ANTYPE,TRAN,NEW,
652 NROPT,AUTO,
653 TRNOPT,FULL,
654 TOFFST,273.15,
655 LSEL,S,LINE,,6,
656 LSEL,A,LINE,,7,
657 NSLL,S,1,
658 D,ALL,TEMP,DFAMBT,
659 LSEL,ALL,
660 NSEL,ALL,
661 ASEL,S,MAT,,14,
662 ESLA,S,
663 BFE,ALL,HGEN,,(FUEL(TM_START)),
664 ASEL,ALL,
665 ESEL,ALL,
666 TIMINT,OFF,
667 TIME,1e-6,
668 AUTOTS,ON,
669 KBC,0,
670 SOLVE
671 /COM,          Solve steady-state for initial conditions
672 /COM,          with WP surface temperatures from repository
673 /COM,          steady-state solution.
674 LSEL,S,LINE,,6,
675 LSEL,A,LINE,,7,
676 NSLL,S,1,
677 DDELE,ALL,TEMP,
678 LSEL,ALL,
679 NSEL,ALL,
680 DK,11,TEMP,(WPTOP(TM_START)),,1,
681 DK,10,TEMP,(WPSID(TM_START)),,1,
682 DK, 9,TEMP,(WPBOT(TM_START)),,1,
683 ASEL,S,MAT,,14,
684 ESLA,S,
685 BFE,ALL,HGEN,,(FUEL(TM_START)),
686 ASEL,ALL,
687 ESEL,ALL,
688 TIMINT,OFF,
689 TIME,2e-6,
690 AUTOTS,ON,
691 KBC,0,
692 SOLVE
693 /COM,          *****
694 /COM,          Set time integration parameters
695 TIMINT,ON,
696 AUTOTS,ON,
697 /COM,          Time substep ranges from 10 sec to 1/4 loadstep
698 NSUBST,10,40,5,ON
699 /COM,          Begin Transient
700 /COM,          Apply loads and solve for 0 to .9 years
701 *DO,TM,TM_START,TME0,TM10
702     TIME,TM,
703     ASEL,S,MAT,,14,
704     ESLA,S,
705     BFE,ALL,HGEN,,(FUEL(TM)),
706     ASEL,ALL
707     ESEL,ALL
708     DK,11,TEMP,(WPTOP(TM)),,1,
709     DK,10,TEMP,(WPSID(TM)),,1,
710     DK, 9,TEMP,(WPBOT(TM)),,1,
711     SOLVE
712 *ENDDO
713 /COM,          Apply loads and solve for 1 to 9 years
714 *DO,TM,TME1,TME9,TM11
715     TIME,TM,
716     ASEL,S,MAT,,14,
717     ESLA,S,
718     BFE,ALL,HGEN,,(FUEL(TM)),

```

```

719      ASEL,ALL
720      ESEL,ALL
721      DK,11,TEMP,(WPTOP(TM)),,1,
722      DK,10,TEMP,(WPSID(TM)),,1,
723      DK, 9,TEMP,(WPBOT(TM)),,1,
724      SOLVE
725  *ENDDO
726  /COM,          Apply loads and solve for 10 to 90 years
727  *DO,TM,TME10,TME90,TM110
728      TIME,TM,
729      ASEL,S,MAT,,14,
730      ESLA,S,
731      BFE,ALL,HGEN,,(FUEL(TM)),
732      ASEL,ALL
733      ESEL,ALL
734      DK,11,TEMP,(WPTOP(TM)),,1,
735      DK,10,TEMP,(WPSID(TM)),,1,
736      DK, 9,TEMP,(WPBOT(TM)),,1,
737      SOLVE
738  *ENDDO
739  /COM,          Apply loads and solve for 100 to 1000 years
740  *DO,TM,TME100,TME1000,TM1100
741      TIME,TM,
742      ASEL,S,MAT,,14,
743      ESLA,S,
744      BFE,ALL,HGEN,,(FUEL(TM)),
745      ASEL,ALL
746      ESEL,ALL
747      DK,11,TEMP,(WPTOP(TM)),,1,
748      DK,10,TEMP,(WPSID(TM)),,1,
749      DK, 9,TEMP,(WPBOT(TM)),,1,
750      SOLVE
751  *ENDDO
752  FINISH
753  SAVE,
754  /COM,          *****
755  /COM,          Create element contour plots of solution results
756  /COM,
757  /COM,          Sort through solution results for time of max temp.
758  /POST26,
759  NSOL,2,(NODE((SCCELL+TWALL/2.0),(-SCCELL-TWALL/2.0),0.0)),TEMP,,peakclad,
760  STORE,NEW,
761  *GET,TMTMAX,VARI,2,EXTREM,TMAX,
762  FINISH
763  /POST1,
764  /COM,          Create temperature contour plots of WP at peak
765  /RESET
766  /TRIAD,OFF,
767  /NUM, 1,
768  /PNUM,MAT, 1,
769  /TYPE,HIDP,
770  /GLINE,,-1,
771  /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
772  ESEL,U,MAT,,7,
773  SET,NEAR,,,,TMTMAX,
774  /TITLE, 12 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
775  /SHOW,solupk,grph,0,8,
776  /CONTOUR,1,128,AUTO,
777  PLNSOL,TEMP,
778  /COM,          Create temperature contour plots at 10, 50, and 100 yrs
779  SET,NEAR,,,,TME10,
780  /TITLE, 12 PWR UCF/WP at 10 years
781  /SHOW,solu10,grph,0,8,
782  /CONTOUR,1,128,USER,
783  PLNSOL,TEMP,
784  SET,NEAR,,,,TME50,
785  /TITLE, 12 PWR UCF/WP at 50 years
786  /SHOW,solu50,grph,0,8,
787  /CONTOUR,1,128,USER,
788  PLNSOL,TEMP,

```

```

789 SET,NEAR,,,TME100,
790 /TITLE, 12 PWR UCF/WP at 100 years
791 /SHOW,solu100,grph,0,8,
792 /CONTOUR,1,128,USER,
793 PLNSOL,TEMP,
794 ESEL,ALL,
795 FINISH
796 /COM, *****
797 /COM,      Print time/temperature output at specific locations
798 /COM,      Save profile from center to edge
799 /COM,
800 /COM,      Variable Legend: A01i000
801 /COM,      c = center of assembly
802 /COM,      h = halfway between center and tube
803 /COM,      s = inside structural stainless tube layer
804 /COM,      t = stainless tube cladding
805 /COM,      g = tube guide
806 /COM,      i = inner barrier of DC
807 /COM,      o = outer barrier of DC
808 /COM,      ## = ID number of assembly (01 is center)
809 /COM,      i = side of assembly toward center of WP
810 /COM,      o = side of assembly toward edge of WP
811 /COM,      000 = profile center down
812 /COM,      045 = profile 45 deg down
813 /COM,      090 = profile center side
814 /COM,      135 = profile 45 deg up
815 /COM,      180 = profile center up
816 /POST26,
817 NUMVAR,30,
818 /COM,
819 /COM,
820 /COM, *****
821 /COM, *   Temperature Profile from center to lower right (45 deg.) *
822 /COM, *****
823 NSOL, 2,(NODE(      0.0,      0.0,0.0))
824 NSOL, 3,(NODE(TWALL/2.0,      (0.0-TWALL/2.0),0.0))
825 NSOL, 4,(NODE((TWALL/2.0+SWALL),      (-TWALL/2.0-SWALL),0.0))
826 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),      (-TWALL/2.0-SWALL-QCELL),0.0))
827 NSOL, 6,(NODE((SCCELL+TWALL/2.0),      (-SCCELL-TWALL/2.0),0.0))
828 NSOL, 7,(NODE((TWALL/2.0+SWALL+3.0*QCELL),      (-TWALL/2.0-SWALL-3.0*QCELL),0.0))
829 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL),      (-PITCH-TWALL/2.0+SWALL),0.0))
830 NSOL, 9,(NODE((TWALL/2.0+PITCH),      (-TWALL/2.0-PITCH),0.0))
831 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL),      (-TWALL/2.0-PITCH-GWALL),0.0))
832 NSOL,11,(NODE(DI45,      (-1.0*DI45),0.0))
833 NSOL,12,(NODE(DM45,      (-1.0*DM45),0.0))
834 NSOL,13,(NODE(DO45,      (-1.0*DO45),0.0))
835 /COM,      Add centers of assemblies 3 and 5
836 NSOL,14,(NODE((SCCELL+TWALL/2.0+PITCH),      -(SCCELL+TWALL/2.0),0.0))
837 NSOL,15,(NODE((SCCELL+TWALL/2.0),      -(SCCELL-TWALL/2.0-PITCH),0.0))
838 PRVAR, 2, 3, 4, 5, 6,
839 PRVAR, 7, 8, 9, 10,11,
840 PRVAR, 12,13,14,15,
841 /COM,
842 /COM,
843 /COM, *****
844 /COM, *   Temperature Profile from center to upper right (135 deg.) *
845 /COM, *****
846 NSOL, 2,(NODE(      0.0,      0.0,0.0)),
847 NSOL, 3,(NODE(TWALL/2.0,      TWALL/2.0,0.0)),
848 NSOL, 4,(NODE((TWALL/2.0+SWALL),      (TWALL/2.0+SWALL),0.0)),
849 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),      (TWALL/2.0+SWALL+QCELL),0.0)),
850 NSOL, 6,(NODE((SCCELL+TWALL/2.0),      (SCCELL+TWALL/2.0),0.0)),
851 NSOL, 7,(NODE((TWALL/2.0+SWALL+3.0*QCELL),      (TWALL/2.0+SWALL+3.0*QCELL),0.0)),
852 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL),      (PITCH+TWALL/2.0-SWALL),0.0)),
853 NSOL, 9,(NODE((TWALL/2.0+PITCH),      (TWALL/2.0+PITCH),0.0)),
854 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL),      (TWALL/2.0+PITCH+GWALL),0.0)),
855 NSOL,11,(NODE(DI45,      DI45,0.0)),
856 NSOL,12,(NODE(DM45,      DM45,0.0)),
857 NSOL,13,(NODE(DO45,      DO45,0.0)),
858 /COM,      Add centers of assemblies 4 and 6

```

```

859 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH) , (SCCELL+TWALL/2.0),0.0)),
860 NSOL,15,(NODE( (SCCELL+TWALL/2.0) , (SCCELL+TWALL/2.0+PITCH),0.0)),
861 PRVAR, 2, 3, 4, 5, 6,
862 PRVAR, 7, 8, 9, 10,11,
863 PRVAR, 12,13,14,15,
864 FINISH
865 /COM, *****
866 /COM, End of batch input file
867 /COM, *****
868 /EXIT,
869 /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 Hongyan Wang

* File name: ucf12w.inp *
 * 12 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: c12w5a.parm *
 * 25 MTU/acre (6.18 kgU/m²) AML (High Thermal Loading) *
 * 5.0 m Diameter Drift with Concrete Invert *
 * Drift spacing = 45.0 m *
 * WP c/c spacing = 18.475 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=

12 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= 17:16:41

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= .850 TIME= 17:16:41
Restore ANSYS parameters from file= c12w5a.parm.

/INPUT FILE= c12w5a.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 = .5988500

PARAMETER OWALL = .5000000E-01

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .5288500

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

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 FVLU = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500
 ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .5000000E-02

PARAMETER GY22 = .5288264

PARAMETER GX23 = .2385000

PARAMETER GY23 = .4720170

PARAMETER GX24 = .2480000

PARAMETER GY24 = .4670956

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

PARAMETER DI45 = .3739534

PARAMETER DM45 = .3880956

PARAMETER DO45 = .4234509

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 17:16:42 JUN 24, 1995 CP= 1.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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
	6.490000	6.390000	6.600000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 24	
SLOC= 19	6.290000	6.190000	6.100000
	5.920000	5.840000	6.010000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 30	
SLOC= 25	5.760000	5.680000	5.600000
	5.450000	5.380000	5.520000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 36	
SLOC= 31	5.310000	5.240000	5.180000
	5.050000	4.990000	5.110000
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
 1.970000 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 .4975000	.6329000 .4643000	.5804000	.5356000
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 .3400000E-01	.2500000E-01 .3700000E-01	.2600000E-01	.3000000E-01
PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12				
SLOC= 7	.4100000E-01 .5200000E-01	.4400000E-01 .5500000E-01	.4700000E-01	.5000000E-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 1014.000	1006.600 1021.000	1007.000	1009.000
PROPERTY TABLE C MAT= 8 NUM. POINTS= 12				
SLOC= 7	1030.000 1075.000	1040.000 1087.000	1051.000	1063.000
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 .8425000	1.213500 .7485000	1.123300	.9625000
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12				
SLOC= 7	.6739000 .4812000	.6124000 .4512000	.5615000	.5214000
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 .3300000E-01	.2400000E-01 .3600000E-01	.2600000E-01	.2900000E-01
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12				
SLOC= 7	.3900000E-01 .5000000E-01	.4200000E-01 .5200000E-01	.4500000E-01	.4700000E-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 1045.000	1041.400 1050.000	1041.000	1042.000
PROPERTY TABLE C MAT= 9 NUM. POINTS= 12				
SLOC= 7	1056.000 1098.000	1065.000 1159.000	1075.000	1086.500
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 .2300000E-01	.1700000E-01 .2500000E-01	.1800000E-01	.2100000E-01
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12				
SLOC= 7	.2700000E-01 .3400000E-01	.2800000E-01 .3600000E-01	.3000000E-01	.3200000E-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 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 63.61000	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 85.00000 90.00000 95.00000
 100.0000 150.0000

PARAMETER ASSY(67,0) = 200.0000 250.0000 300.0000 350.0000
 400.0000 450.0000

PARAMETER ASSY(73,0) = 500.0000 550.0000 600.0000 650.0000
 700.0000 750.0000

PARAMETER ASSY(79,0) = 800.0000 850.0000 900.0000 950.0000
 1000.000 1500.000

PARAMETER ASSY(85,0) = 2000.000 2500.000 3000.000 3500.000
 4000.000 4500.000

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 Nikel (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/F converted to J/kg/k)

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	-.598850	.000000E+00	IN CSYS=	0
KEYPOINT	10	X,Y,Z=	.598850	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	11	X,Y,Z=	.000000E+00	.598850	.000000E+00	IN CSYS=	0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.548850	.000000E+00	IN CSYS=	0
KEYPOINT	13	X,Y,Z=	.548850	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	14	X,Y,Z=	.000000E+00	.548850	.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=		.59885			
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= .59885
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= .54885
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= .54885
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,)
(L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
(A's 3,4)

```

```

KEYPOINT 15 X,Y,Z= .000000E+00 .528850 .000000E+00 IN CSYS= 0
KEYPOINT 16 X,Y,Z= .500000E-02 .528826 .000000E+00 IN CSYS= 0
KEYPOINT 17 X,Y,Z= .238500 .472017 .000000E+00 IN CSYS= 0
KEYPOINT 18 X,Y,Z= .248000 .467096 .000000E+00 IN CSYS= 0
KEYPOINT 19 X,Y,Z= .467096 .248000 .000000E+00 IN CSYS= 0
KEYPOINT 20 X,Y,Z= .472017 .238500 .000000E+00 IN CSYS= 0
KEYPOINT 21 X,Y,Z= .528826 .500000E-02 .000000E+00 IN CSYS= 0
KEYPOINT 22 X,Y,Z= .528850 .000000E+00 .000000E+00 IN CSYS= 0
KEYPOINT 23 X,Y,Z= .528826 -.500000E-02 .000000E+00 IN CSYS= 0
KEYPOINT 24 X,Y,Z= .472017 -.238500 .000000E+00 IN CSYS= 0
KEYPOINT 25 X,Y,Z= .467096 -.248000 .000000E+00 IN CSYS= 0
KEYPOINT 26 X,Y,Z= .248000 -.467096 .000000E+00 IN CSYS= 0
KEYPOINT 27 X,Y,Z= .238500 -.472017 .000000E+00 IN CSYS= 0
KEYPOINT 28 X,Y,Z= .500000E-02 -.528826 .000000E+00 IN CSYS= 0

```

KEYPOINT 29 X,Y,Z= .000000E+00 -.528850 .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= .52885
 LINE NO.= 13 KP1= 16 TAN1= 1.0000 -.0095 .0000
 KP2= 15 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 17 AND 16 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 14 KP1= 17 TAN1= .8925 -.4510 .0000
 KP2= 16 TAN2= -1.0000 .0095 .0000

ARC BETWEEN KEYPOINTS 18 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 15 KP1= 18 TAN1= .8832 -.4689 .0000
 KP2= 17 TAN2= -.8925 .4510 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 16 KP1= 19 TAN1= .4689 -.8832 .0000
 KP2= 18 TAN2= -.8832 .4689 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 17 KP1= 20 TAN1= .4510 -.8925 .0000
 KP2= 19 TAN2= -.4689 .8832 .0000

ARC BETWEEN KEYPOINTS 21 AND 20 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 18 KP1= 21 TAN1= .0095 -1.0000 .0000
 KP2= 20 TAN2= -.4510 .8925 .0000

ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 19 KP1= 22 TAN1= .0000 -1.0000 .0000
 KP2= 21 TAN2= -.0095 1.0000 .0000

ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 20 KP1= 23 TAN1= -.0095 -1.0000 .0000
 KP2= 22 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 21 KP1= 24 TAN1= -.4510 -.8925 .0000
 KP2= 23 TAN2= .0095 1.0000 .0000

ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 22 KP1= 25 TAN1= -.4689 -.8832 .0000
 KP2= 24 TAN2= .4510 .8925 .0000

ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 23 KP1= 26 TAN1= -.8832 -.4689 .0000
 KP2= 25 TAN2= .4689 .8832 .0000

ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 24 KP1= 27 TAN1= -.8925 -.4510 .0000
 KP2= 26 TAN2= .8832 .4689 .0000

ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 25 KP1= 28 TAN1= -1.0000 -.0095 .0000
 KP2= 27 TAN2= .8925 .4510 .0000

ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 26 KP1= 29 TAN1= -1.0000 .0000 .0000
 KP2= 28 TAN2= 1.0000 .0095 .0000

LINE CONNECTS KEYPOINTS 29 12
 LINE NO.= 27 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 22 13
 LINE NO.= 28 KP1= 22 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 19 STEP 1

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

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

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

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 28 TO 28 STEP 1

10 LINES (OF 28 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 20 TO 28 STEP 1

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

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

10 LINES (OF 28 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 28 STEP 1

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

Define tube guides
 (K's 30,31,32,33)
 (L's 29,30,31,32,33,34,35,36,37,38)
 (A's 5,6,7,8,9,10)

top guide

KEYPOINT 31 X,Y,Z= .238500 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 30 X,Y,Z= .248000 .248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 30 19
 LINE NO.= 29 KP1= 30 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 18 30
 LINE NO.= 30 KP1= 18 TAN1= .0000 1.0000 .0000
 KP2= 30 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 31 20
 LINE NO.= 31 KP1= 31 TAN1= -1.0000 .0000 .0000
 KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 17 31
 LINE NO.= 32 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 bottom guide

KEYPOINT 33 X,Y,Z= .238500 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 32 X,Y,Z= .248000 -.248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 25 32
 LINE NO.= 33 KP1= 25 TAN1= 1.0000 .0000 .0000
 KP2= 32 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 32 26
 LINE NO.= 34 KP1= 32 TAN1= .0000 1.0000 .0000
 KP2= 26 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 33
 LINE NO.= 35 KP1= 24 TAN1= 1.0000 .0000 .0000
 KP2= 33 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 27
 LINE NO.= 36 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 27 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 31
 LINE NO.= 37 KP1= 30 TAN1= .7071 .7071 .0000
 KP2= 31 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 32 33
 LINE NO.= 38 KP1= 32 TAN1= .7071 -.7071 .0000
 KP2= 33 TAN2= -.7071 .7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES
 LINE LIST = 29 16 30
 (TRAVERSED IN SAME DIRECTION AS LINE 29)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
 LINE LIST = 33 34 23
 (TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 6
 Guide steel

DEFINE AREA BY LIST OF LINES
 LINE LIST = 35 38 33 22
 (TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
 LINE LIST = 36 24 34 38
 (TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 37 31 17 29

(TRAVERSED IN SAME DIRECTION AS LINE 37)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 32 37 30

(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 10

Define thermal shunts

(K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)

(L's 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

(A's 11 - 22)

horizontal thermal shunt

KEYPOINT	34	X,Y,Z=	.500000E-02	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	35	X,Y,Z=	.500000E-02	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	36	X,Y,Z=	.238500	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	37	X,Y,Z=	.238500	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	38	X,Y,Z=	.472000	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.472000	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	1000	X,Y,Z=	.238500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	1001	X,Y,Z=	.472000	.000000E+00	.000000E+00	IN CSYS= 0
LINE CONNECTS KEYPOINTS 34 1						
LINE NO.=	39	KP1=	34	TAN1=	.7071 .7071 .0000	
		KP2=	1	TAN2=	-.7071 -.7071 .0000	
LINE CONNECTS KEYPOINTS 1 1000						
LINE NO.=	40	KP1=	1	TAN1=	-1.0000 .0000 .0000	
		KP2=	1000	TAN2=	1.0000 .0000 .0000	
LINE CONNECTS KEYPOINTS 1000 36						
LINE NO.=	41	KP1=	1000	TAN1=	.0000 -1.0000 .0000	
		KP2=	36	TAN2=	.0000 1.0000 .0000	
LINE CONNECTS KEYPOINTS 36 34						
LINE NO.=	42	KP1=	36	TAN1=	1.0000 .0000 .0000	
		KP2=	34	TAN2=	-1.0000 .0000 .0000	
LINE CONNECTS KEYPOINTS 1 35						
LINE NO.=	43	KP1=	1	TAN1=	-.7071 .7071 .0000	
		KP2=	35	TAN2=	.7071 -.7071 .0000	
LINE CONNECTS KEYPOINTS 35 37						
LINE NO.=	44	KP1=	35	TAN1=	-1.0000 .0000 .0000	
		KP2=	37	TAN2=	1.0000 .0000 .0000	
LINE CONNECTS KEYPOINTS 37 1000						
LINE NO.=	45	KP1=	37	TAN1=	.0000 -1.0000 .0000	
		KP2=	1000	TAN2=	.0000 1.0000 .0000	
LINE CONNECTS KEYPOINTS 1000 1001						
LINE NO.=	46	KP1=	1000	TAN1=	-1.0000 .0000 .0000	
		KP2=	1001	TAN2=	1.0000 .0000 .0000	
LINE CONNECTS KEYPOINTS 1001 38						
LINE NO.=	47	KP1=	1001	TAN1=	.0000 -1.0000 .0000	
		KP2=	38	TAN2=	.0000 1.0000 .0000	

LINE CONNECTS KEYPOINTS 38 36
 LINE NO.= 48 KP1= 38 TAN1= 1.0000 .0000 .0000
 KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 37 39
 LINE NO.= 49 KP1= 37 TAN1= -1.0000 .0000 .0000
 KP2= 39 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 39 1001
 LINE NO.= 50 KP1= 39 TAN1= .0000 -1.0000 .0000
 KP2= 1001 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 23 39
 LINE NO.= 51 KP1= 23 TAN1= 1.0000 .0000 .0000
 KP2= 39 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 38 21
 LINE NO.= 52 KP1= 38 TAN1= -1.0000 .0000 .0000
 KP2= 21 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 22
 LINE NO.= 53 KP1= 1001 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

vertical thermal shunt

KEYPOINT 40 X,Y,Z= .500000E-02 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 41 X,Y,Z= .000000E+00 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 42 X,Y,Z= .500000E-02 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 43 X,Y,Z= .000000E+00 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 44 X,Y,Z= .500000E-02 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 45 X,Y,Z= .000000E+00 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 46 X,Y,Z= .500000E-02 -.472000 .000000E+00 IN CSYS= 0

KEYPOINT 47 X,Y,Z= .000000E+00 -.472000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 40
 LINE NO.= 54 KP1= 34 TAN1= .0000 -1.0000 .0000
 KP2= 40 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 55 KP1= 40 TAN1= 1.0000 .0000 .0000
 KP2= 41 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 1
 LINE NO.= 56 KP1= 41 TAN1= .0000 1.0000 .0000
 KP2= 1 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 40 42
 LINE NO.= 57 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 42 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
 LINE NO.= 58 KP1= 42 TAN1= 1.0000 .0000 .0000
 KP2= 43 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 43 41
 LINE NO.= 59 KP1= 43 TAN1= .0000 1.0000 .0000
 KP2= 41 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 16 42
 LINE NO.= 60 KP1= 16 TAN1= .0000 1.0000 .0000
 KP2= 42 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 43

LINE NO.=	61	KP1=	15	TAN1=	.0000	1.0000	.0000
		KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 1 45							
LINE NO.=	62	KP1=	1	TAN1=	.0000	1.0000	.0000
		KP2=	45	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 45 44							
LINE NO.=	63	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	44	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 44 35							
LINE NO.=	64	KP1=	44	TAN1=	.0000	-1.0000	.0000
		KP2=	35	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS 45 47							
LINE NO.=	65	KP1=	45	TAN1=	.0000	1.0000	.0000
		KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 47 46							
LINE NO.=	66	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	46	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 46 44							
LINE NO.=	67	KP1=	46	TAN1=	.0000	-1.0000	.0000
		KP2=	44	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS 47 29							
LINE NO.=	68	KP1=	47	TAN1=	.0000	1.0000	.0000
		KP2=	29	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 46 28							
LINE NO.=	69	KP1=	46	TAN1=	.0000	1.0000	.0000
		KP2=	28	TAN2=	.0000	-1.0000	.0000

Define areas for thermal shunts
horizontal thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 40 41 42
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 44 45 40
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 41 46 47
(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 49 50 46
(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 53 19 52
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 51 20 53
(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 16
vertical thermal shunts

DEFINE AREA BY LIST OF LINES
LINE LIST = 39 54 55 56
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
LINE LIST = 57 58 59 55
(TRAVERSED IN SAME DIRECTION AS LINE 57)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 13 61 58
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
LINE LIST = 43 62 63 64
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES
LINE LIST = 65 66 67 63
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES
LINE LIST = 68 26 69 66
(TRAVERSED IN SAME DIRECTION AS LINE 68)

AREA NUMBER = 22

Define shell gaps at the exterior of the tube array
(L's 70 - 73)
(A's 23 - 26)

LINE CONNECTS KEYPOINTS	42	17			
LINE NO.= 70 KP1=	42	TAN1=	-1.0000	-.0001	.0000
KP2=	17	TAN2=	1.0000	.0001	.0000

LINE CONNECTS KEYPOINTS	20	38			
LINE NO.= 71 KP1=	20	TAN1=	.0001	1.0000	.0000
KP2=	38	TAN2=	-.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	39	24			
LINE NO.= 72 KP1=	39	TAN1=	-.0001	1.0000	.0000
KP2=	24	TAN2=	.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	27	46			
LINE NO.= 73 KP1=	27	TAN1=	1.0000	-.0001	.0000
KP2=	46	TAN2=	-1.0000	.0001	.0000

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 70 14
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
LINE LIST = 18 71 52
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 51 72 21
(TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 69 25 73
(TRAVERSED IN SAME DIRECTION AS LINE 69)

AREA NUMBER = 26

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 60 TO 61 STEP 1

2 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 68 TO 69 STEP 1

4 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 51 TO 53 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 39 TO 47 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 19 TO 20 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 50 TO 50 STEP 1

8 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 58 STEP 1

10 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 55 TO 55 STEP 1

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

12 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 26 TO 26 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 1, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 40 TO 48 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 56 STEP 2

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 57 TO 59 STEP 2

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 62 TO 64 STEP 2

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 65 TO 67 STEP 2

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 49 TO 49 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 34 STEP 1

16 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 30 STEP 1

18 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 70 TO 73 STEP 1

22 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

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

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 22 IN STEPS OF 1

NUMBER OF AREAS MESHED = 12
MAXIMUM NODE NUMBER = 227
MAXIMUM ELEMENT NUMBER = 128
Mesh corn guides

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

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 = 401
MAXIMUM ELEMENT NUMBER = 240

Define center tube
(K's 48-51)
(L's 74-83)
(A's 27-31)

KEYPOINT 48 X,Y,Z= .100000E-01 .100000E-01 .000000E+00 IN CSYS= 0

KEYPOINT 49 X,Y,Z= .100000E-01 .233500 .000000E+00 IN CSYS= 0

KEYPOINT 50 X,Y,Z= .233500 .233500 .000000E+00 IN CSYS= 0

KEYPOINT 51 X,Y,Z= .233500 .100000E-01 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 48
LINE NO.= 74 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 48 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 48 49
LINE NO.= 75 KP1= 48 TAN1= .0000 -1.0000 .0000
KP2= 49 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 49 40
LINE NO.= 76 KP1= 49 TAN1= .7071 -.7071 .0000
KP2= 40 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 49 50
LINE NO.= 77 KP1= 49 TAN1= -1.0000 .0000 .0000
KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 31
LINE NO.= 78 KP1= 50 TAN1= -.7071 -.7071 .0000
KP2= 31 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 31 40
LINE NO.= 79 KP1= 31 TAN1= 1.0000 .0000 .0000
KP2= 40 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 51
LINE NO.= 80 KP1= 50 TAN1= .0000 1.0000 .0000
KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 51 36
LINE NO.= 81 KP1= 51 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 36 31
LINE NO.= 82 KP1= 36 TAN1= .0000 -1.0000 .0000

KP2= 31 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 51 48
 LINE NO.= 83 KP1= 51 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 76 79 78 77
 (TRAVERSED IN SAME DIRECTION AS LINE 76)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES
 LINE LIST = 54 74 75 76
 (TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 74 42 81 83
 (TRAVERSED IN SAME DIRECTION AS LINE 74)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 81 82 78 80
 (TRAVERSED IN SAME DIRECTION AS LINE 81)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 75 83 80 77
 (TRAVERSED IN SAME DIRECTION AS LINE 75)

AREA NUMBER = 31

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 MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 74 TO 83 STEP 1

10 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 76 TO 76 STEP 1

9 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 78 TO 78 STEP 1

8 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 81 TO 81 STEP 1

7 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 74 TO 74 STEP 1

6 LINES (OF 83 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 76 TO 76 STEP 1

1 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

3 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

4 LINES (OF 83 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 83 STEP 1

83 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
First fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 31 STEP 1

31 AREAS (OF 31 DEFINED) SELECTED BY ASEL COMMAND.

GENERATE NODES AND ELEMENTS
IN AREAS 31 TO 31 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 626
MAXIMUM ELEMENT NUMBER = 436

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 27 TO 30 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 708
MAXIMUM ELEMENT NUMBER = 548

Copy tube mesh

Center tubes above
(A's 32 - 36)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .000E+00 .234 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1045
 MAXIMUM ELEMENT NUMBER = 856
 Center tubes below
 (A's 37 - 46)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 27 TO 36 IN STEPS OF 1

MAXIMUM NODE NUMBER = 1719
 MAXIMUM ELEMENT NUMBER = 1472
 (A's 47 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 27 TO 31 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2056
 MAXIMUM ELEMENT NUMBER = 1780
 (A's 52 - 56)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 47 TO 51 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2393
 MAXIMUM ELEMENT NUMBER = 2088

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 140	USED FOR NODES	766
NODE 217	USED FOR NODES	1431
NODE 141	USED FOR NODES	767
NODE 216	USED FOR NODES	1432
NODE 215	USED FOR NODES	1433
NODE 214	USED FOR NODES	1434
NODE 213	USED FOR NODES	1435
NODE 212	USED FOR NODES	1436
NODE 211	USED FOR NODES	1437
NODE 210	USED FOR NODES	1438
NODE 209	USED FOR NODES	1439
NODE 208	USED FOR NODES	1440
NODE 207	USED FOR NODES	1441
NODE 177	USED FOR NODES	1092
NODE 139	USED FOR NODES	765
NODE 206	USED FOR NODES	1384
NODE 128	USED FOR NODES	710
NODE 31	USED FOR NODES	1091
NODE 176	USED FOR NODES	1093
NODE 175	USED FOR NODES	1094
NODE 174	USED FOR NODES	1095
NODE 173	USED FOR NODES	1096
NODE 172	USED FOR NODES	1097
NODE 171	USED FOR NODES	1098
NODE 170	USED FOR NODES	1099
NODE 169	USED FOR NODES	1100
NODE 168	USED FOR NODES	1101
NODE 167	USED FOR NODES	1102
NODE 166	USED FOR NODES	1103
NODE 218	USED FOR NODES	1430
NODE 219	USED FOR NODES	1429
NODE 165	USED FOR NODES	1104
NODE 164	USED FOR NODES	1047
NODE 114	USED FOR NODES	754
NODE 129	USED FOR NODES	755
NODE 130	USED FOR NODES	756
NODE 131	USED FOR NODES	757
NODE 132	USED FOR NODES	758
NODE 133	USED FOR NODES	759
NODE 134	USED FOR NODES	760
NODE 135	USED FOR NODES	761

NODE	136	USED FOR NODES	762	
NODE	137	USED FOR NODES	763	
NODE	138	USED FOR NODES	764	
NODE	640	USED FOR NODES	824	
NODE	1062	USED FOR NODES	1498	
NODE	33	USED FOR NODES	1161	
NODE	34	USED FOR NODES	1160	
NODE	639	USED FOR NODES	823	
NODE	1061	USED FOR NODES	1497	
NODE	1060	USED FOR NODES	1496	
NODE	638	USED FOR NODES	822	
NODE	35	USED FOR NODES	1159	
NODE	1059	USED FOR NODES	1495	
NODE	36	USED FOR NODES	1158	
NODE	637	USED FOR NODES	821	
NODE	37	USED FOR NODES	1157	
NODE	636	USED FOR NODES	820	
NODE	1058	USED FOR NODES	1494	
NODE	38	USED FOR NODES	1156	
NODE	635	USED FOR NODES	819	
NODE	1057	USED FOR NODES	1493	
NODE	39	USED FOR NODES	1155	
NODE	634	USED FOR NODES	818	
NODE	1056	USED FOR NODES	1492	
NODE	40	USED FOR NODES	1154	
NODE	633	USED FOR NODES	817	
NODE	1055	USED FOR NODES	1491	
NODE	632	USED FOR NODES	816	
NODE	1054	USED FOR NODES	1490	
NODE	41	USED FOR NODES	1153	
NODE	42	USED FOR NODES	1152	
NODE	631	USED FOR NODES	815	
NODE	1053	USED FOR NODES	1489	
NODE	43	USED FOR NODES	1151	
NODE	630	USED FOR NODES	814	
NODE	1052	USED FOR NODES	1488	
NODE	44	USED FOR NODES	1150	
NODE	629	USED FOR NODES	813	
NODE	1051	USED FOR NODES	1487	
NODE	45	USED FOR NODES	1149	
NODE	628	USED FOR NODES	812	
NODE	1050	USED FOR NODES	1486	
NODE	683	USED FOR NODES	1766	
NODE	370	USED FOR NODES	843	
NODE	369	USED FOR NODES	844	
NODE	684	USED FOR NODES	1767	
NODE	368	USED FOR NODES	845	
NODE	688	USED FOR NODES	1771	
NODE	316	USED FOR NODES	810	1721
NODE	367	USED FOR NODES	846	
NODE	685	USED FOR NODES	1768	
NODE	366	USED FOR NODES	847	
NODE	229	USED FOR NODES	1049	1484 2102
NODE	365	USED FOR NODES	848	
NODE	1187	USED FOR NODES	2103	
NODE	364	USED FOR NODES	849	
NODE	363	USED FOR NODES	850	
NODE	692	USED FOR NODES	1775	
NODE	1186	USED FOR NODES	2104	
NODE	1185	USED FOR NODES	2105	
NODE	1184	USED FOR NODES	2106	
NODE	1183	USED FOR NODES	2107	
NODE	1182	USED FOR NODES	2108	
NODE	1181	USED FOR NODES	2109	
NODE	1180	USED FOR NODES	2110	
NODE	1179	USED FOR NODES	2111	
NODE	1178	USED FOR NODES	2112	
NODE	1177	USED FOR NODES	2113	
NODE	375	USED FOR NODES	838	
NODE	1176	USED FOR NODES	2114	

NODE	689	USED FOR NODES	1772
NODE	690	USED FOR NODES	1773
NODE	687	USED FOR NODES	1770
NODE	691	USED FOR NODES	1774
NODE	1175	USED FOR NODES	2115
NODE	693	USED FOR NODES	1776
NODE	694	USED FOR NODES	1777
NODE	686	USED FOR NODES	1769
NODE	273	USED FOR NODES	1386
NODE	695	USED FOR NODES	1778
NODE	274	USED FOR NODES	1512
NODE	275	USED FOR NODES	1513
NODE	276	USED FOR NODES	1514
NODE	32	USED FOR NODES	1147
NODE	17	USED FOR NODES	1765
NODE	277	USED FOR NODES	1515
NODE	278	USED FOR NODES	1516
NODE	279	USED FOR NODES	1517
NODE	280	USED FOR NODES	1518
NODE	361	USED FOR NODES	712
NODE	281	USED FOR NODES	1519
NODE	282	USED FOR NODES	1520
NODE	283	USED FOR NODES	1521
NODE	284	USED FOR NODES	1522
NODE	285	USED FOR NODES	1523
NODE	286	USED FOR NODES	1524
NODE	371	USED FOR NODES	842
NODE	374	USED FOR NODES	839
NODE	372	USED FOR NODES	841
NODE	373	USED FOR NODES	840
NODE	75	USED FOR NODES	2073
NODE	59	USED FOR NODES	1835
NODE	319	USED FOR NODES	1736
NODE	242	USED FOR NODES	2172
NODE	320	USED FOR NODES	1735
NODE	58	USED FOR NODES	1834
NODE	76	USED FOR NODES	2072
NODE	241	USED FOR NODES	2171
NODE	321	USED FOR NODES	1734
NODE	57	USED FOR NODES	1833
NODE	77	USED FOR NODES	2071
NODE	240	USED FOR NODES	2170
NODE	322	USED FOR NODES	1733
NODE	56	USED FOR NODES	1832
NODE	78	USED FOR NODES	2070
NODE	239	USED FOR NODES	2169
NODE	79	USED FOR NODES	2069
NODE	238	USED FOR NODES	2168
NODE	323	USED FOR NODES	1732
NODE	55	USED FOR NODES	1831
NODE	80	USED FOR NODES	2068
NODE	54	USED FOR NODES	1830
NODE	237	USED FOR NODES	2167
NODE	324	USED FOR NODES	1731
NODE	81	USED FOR NODES	2067
NODE	53	USED FOR NODES	1829
NODE	236	USED FOR NODES	2166
NODE	325	USED FOR NODES	1730
NODE	52	USED FOR NODES	1828
NODE	235	USED FOR NODES	2165
NODE	82	USED FOR NODES	2066
NODE	326	USED FOR NODES	1729
NODE	83	USED FOR NODES	2065
NODE	51	USED FOR NODES	1827
NODE	327	USED FOR NODES	1728
NODE	234	USED FOR NODES	2164
NODE	84	USED FOR NODES	2064
NODE	50	USED FOR NODES	1826
NODE	233	USED FOR NODES	2163
NODE	328	USED FOR NODES	1727

2058

NODE 85 USED FOR NODES 2063
 NODE 49 USED FOR NODES 1825
 NODE 329 USED FOR NODES 1726
 NODE 232 USED FOR NODES 2162
 NODE 86 USED FOR NODES 2062
 NODE 330 USED FOR NODES 1725
 NODE 48 USED FOR NODES 1824
 NODE 231 USED FOR NODES 2161
 NODE 87 USED FOR NODES 2061
 NODE 47 USED FOR NODES 1823
 NODE 230 USED FOR NODES 2160
 NODE 331 USED FOR NODES 1724
 NODE 46 USED FOR NODES 1821
 NODE 228 USED FOR NODES 2158
 NODE 74 USED FOR NODES 2060
 NODE 318 USED FOR NODES 1723

*** WARNING *** CP= 9.890 TIME= 17:16:52
 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= 10.210 TIME= 17:16:52
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.210 TIME= 17:16:52
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.220 TIME= 17:16:52
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.220 TIME= 17:16:52
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

KEYPOINT 31 USED FOR KEYPOINT(S) 59 77
 KEYPOINT 33 USED FOR KEYPOINT(S) 62 75 88
 KEYPOINT 35 USED FOR KEYPOINT(S) 64
 KEYPOINT 36 USED FOR KEYPOINT(S) 80
 KEYPOINT 37 USED FOR KEYPOINT(S) 67 85
 KEYPOINT 38 USED FOR KEYPOINT(S) 83
 KEYPOINT 39 USED FOR KEYPOINT(S) 86
 KEYPOINT 40 USED FOR KEYPOINT(S) 56
 KEYPOINT 42 USED FOR KEYPOINT(S) 53
 KEYPOINT 44 USED FOR KEYPOINT(S) 61 72
 KEYPOINT 46 USED FOR KEYPOINT(S) 69
 LINE 44 USED FOR LINE(S) 105
 LINE 48 USED FOR LINE(S) 129
 LINE 49 USED FOR LINE(S) 133
 LINE 57 USED FOR LINE(S) 88
 LINE 64 USED FOR LINE(S) 100
 LINE 67 USED FOR LINE(S) 112
 LINE 79 USED FOR LINE(S) 93
 LINE 82 USED FOR LINE(S) 124
 LINE 97 USED FOR LINE(S) 117
 LINE 106 USED FOR LINE(S) 136

Create mesh in UCF inner shell

(L's 105,108)

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

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 18 STEP 2

3 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 25 STEP 2

6 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

*** WARNING *** CP= 10.370 TIME= 17:16:52
LSIZE is not a recognized PREP7 command, abbreviation, or macro.
This command will be ignored.

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

133 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 19 STEP 1

7 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 88 KP1= 15 KP2= 22

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 20 TO 26 STEP 1

7 LINES (OF 134 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 93 KP1= 22 KP2= 29

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 2810
MAXIMUM ELEMENT NUMBER = 2412

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 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 54, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 4, 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 = 3246
MAXIMUM ELEMENT NUMBER = 2844

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 14.520 TIME= 17:16:56
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 14.540 TIME= 17:16:56
Keypoints 27 and 70 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 14.540 TIME= 17:16:56
Keypoints 17 and 54 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 14.540 TIME= 17:16:56
Keypoints 24 and 91 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 14.550 TIME= 17:16:56
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) 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
 ** AREA 5 MESHED WITH 132 QUADRILATERALS, 4 TRIANGLES **
 ** AREA 6 MESHED WITH 132 QUADRILATERALS, 4 TRIANGLES **

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 3470
 MAXIMUM ELEMENT NUMBER = 3116

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.)

GENERATE NODES AND ELEMENTS

IN AREAS 23 TO 26 IN STEPS OF 1
 ** AREA 23 MESHED WITH 38 QUADRILATERALS, 9 TRIANGLES **
 ** AREA 24 MESHED WITH 40 QUADRILATERALS, 7 TRIANGLES **
 ** AREA 25 MESHED WITH 38 QUADRILATERALS, 9 TRIANGLES **
 ** AREA 26 MESHED WITH 41 QUADRILATERALS, 7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3305

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 725 USED FOR NODES 3471
 NODE 1399 USED FOR NODES 3604
 NODE 724 USED FOR NODES 3472
 NODE 1398 USED FOR NODES 3603
 NODE 723 USED FOR NODES 3473
 NODE 1397 USED FOR NODES 3602
 NODE 722 USED FOR NODES 3474
 NODE 1396 USED FOR NODES 3601
 NODE 721 USED FOR NODES 3475
 NODE 1395 USED FOR NODES 3600
 NODE 720 USED FOR NODES 3476
 NODE 1394 USED FOR NODES 3599
 NODE 719 USED FOR NODES 3477
 NODE 1393 USED FOR NODES 3598
 NODE 718 USED FOR NODES 3478
 NODE 1392 USED FOR NODES 3597
 NODE 717 USED FOR NODES 3479
 NODE 1391 USED FOR NODES 3596
 NODE 716 USED FOR NODES 3480
 NODE 1390 USED FOR NODES 3595
 NODE 715 USED FOR NODES 3481
 NODE 1389 USED FOR NODES 3594
 NODE 714 USED FOR NODES 3482

NODE 1388 USED FOR NODES 3593
 NODE 713 USED FOR NODES 3483
 NODE 1387 USED FOR NODES 3592
 NODE 1853 USED FOR NODES 3519
 NODE 2190 USED FOR NODES 3560
 NODE 1854 USED FOR NODES 3518
 NODE 2192 USED FOR NODES 3558
 NODE 2186 USED FOR NODES 3564
 NODE 2193 USED FOR NODES 3557
 NODE 1861 USED FOR NODES 3511
 NODE 1849 USED FOR NODES 3523
 NODE 1856 USED FOR NODES 3516
 NODE 2191 USED FOR NODES 3559
 NODE 1851 USED FOR NODES 3521
 NODE 1852 USED FOR NODES 3520
 NODE 2198 USED FOR NODES 3552
 NODE 1858 USED FOR NODES 3514
 NODE 1855 USED FOR NODES 3517
 NODE 2195 USED FOR NODES 3555
 NODE 2189 USED FOR NODES 3561
 NODE 2197 USED FOR NODES 3553
 NODE 1860 USED FOR NODES 3512
 NODE 2188 USED FOR NODES 3562
 NODE 1850 USED FOR NODES 3522
 NODE 1859 USED FOR NODES 3513
 NODE 2187 USED FOR NODES 3563
 NODE 1857 USED FOR NODES 3515
 NODE 2196 USED FOR NODES 3554
 NODE 2194 USED FOR NODES 3556

*** WARNING *** CP= 17.670 TIME= 17:16:59
 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= 17.900 TIME= 17:17:00
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.900 TIME= 17:17:00
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.900 TIME= 17:17:00
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.910 TIME= 17:17:00
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 70 TO 73 IN STEPS OF 1

NUMBER OF LINES MESHD = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3361

GENERATE NODES AND ELEMENTS
 ON LINES 14 TO 18 IN STEPS OF 2

NUMBER OF LINES MESHD = 3
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3409

GENERATE NODES AND ELEMENTS
 ON LINES 21 TO 25 IN STEPS OF 2

NUMBER OF LINES MESHD = 3
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3457

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 29 TO 30 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3485

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3513

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 60 TO 60 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3517

GENERATE NODES AND ELEMENTS
 ON LINES 69 TO 69 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3521

GENERATE NODES AND ELEMENTS
 ON LINES 51 TO 52 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3529

***** ROUTINE COMPLETED ***** CP = 18.100

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 .76525E-01 .00000E+00 .00000E+00

TITLE=
12 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

3068 ELEMENTS (OF 3529 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.
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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
12 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=
12 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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 17:17:04 JUN 24, 1995 CP= 21.660
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

224 NODES (OF 3379 DEFINED) SELECTED FROM
224 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= 21.830 TIME= 17:17:04
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= 224 NUMBER OF NODES= 224

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 31.420

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 17:17:13 JUN 24, 1995 CP= 31.420
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 3530 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 3530

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 3530
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

18 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 31.470 TIME= 17:17:14
Nodes cannot be cleared from line 14 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.480 TIME= 17:17:14
Nodes cannot be cleared from line 16 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.480 TIME= 17:17:14
Nodes cannot be cleared from line 18 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.490 TIME= 17:17:14
Nodes cannot be cleared from line 21 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.500 TIME= 17:17:14
Nodes cannot be cleared from line 23 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.500 TIME= 17:17:14
Nodes cannot be cleared from line 25 because area 26 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.510 TIME= 17:17:14
Nodes cannot be cleared from line 29 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.510 TIME= 17:17:14
Nodes cannot be cleared from line 30 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.520 TIME= 17:17:14
Nodes cannot be cleared from line 33 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.520 TIME= 17:17:14
Nodes cannot be cleared from line 34 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.530 TIME= 17:17:14
Nodes cannot be cleared from line 51 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.530 TIME= 17:17:14
Nodes cannot be cleared from line 52 because area 15 is meshed. Only

elements are deleted.

*** NOTE *** CP= 31.540 TIME= 17:17:14
Nodes cannot be cleared from line 60 because area 19 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.540 TIME= 17:17:14
Nodes cannot be cleared from line 69 because area 22 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.540 TIME= 17:17:14
Nodes cannot be cleared from line 70 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.550 TIME= 17:17:14
Nodes cannot be cleared from line 71 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.550 TIME= 17:17:14
Nodes cannot be cleared from line 72 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.560 TIME= 17:17:14
Nodes cannot be cleared from line 73 because area 26 is meshed. Only
elements are deleted.

CLEARED 18 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 31.570

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= 31.580 TIME= 17:17:14
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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 3633 BY 1
REAL= 26.1398022 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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= 32.490 TIME= 17:17:15

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 17:17:15 JUN 24, 1995 CP= 32.500
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 METHODFULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 33.170 TIME= 17:17:15
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 33.480 TIME= 17:17:16
 Nonlinear analysis, NR0PT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER1
 TIME AT END OF THE LOAD STEP10000E-05
 AUTOMATIC TIME STEPPINGON
 INITIAL NUMBER OF SUBSTEPS0
 MAXIMUM NUMBER OF SUBSTEPS0
 MINIMUM NUMBER OF SUBSTEPS1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS25
 STEP CHANGE BOUNDARY CONDITIONSNO
 TRANSIENT (INERTIA) EFFECTSOFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLSUSE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLSALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 2585.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .26857	IXX = 260.8	IXX = 260.8
YC = -.36772E-11	IYY = 260.8	IYY = 74.23
ZC = .00000E+00	IZZ = 521.5	IZZ = 335.0
	IXY = -.1208E-08	IXY = -.3762E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	2585.95

Range of element maximum matrix coefficients in global coordinates
 Maximum= 329.296048 at element 97.
 Minimum= 4.296058466E-09 at element 3530.

*** WARNING *** CP= 45.620 TIME= 17:17:29
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	8.110	.002
18	1	MATRIX50	.070	.070

Time at end of element matrix formulation CP= 45.62.
 HT FLOW CONVERGENCE VALUE= .1100E+05 CRITERION= 11.00

Estimated number of active DOF= 3270.
Maximum wavefront= 271.

Time at end of matrix triangularization CP= 57.16.
Equation solver maximum pivot= 614.24291 at node 4 TEMP.
Equation solver minimum pivot= 0.317532065 at node 3348 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 170.3
HT FLOW CONVERGENCE VALUE= 45.66 CRITERION= .2164
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -26.81
HT FLOW CONVERGENCE VALUE= 3.212 CRITERION= .2110
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.402
HT FLOW CONVERGENCE VALUE= .1712 CRITERION= .2102 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	4.700	.001
18	1	MATRIX50	.090	.090

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	.600	.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 = 3270
R.M.S. WAVEFRONT SIZE = 127.9

*** ANSYS BINARY FILE STATISTICS
BUFFER SIZE USED= 4096
1.563 MB WRITTEN ON ELEMENT MATRIX FILE: ucf12w.emat
1.484 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf12w.esav
3.188 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf12w.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf12w.dsub
1.813 MB WRITTEN ON RESULTS FILE: ucf12w.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 135 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 3633 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 109

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 56.921 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 56.946 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 56.972 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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 = 109

*** WARNING *** CP= 122.370 TIME= 17:18:48
This load step will be a static (steady-state) step.

*** NOTE *** CP= 122.670 TIME= 17:18:48
The step data was checked and warning messages were found.
Please review output or errors file (ucf12w.err) for these warning
messages.

*** NOTE *** CP= 122.670 TIME= 17:18:48
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 17:18:48 JUN 24, 1995 CP= 122.670

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .1295E+05 CRITERION= 12.96
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 30.93
 HT FLOW CONVERGENCE VALUE= 16.59 CRITERION= .2081
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.505
 HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .2067
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6668
 HT FLOW CONVERGENCE VALUE= .5270E-01 CRITERION= .2064 <<< 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 56.921 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 56.946 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 56.972 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 199.020 TIME= 17:20:06
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 17:20:06 JUN 24, 1995 CP= 199.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .5270E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1096E-03
HT FLOW CONVERGENCE VALUE= .2071E-05 CRITERION= .2064 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1436 OSCILLATION LIMIT = .1133
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1018 CRITERION= .2064


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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1280E-03
HT FLOW CONVERGENCE VALUE= .3048E-05 CRITERION= .2064 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .7110E-01 OSCILLATION LIMIT = .5609E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .9830E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2426E-03
HT FLOW CONVERGENCE VALUE= .5842E-05 CRITERION= .2064 <<< 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 = .1494E-01 OSCILLATION LIMIT = .3537E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .9578E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2246E-03
HT FLOW CONVERGENCE VALUE= .1226E-04 CRITERION= .2064 <<< 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 = .2438E-02 OSCILLATION LIMIT = .1539E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9464E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7370E-04
HT FLOW CONVERGENCE VALUE= .1108E-04 CRITERION= .2064 <<< 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 = .1118E-02 OSCILLATION LIMIT = .7055E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9405E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7355E-04
HT FLOW CONVERGENCE VALUE= .1051E-04 CRITERION= .2064 <<< 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 = .9480E-03 OSCILLATION LIMIT = .5984E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9351E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7340E-04
HT FLOW CONVERGENCE VALUE= .1018E-04 CRITERION= .2064 <<< 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 = .8842E-03 OSCILLATION LIMIT = .5581E-02
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .9302E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2748E-04
HT FLOW CONVERGENCE VALUE= .3743E-05 CRITERION= .2064 <<< 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 = .8638E-03 OSCILLATION LIMIT = .2044E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:25:19 JUN 24, 1995 CP= 509.310
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 186.8 CRITERION= .2784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4802
 HT FLOW CONVERGENCE VALUE= .2007 CRITERION= .2057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 15
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5681E-05 OSCILLATION LIMIT = .4482
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.0 CRITERION= .2779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4824
 HT FLOW CONVERGENCE VALUE= .2341 CRITERION= .2061
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6562E-01
 HT FLOW CONVERGENCE VALUE= .9617E-02 CRITERION= .2061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 17
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8063E-06 OSCILLATION LIMIT = .6361E-01
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 186.8 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4802
 HT FLOW CONVERGENCE VALUE= .2190 CRITERION= .2056
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5591E-01
 HT FLOW CONVERGENCE VALUE= .9072E-02 CRITERION= .2056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 19
 *** TIME = 236714. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2676E-05 OSCILLATION LIMIT = .2111
 *** AUTO TIME STEP: NEXT TIME INC = .18684E+06 INCREASED (FACTOR = 2.3683)

HT FLOW CONVERGENCE VALUE= 442.5 CRITERION= .4879
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.137
 HT FLOW CONVERGENCE VALUE= .5439 CRITERION= .2058
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1786
 HT FLOW CONVERGENCE VALUE= .2802E-01 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 21
 *** TIME = 423558. TIME INC = 186844.
 *** RESPONSE EIGENVALUE = .8399E-06 OSCILLATION LIMIT = .1569
 *** AUTO TIME STEP: NEXT TIME INC = .56053E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 1327. CRITERION= 1.343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.412
 HT FLOW CONVERGENCE VALUE= 1.595 CRITERION= .2050
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5900
 HT FLOW CONVERGENCE VALUE= .9502E-01 CRITERION= .2049 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 23
 *** TIME = 984090. TIME INC = 560532.
 *** RESPONSE EIGENVALUE = .1129E-05 OSCILLATION LIMIT = .6331
 *** AUTO STEP TIME: NEXT TIME INC = .56053E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1327. CRITERION= 1.342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.412
 HT FLOW CONVERGENCE VALUE= 1.624 CRITERION= .2048
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5916
 HT FLOW CONVERGENCE VALUE= .9403E-01 CRITERION= .2047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 25
 *** TIME = .154462E+07 TIME INC = 560532.
 *** RESPONSE EIGENVALUE = .9189E-06 OSCILLATION LIMIT = .5151
 *** AUTO STEP TIME: NEXT TIME INC = .56053E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1326. CRITERION= 1.342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.412
 HT FLOW CONVERGENCE VALUE= 1.650 CRITERION= .2039

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5807
 HT FLOW CONVERGENCE VALUE= .9364E-01 CRITERION= .2038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 27
 *** TIME = .210516E+07 TIME INC = 560532.
 *** RESPONSE EIGENVALUE = .1015E-05 OSCILLATION LIMIT = .5688
 *** AUTO STEP TIME: NEXT TIME INC = .56053E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1326. CRITERION= 1.342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.412
 HT FLOW CONVERGENCE VALUE= 1.608 CRITERION= .2037
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5789
 HT FLOW CONVERGENCE VALUE= .9349E-01 CRITERION= .2036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 29
 *** TIME = .266569E+07 TIME INC = 560532.
 *** RESPONSE EIGENVALUE = .9054E-06 OSCILLATION LIMIT = .5075
 *** AUTO TIME STEP: NEXT TIME INC = .49010E+06 DECREASED (FACTOR = .8744)

HT FLOW CONVERGENCE VALUE= 1159. CRITERION= 1.177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.983
 HT FLOW CONVERGENCE VALUE= 1.360 CRITERION= .2029
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4956
 HT FLOW CONVERGENCE VALUE= .8033E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 31
 *** TIME = .315579E+07 TIME INC = 490104.
 *** RESPONSE EIGENVALUE = .9818E-06 OSCILLATION LIMIT = .4812

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:33:38 JUN 24, 1995 CP= 1001.980
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 244.6 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7426
 HT FLOW CONVERGENCE VALUE= .3088 CRITERION= .2036
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1217
 HT FLOW CONVERGENCE VALUE= .1830E-01 CRITERION= .2036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 33
 *** TIME = .364590E+07 TIME INC = 490104.
 *** RESPONSE EIGENVALUE = .3428E-06 OSCILLATION LIMIT = .1680
 *** AUTO STEP TIME: NEXT TIME INC = .49010E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 244.3 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5861
 HT FLOW CONVERGENCE VALUE= .2485 CRITERION= .2025
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7872E-01
 HT FLOW CONVERGENCE VALUE= .1526E-01 CRITERION= .2025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 35
 *** TIME = .413600E+07 TIME INC = 490104.
 *** RESPONSE EIGENVALUE = .6410E-05 OSCILLATION LIMIT = 3.141
 *** AUTO TIME STEP: NEXT TIME INC = .16337E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 81.64 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3033
 HT FLOW CONVERGENCE VALUE= .1115 CRITERION= .2032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 36
 *** TIME = .429937E+07 TIME INC = 163368.
 *** RESPONSE EIGENVALUE = .3014E-05 OSCILLATION LIMIT = .4923
 *** AUTO STEP TIME: NEXT TIME INC = .16337E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.34 CRITERION= .2189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1954
 HT FLOW CONVERGENCE VALUE= .7684E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 37
 *** TIME = .446274E+07 TIME INC = 163368.
 *** RESPONSE EIGENVALUE = .1300E-04 OSCILLATION LIMIT = 2.123
 *** AUTO TIME STEP: NEXT TIME INC = 78894. DECREASED (FACTOR = .4829)

HT FLOW CONVERGENCE VALUE= 39.51 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1069
 HT FLOW CONVERGENCE VALUE= .4764E-01 CRITERION= .2031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 38
 *** TIME = .454163E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5962E-05 OSCILLATION LIMIT = .4704
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.21 CRITERION= .2068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
 HT FLOW CONVERGENCE VALUE= .3726E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 39
 *** TIME = .462052E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1319E-04 OSCILLATION LIMIT = 1.041
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.51 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1027
 HT FLOW CONVERGENCE VALUE= .4282E-01 CRITERION= .2030 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 40
 *** TIME = .469942E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6444E-05 OSCILLATION LIMIT = .5084
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.21 CRITERION= .2067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
 HT FLOW CONVERGENCE VALUE= .3829E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 41
 *** TIME = .477831E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8181E-05 OSCILLATION LIMIT = .6454
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1010
 HT FLOW CONVERGENCE VALUE= .4209E-01 CRITERION= .2029 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 42
 *** TIME = .485721E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6506E-05 OSCILLATION LIMIT = .5132
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.22 CRITERION= .2067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
 HT FLOW CONVERGENCE VALUE= .3855E-01 CRITERION= .2023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 43
 *** TIME = .493610E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7034E-05 OSCILLATION LIMIT = .5550
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50 CRITERION= .2061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1005
 HT FLOW CONVERGENCE VALUE= .4188E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 44
 *** TIME = .501499E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6193E-05 OSCILLATION LIMIT = .4886

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*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2066
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
HT FLOW CONVERGENCE VALUE= .3864E-01 CRITERION= .2022    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 45
*** TIME = .509389E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6397E-05    OSCILLATION LIMIT = .5047
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50    CRITERION= .2060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1003
HT FLOW CONVERGENCE VALUE= .4176E-01 CRITERION= .2027    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 46
*** TIME = .517278E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5913E-05    OSCILLATION LIMIT = .4665
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2065
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
HT FLOW CONVERGENCE VALUE= .3800E-01 CRITERION= .2022    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 14 COMPLETED. CUM ITER = 47
*** TIME = .525168E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5926E-05    OSCILLATION LIMIT = .4675
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50    CRITERION= .2060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1001
HT FLOW CONVERGENCE VALUE= .4077E-01 CRITERION= .2027    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 15 COMPLETED. CUM ITER = 48
*** TIME = .533057E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5663E-05    OSCILLATION LIMIT = .4468
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .2021    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 16 COMPLETED. CUM ITER = 49
*** TIME = .540946E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5549E-05    OSCILLATION LIMIT = .4378
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50    CRITERION= .2059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9992E-01
HT FLOW CONVERGENCE VALUE= .4067E-01 CRITERION= .2026    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 17 COMPLETED. CUM ITER = 50
*** TIME = .548836E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5437E-05    OSCILLATION LIMIT = .4289
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
HT FLOW CONVERGENCE VALUE= .3801E-01 CRITERION= .2021    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 18 COMPLETED. CUM ITER = 51
*** TIME = .556725E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5237E-05    OSCILLATION LIMIT = .4131
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50    CRITERION= .2059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9976E-01
HT FLOW CONVERGENCE VALUE= .4062E-01 CRITERION= .2025    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 19 COMPLETED. CUM ITER = 52

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*** TIME = .564615E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5227E-05    OSCILLATION LIMIT = .4124
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2063
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
    HT FLOW CONVERGENCE VALUE= .3806E-01    CRITERION= .2020    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 20 COMPLETED.    CUM ITER = 53
*** TIME = .572504E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4968E-05    OSCILLATION LIMIT = .3919
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.49    CRITERION= .2058
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9960E-01
    HT FLOW CONVERGENCE VALUE= .4063E-01    CRITERION= .2024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 21 COMPLETED.    CUM ITER = 54
*** TIME = .580393E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5033E-05    OSCILLATION LIMIT = .3971
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2062
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
    HT FLOW CONVERGENCE VALUE= .3820E-01    CRITERION= .2019    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 22 COMPLETED.    CUM ITER = 55
*** TIME = .588283E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4734E-05    OSCILLATION LIMIT = .3735
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.49    CRITERION= .2057
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9945E-01
    HT FLOW CONVERGENCE VALUE= .4059E-01    CRITERION= .2024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 23 COMPLETED.    CUM ITER = 56
*** TIME = .596172E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4854E-05    OSCILLATION LIMIT = .3830
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2062
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
    HT FLOW CONVERGENCE VALUE= .3823E-01    CRITERION= .2019    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 24 COMPLETED.    CUM ITER = 57
*** TIME = .604062E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4526E-05    OSCILLATION LIMIT = .3571
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.49    CRITERION= .2057
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9931E-01
    HT FLOW CONVERGENCE VALUE= .4054E-01    CRITERION= .2023    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 25 COMPLETED.    CUM ITER = 58
*** TIME = .611951E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4687E-05    OSCILLATION LIMIT = .3697
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.22    CRITERION= .2061
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9435E-01
    HT FLOW CONVERGENCE VALUE= .3825E-01    CRITERION= .2018    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 26 COMPLETED.    CUM ITER = 59
*** TIME = .619840E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4338E-05    OSCILLATION LIMIT = .3423
*** AUTO TIME STEP: NEXT TIME INC = 56574.    DECREASED (FACTOR = .7171)

    HT FLOW CONVERGENCE VALUE= 28.36    CRITERION= .2038
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7252E-01
    HT FLOW CONVERGENCE VALUE= .2912E-01    CRITERION= .2022    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 27 COMPLETED. CUM ITER = 60
*** TIME = .625498E+07 TIME INC = 56574.2
*** RESPONSE EIGENVALUE = .7791E-05 OSCILLATION LIMIT = .4408
*** AUTO STEP TIME: NEXT TIME INC = 56574. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 28.09 CRITERION= .2042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6766E-01
HT FLOW CONVERGENCE VALUE= .2695E-01 CRITERION= .2018 <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 28 COMPLETED. CUM ITER = 61
*** TIME = .631155E+07 TIME INC = 56574.2
*** RESPONSE EIGENVALUE = .7112E-05 OSCILLATION LIMIT = .4023
```

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:52:20 JUN 24, 1995 CP= 2113.610
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .2033
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6418E-01
HT FLOW CONVERGENCE VALUE= .2714E-01 CRITERION= .2022 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 62
*** TIME = .639045E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7349E-05 OSCILLATION LIMIT = .5798
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2037
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2238E-01 CRITERION= .2017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 63
*** TIME = .646934E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = .9726
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .2032
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6384E-01
HT FLOW CONVERGENCE VALUE= .2567E-01 CRITERION= .2022 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 64
*** TIME = .654823E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9000E-05 OSCILLATION LIMIT = .7101
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2037
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2315E-01 CRITERION= .2017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 65
*** TIME = .662713E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9740E-05 OSCILLATION LIMIT = .7684
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .2032
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6369E-01
HT FLOW CONVERGENCE VALUE= .2647E-01 CRITERION= .2021 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 66
*** TIME = .670602E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9110E-05 OSCILLATION LIMIT = .7188
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2036

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2404E-01 CRITERION= .2016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 67
*** TIME = .678492E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9178E-05 OSCILLATION LIMIT = .7241
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2031
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6355E-01
HT FLOW CONVERGENCE VALUE= .2643E-01 CRITERION= .2020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 68
*** TIME = .686381E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8826E-05 OSCILLATION LIMIT = .6963
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .2016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 69
*** TIME = .694270E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8778E-05 OSCILLATION LIMIT = .6925
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2031
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6342E-01
HT FLOW CONVERGENCE VALUE= .2637E-01 CRITERION= .2020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 70
*** TIME = .702160E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8519E-05 OSCILLATION LIMIT = .6721
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2417E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 71
*** TIME = .710049E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8417E-05 OSCILLATION LIMIT = .6641
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6330E-01
HT FLOW CONVERGENCE VALUE= .2632E-01 CRITERION= .2019 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 72
*** TIME = .717939E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8225E-05 OSCILLATION LIMIT = .6489
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2034
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
HT FLOW CONVERGENCE VALUE= .2404E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 73
*** TIME = .725828E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8086E-05 OSCILLATION LIMIT = .6379
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6319E-01
HT FLOW CONVERGENCE VALUE= .2601E-01 CRITERION= .2018 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 74
*** TIME = .733717E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7947E-05 OSCILLATION LIMIT = .6270
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2403E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 75
 *** TIME = .741607E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7784E-05 OSCILLATION LIMIT = .6141
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6307E-01
 HT FLOW CONVERGENCE VALUE= .2596E-01 CRITERION= .2018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 76
 *** TIME = .749496E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7688E-05 OSCILLATION LIMIT = .6065
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2405E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 77
 *** TIME = .757386E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7499E-05 OSCILLATION LIMIT = .5916
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6296E-01
 HT FLOW CONVERGENCE VALUE= .2591E-01 CRITERION= .2017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 17 COMPLETED. CUM ITER = 78
 *** TIME = .765275E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7436E-05 OSCILLATION LIMIT = .5867
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2409E-01 CRITERION= .2013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 18 COMPLETED. CUM ITER = 79
 *** TIME = .773164E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7233E-05 OSCILLATION LIMIT = .5706
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6286E-01
 HT FLOW CONVERGENCE VALUE= .2588E-01 CRITERION= .2017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 19 COMPLETED. CUM ITER = 80
 *** TIME = .781054E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7199E-05 OSCILLATION LIMIT = .5680
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.56 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 20 COMPLETED. CUM ITER = 81
 *** TIME = .788943E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6983E-05 OSCILLATION LIMIT = .5509
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6275E-01
 HT FLOW CONVERGENCE VALUE= .2584E-01 CRITERION= .2016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 21 COMPLETED. CUM ITER = 82
 *** TIME = .796833E+07 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .6974E-05  OSCILLATION LIMIT = .5502
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2031
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
  HT FLOW CONVERGENCE VALUE= .2415E-01 CRITERION= .2012    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 22 COMPLETED. CUM ITER = 83
*** TIME = .804722E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6749E-05  OSCILLATION LIMIT = .5325
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2027
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6265E-01
  HT FLOW CONVERGENCE VALUE= .2581E-01 CRITERION= .2015    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 23 COMPLETED. CUM ITER = 84
*** TIME = .812611E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6761E-05  OSCILLATION LIMIT = .5334
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2030
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
  HT FLOW CONVERGENCE VALUE= .2419E-01 CRITERION= .2011    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 24 COMPLETED. CUM ITER = 85
*** TIME = .820501E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6529E-05  OSCILLATION LIMIT = .5151
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2027
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6256E-01
  HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .2015    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 25 COMPLETED. CUM ITER = 86
*** TIME = .828390E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6559E-05  OSCILLATION LIMIT = .5175
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2030
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
  HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .2011    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 26 COMPLETED. CUM ITER = 87
*** TIME = .836280E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6321E-05  OSCILLATION LIMIT = .4987
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2026
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6246E-01
  HT FLOW CONVERGENCE VALUE= .2574E-01 CRITERION= .2014    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 27 COMPLETED. CUM ITER = 88
*** TIME = .844169E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6368E-05  OSCILLATION LIMIT = .5024
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2029
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
  HT FLOW CONVERGENCE VALUE= .2424E-01 CRITERION= .2010    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 28 COMPLETED. CUM ITER = 89
*** TIME = .852058E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6126E-05  OSCILLATION LIMIT = .4833
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2025
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6237E-01
  HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2014    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      6  SUBSTEP    29  COMPLETED.    CUM ITER =    90
*** TIME = .859948E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6186E-05    OSCILLATION LIMIT = .4881
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2029
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
    HT FLOW CONVERGENCE VALUE= .2423E-01 CRITERION= .2010    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    30  COMPLETED.    CUM ITER =    91
*** TIME = .867837E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5942E-05    OSCILLATION LIMIT = .4688
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2025
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6228E-01
    HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .2013    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    31  COMPLETED.    CUM ITER =    92
*** TIME = .875727E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6014E-05    OSCILLATION LIMIT = .4745
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2028
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
    HT FLOW CONVERGENCE VALUE= .2427E-01 CRITERION= .2009    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    32  COMPLETED.    CUM ITER =    93
*** TIME = .883616E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5768E-05    OSCILLATION LIMIT = .4551
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2024
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6220E-01
    HT FLOW CONVERGENCE VALUE= .2564E-01 CRITERION= .2012    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    33  COMPLETED.    CUM ITER =    94
*** TIME = .891505E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5850E-05    OSCILLATION LIMIT = .4615
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
    HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .2009    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    34  COMPLETED.    CUM ITER =    95
*** TIME = .899395E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5603E-05    OSCILLATION LIMIT = .4421
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2024
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6211E-01
    HT FLOW CONVERGENCE VALUE= .2562E-01 CRITERION= .2012    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    35  COMPLETED.    CUM ITER =    96
*** TIME = .907284E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5694E-05    OSCILLATION LIMIT = .4492
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.57    CRITERION= .2027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
    HT FLOW CONVERGENCE VALUE= .2431E-01 CRITERION= .2008    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP    36  COMPLETED.    CUM ITER =    97
*** TIME = .915174E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5448E-05    OSCILLATION LIMIT = .4298
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .2023
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6203E-01

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HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 37 COMPLETED. CUM ITER = 98
 *** TIME = .923063E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5546E-05 OSCILLATION LIMIT = .4375
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.57 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2433E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 38 COMPLETED. CUM ITER = 99
 *** TIME = .930952E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5301E-05 OSCILLATION LIMIT = .4182
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6195E-01
 HT FLOW CONVERGENCE VALUE= .2555E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 39 COMPLETED. CUM ITER = 100
 *** TIME = .938842E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5405E-05 OSCILLATION LIMIT = .4264
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.57 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5906E-01
 HT FLOW CONVERGENCE VALUE= .2433E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 40 COMPLETED. CUM ITER = 101
 *** TIME = .946731E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5162E-05 OSCILLATION LIMIT = .4073

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:18:09 JUN 24, 1995 CP= 3647.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4668E-01
 HT FLOW CONVERGENCE VALUE= .1939E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 102
 *** TIME = .954621E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7639E-05 OSCILLATION LIMIT = .6027
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1715E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 103
 *** TIME = .962510E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1072E-04 OSCILLATION LIMIT = .8457
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4647E-01
 HT FLOW CONVERGENCE VALUE= .1895E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 104
 *** TIME = .970399E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8162E-05 OSCILLATION LIMIT = .6439
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1750E-01 CRITERION= .2006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 105
 *** TIME = .978289E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8866E-05 OSCILLATION LIMIT = .6994
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4638E-01
 HT FLOW CONVERGENCE VALUE= .1882E-01 CRITERION= .2009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 106
 *** TIME = .986178E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8339E-05 OSCILLATION LIMIT = .6579
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .2017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .2006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 107
 *** TIME = .994068E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8465E-05 OSCILLATION LIMIT = .6678
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4630E-01
 HT FLOW CONVERGENCE VALUE= .1972E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 108
 *** TIME = .100196E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8155E-05 OSCILLATION LIMIT = .6433
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .2017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1877E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 109
 *** TIME = .100985E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8218E-05 OSCILLATION LIMIT = .6483
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4623E-01
 HT FLOW CONVERGENCE VALUE= .2008E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 110
 *** TIME = .101774E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7968E-05 OSCILLATION LIMIT = .6286
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1879E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 111
 *** TIME = .102563E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7988E-05 OSCILLATION LIMIT = .6302
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.44 CRITERION= .2013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4616E-01
 HT FLOW CONVERGENCE VALUE= .2006E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 112
 *** TIME = .103351E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7767E-05 OSCILLATION LIMIT = .6128

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*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.19    CRITERION= .2016
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
  HT FLOW CONVERGENCE VALUE= .1882E-01 CRITERION= .2004    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 113
*** TIME = .104140E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7767E-05    OSCILLATION LIMIT = .6128
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.44    CRITERION= .2012
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4609E-01
  HT FLOW CONVERGENCE VALUE= .2003E-01 CRITERION= .2007    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 114
*** TIME = .104929E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7573E-05    OSCILLATION LIMIT = .5975
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.19    CRITERION= .2015
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
  HT FLOW CONVERGENCE VALUE= .1884E-01 CRITERION= .2004    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 115
*** TIME = .105718E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7559E-05    OSCILLATION LIMIT = .5964
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.44    CRITERION= .2012
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4603E-01
  HT FLOW CONVERGENCE VALUE= .1999E-01 CRITERION= .2006    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 116
*** TIME = .106507E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7388E-05    OSCILLATION LIMIT = .5829
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.19    CRITERION= .2014
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
  HT FLOW CONVERGENCE VALUE= .1847E-01 CRITERION= .2003    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 16 COMPLETED. CUM ITER = 117
*** TIME = .107296E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7363E-05    OSCILLATION LIMIT = .5809
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2011
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4596E-01
  HT FLOW CONVERGENCE VALUE= .1967E-01 CRITERION= .2006    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 17 COMPLETED. CUM ITER = 118
*** TIME = .108085E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7219E-05    OSCILLATION LIMIT = .5695
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.20    CRITERION= .2014
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
  HT FLOW CONVERGENCE VALUE= .1856E-01 CRITERION= .2003    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 18 COMPLETED. CUM ITER = 119
*** TIME = .108874E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7189E-05    OSCILLATION LIMIT = .5672
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2011
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4590E-01
  HT FLOW CONVERGENCE VALUE= .1963E-01 CRITERION= .2005    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 19 COMPLETED. CUM ITER = 120

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*** TIME = .109663E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7054E-05    OSCILLATION LIMIT = .5566
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.20    CRITERION= .2013
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
    HT FLOW CONVERGENCE VALUE= .1857E-01    CRITERION= .2002    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 20 COMPLETED.    CUM ITER = 121
*** TIME = .110452E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7012E-05    OSCILLATION LIMIT = .5532
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2010
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4584E-01
    HT FLOW CONVERGENCE VALUE= .1961E-01    CRITERION= .2004    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 21 COMPLETED.    CUM ITER = 122
*** TIME = .111241E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6893E-05    OSCILLATION LIMIT = .5439
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.20    CRITERION= .2013
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
    HT FLOW CONVERGENCE VALUE= .1858E-01    CRITERION= .2001    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 22 COMPLETED.    CUM ITER = 123
*** TIME = .112030E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6845E-05    OSCILLATION LIMIT = .5400
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2010
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4578E-01
    HT FLOW CONVERGENCE VALUE= .1959E-01    CRITERION= .2004    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 23 COMPLETED.    CUM ITER = 124
*** TIME = .112819E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6740E-05    OSCILLATION LIMIT = .5318
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.20    CRITERION= .2012
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
    HT FLOW CONVERGENCE VALUE= .1859E-01    CRITERION= .2001    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 24 COMPLETED.    CUM ITER = 125
*** TIME = .113608E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6687E-05    OSCILLATION LIMIT = .5276
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2009
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4573E-01
    HT FLOW CONVERGENCE VALUE= .2015E-01    CRITERION= .2003    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 25 COMPLETED.    CUM ITER = 126
*** TIME = .114397E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6594E-05    OSCILLATION LIMIT = .5203
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.20    CRITERION= .2012
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
    HT FLOW CONVERGENCE VALUE= .1920E-01    CRITERION= .2000    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 26 COMPLETED.    CUM ITER = 127
*** TIME = .115186E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6543E-05    OSCILLATION LIMIT = .5162
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.43    CRITERION= .2009
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4567E-01
    HT FLOW CONVERGENCE VALUE= .2018E-01    CRITERION= .2003    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 27 COMPLETED. CUM ITER = 128
*** TIME = .115974E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6469E-05 OSCILLATION LIMIT = .5103
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
HT FLOW CONVERGENCE VALUE= .1921E-01 CRITERION= .2000 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 28 COMPLETED. CUM ITER = 129
*** TIME = .116763E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6403E-05 OSCILLATION LIMIT = .5051
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4562E-01
HT FLOW CONVERGENCE VALUE= .2016E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 29 COMPLETED. CUM ITER = 130
*** TIME = .117552E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6334E-05 OSCILLATION LIMIT = .4997
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
HT FLOW CONVERGENCE VALUE= .1922E-01 CRITERION= .1999 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 30 COMPLETED. CUM ITER = 131
*** TIME = .118341E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6267E-05 OSCILLATION LIMIT = .4945
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4556E-01
HT FLOW CONVERGENCE VALUE= .2015E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 31 COMPLETED. CUM ITER = 132
*** TIME = .119130E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6207E-05 OSCILLATION LIMIT = .4897
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
HT FLOW CONVERGENCE VALUE= .1923E-01 CRITERION= .1999 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 32 COMPLETED. CUM ITER = 133
*** TIME = .119919E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6139E-05 OSCILLATION LIMIT = .4843
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4551E-01
HT FLOW CONVERGENCE VALUE= .2013E-01 CRITERION= .2001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 33 COMPLETED. CUM ITER = 134
*** TIME = .120708E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6086E-05 OSCILLATION LIMIT = .4801
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2009
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
HT FLOW CONVERGENCE VALUE= .1906E-01 CRITERION= .1998 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 34 COMPLETED. CUM ITER = 135
*** TIME = .121497E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6016E-05 OSCILLATION LIMIT = .4746
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2007

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4546E-01
 HT FLOW CONVERGENCE VALUE= .1995E-01 CRITERION= .2001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 35 COMPLETED. CUM ITER = 136
 *** TIME = .122286E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5973E-05 OSCILLATION LIMIT = .4712
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1910E-01 CRITERION= .1998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 36 COMPLETED. CUM ITER = 137
 *** TIME = .123075E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5903E-05 OSCILLATION LIMIT = .4657
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4541E-01
 HT FLOW CONVERGENCE VALUE= .1994E-01 CRITERION= .2000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 37 COMPLETED. CUM ITER = 138
 *** TIME = .123864E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5865E-05 OSCILLATION LIMIT = .4627
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1910E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 38 COMPLETED. CUM ITER = 139
 *** TIME = .124653E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5791E-05 OSCILLATION LIMIT = .4569
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.43 CRITERION= .2006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4537E-01
 HT FLOW CONVERGENCE VALUE= .1991E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 39 COMPLETED. CUM ITER = 140
 *** TIME = .125442E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5760E-05 OSCILLATION LIMIT = .4544
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .2008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4379E-01
 HT FLOW CONVERGENCE VALUE= .1911E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 40 COMPLETED. CUM ITER = 141
 *** TIME = .126231E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5685E-05 OSCILLATION LIMIT = .4485

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:43:59 JUN 24, 1995 CP= 5182.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 14.75 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3672E-01
 HT FLOW CONVERGENCE VALUE= .1610E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 142
 *** TIME = .127020E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7193E-05 OSCILLATION LIMIT = .5675
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 14.52    CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
HT FLOW CONVERGENCE VALUE= .1474E-01 CRITERION= .1996    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 143
*** TIME = .127809E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9768E-05 OSCILLATION LIMIT = .7706
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .2002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3661E-01
HT FLOW CONVERGENCE VALUE= .1586E-01 CRITERION= .1999    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 144
*** TIME = .128598E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7722E-05 OSCILLATION LIMIT = .6092
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.52    CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
HT FLOW CONVERGENCE VALUE= .1493E-01 CRITERION= .1996    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 145
*** TIME = .129386E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8401E-05 OSCILLATION LIMIT = .6628
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .2001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3655E-01
HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .1998    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 146
*** TIME = .130175E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7902E-05 OSCILLATION LIMIT = .6234
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.52    CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
HT FLOW CONVERGENCE VALUE= .1496E-01 CRITERION= .1995    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 147
*** TIME = .130964E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8121E-05 OSCILLATION LIMIT = .6407
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .2001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3651E-01
HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .1997    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 148
*** TIME = .131753E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7783E-05 OSCILLATION LIMIT = .6140
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53    CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
HT FLOW CONVERGENCE VALUE= .1498E-01 CRITERION= .1995    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 149
*** TIME = .132542E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7948E-05 OSCILLATION LIMIT = .6271
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .2000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3646E-01
HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .1997    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 150
*** TIME = .133331E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .7649E-05  OSCILLATION LIMIT = .6035
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.53  CRITERION= .2002
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
  HT FLOW CONVERGENCE VALUE= .1499E-01 CRITERION= .1994  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 151
*** TIME = .134120E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7793E-05  OSCILLATION LIMIT = .6148
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.75  CRITERION= .2000
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3642E-01
  HT FLOW CONVERGENCE VALUE= .1573E-01 CRITERION= .1996  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 152
*** TIME = .134909E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7517E-05  OSCILLATION LIMIT = .5931
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.53  CRITERION= .2002
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
  HT FLOW CONVERGENCE VALUE= .1508E-01 CRITERION= .1994  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 153
*** TIME = .135698E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7647E-05  OSCILLATION LIMIT = .6033
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.75  CRITERION= .1999
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3637E-01
  HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .1996  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 154
*** TIME = .136487E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7394E-05  OSCILLATION LIMIT = .5833
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.53  CRITERION= .2001
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
  HT FLOW CONVERGENCE VALUE= .1508E-01 CRITERION= .1993  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 155
*** TIME = .137276E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7513E-05  OSCILLATION LIMIT = .5928
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.75  CRITERION= .1999
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3633E-01
  HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .1995  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 156
*** TIME = .138065E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7272E-05  OSCILLATION LIMIT = .5737
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.53  CRITERION= .2001
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
  HT FLOW CONVERGENCE VALUE= .1509E-01 CRITERION= .1993  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 157
*** TIME = .138854E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7382E-05  OSCILLATION LIMIT = .5824
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.75  CRITERION= .1998
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3629E-01
  HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .1995  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      8  SUBSTEP    17 COMPLETED.    CUM ITER =    158
*** TIME = .139643E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7155E-05    OSCILLATION LIMIT = .5645
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.53    CRITERION= .2000
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
    HT FLOW CONVERGENCE VALUE= .1509E-01 CRITERION= .1993    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    18 COMPLETED.    CUM ITER =    159
*** TIME = .140432E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7258E-05    OSCILLATION LIMIT = .5726
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .1998
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3625E-01
    HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .1994    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    19 COMPLETED.    CUM ITER =    160
*** TIME = .141221E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7043E-05    OSCILLATION LIMIT = .5556
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.53    CRITERION= .2000
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
    HT FLOW CONVERGENCE VALUE= .1513E-01 CRITERION= .1992    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    20 COMPLETED.    CUM ITER =    161
*** TIME = .142010E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7140E-05    OSCILLATION LIMIT = .5633
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .1997
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3621E-01
    HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .1994    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    21 COMPLETED.    CUM ITER =    162
*** TIME = .142798E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6936E-05    OSCILLATION LIMIT = .5472
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.53    CRITERION= .1999
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
    HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1992    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    22 COMPLETED.    CUM ITER =    163
*** TIME = .143587E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7028E-05    OSCILLATION LIMIT = .5545
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .1997
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3618E-01
    HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .1993    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    23 COMPLETED.    CUM ITER =    164
*** TIME = .144376E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6834E-05    OSCILLATION LIMIT = .5392
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.53    CRITERION= .1999
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
    HT FLOW CONVERGENCE VALUE= .1521E-01 CRITERION= .1991    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    24 COMPLETED.    CUM ITER =    165
*** TIME = .145165E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6922E-05    OSCILLATION LIMIT = .5461
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.75    CRITERION= .1996
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3614E-01

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HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 25 COMPLETED. CUM ITER = 166
 *** TIME = .145954E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = .5317
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1522E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 26 COMPLETED. CUM ITER = 167
 *** TIME = .146743E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6820E-05 OSCILLATION LIMIT = .5381
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3610E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 27 COMPLETED. CUM ITER = 168
 *** TIME = .147532E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6645E-05 OSCILLATION LIMIT = .5243
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1527E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 28 COMPLETED. CUM ITER = 169
 *** TIME = .148321E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6723E-05 OSCILLATION LIMIT = .5304
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.75 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3607E-01
 HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 29 COMPLETED. CUM ITER = 170
 *** TIME = .149110E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6559E-05 OSCILLATION LIMIT = .5174
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1526E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 30 COMPLETED. CUM ITER = 171
 *** TIME = .149899E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6631E-05 OSCILLATION LIMIT = .5232
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.74 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3604E-01
 HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 31 COMPLETED. CUM ITER = 172
 *** TIME = .150688E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6473E-05 OSCILLATION LIMIT = .5107
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1527E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 32 COMPLETED. CUM ITER = 173
 *** TIME = .151477E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6543E-05 OSCILLATION LIMIT = .5162
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.74 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3601E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 33 COMPLETED. CUM ITER = 174
 *** TIME = .152266E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6392E-05 OSCILLATION LIMIT = .5043
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1526E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 34 COMPLETED. CUM ITER = 175
 *** TIME = .153055E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6458E-05 OSCILLATION LIMIT = .5095
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.74 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3598E-01
 HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 35 COMPLETED. CUM ITER = 176
 *** TIME = .153844E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6313E-05 OSCILLATION LIMIT = .4981
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1520E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 36 COMPLETED. CUM ITER = 177
 *** TIME = .154633E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6378E-05 OSCILLATION LIMIT = .5032
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.74 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3595E-01
 HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 37 COMPLETED. CUM ITER = 178
 *** TIME = .155421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6244E-05 OSCILLATION LIMIT = .4926
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1520E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 38 COMPLETED. CUM ITER = 179
 *** TIME = .156210E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6305E-05 OSCILLATION LIMIT = .4974
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.74 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3592E-01
 HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 39 COMPLETED. CUM ITER = 180
 *** TIME = .156999E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6173E-05 OSCILLATION LIMIT = .4870
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.53 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
 HT FLOW CONVERGENCE VALUE= .1521E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 40 COMPLETED. CUM ITER = 181
 *** TIME = .157788E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6230E-05 OSCILLATION LIMIT = .4915

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:09:49 JUN 24, 1995 CP= 6717.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2997E-01
 HT FLOW CONVERGENCE VALUE= .1307E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 182
 *** TIME = .158577E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7277E-05 OSCILLATION LIMIT = .5741
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1992
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 183
 *** TIME = .159366E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9768E-05 OSCILLATION LIMIT = .7707
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2992E-01
 HT FLOW CONVERGENCE VALUE= .1291E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 184
 *** TIME = .160155E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7862E-05 OSCILLATION LIMIT = .6202
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1992
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1239E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 185
 *** TIME = .160944E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8600E-05 OSCILLATION LIMIT = .6785
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2990E-01
 HT FLOW CONVERGENCE VALUE= .1291E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 186
 *** TIME = .161733E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8073E-05 OSCILLATION LIMIT = .6369
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 187
 *** TIME = .162522E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8386E-05 OSCILLATION LIMIT = .6616
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2987E-01
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 188

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*** TIME = .163311E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8004E-05    OSCILLATION LIMIT = .6315
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.02    CRITERION= .1991
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
    HT FLOW CONVERGENCE VALUE= .1243E-01    CRITERION= .1985    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED.    CUM ITER = 189
*** TIME = .164100E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8270E-05    OSCILLATION LIMIT = .6524
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.23    CRITERION= .1989
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2985E-01
    HT FLOW CONVERGENCE VALUE= .1288E-01    CRITERION= .1987    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED.    CUM ITER = 190
*** TIME = .164889E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7919E-05    OSCILLATION LIMIT = .6248
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.02    CRITERION= .1990
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
    HT FLOW CONVERGENCE VALUE= .1243E-01    CRITERION= .1985    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED.    CUM ITER = 191
*** TIME = .165678E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8166E-05    OSCILLATION LIMIT = .6442
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.23    CRITERION= .1988
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2983E-01
    HT FLOW CONVERGENCE VALUE= .1289E-01    CRITERION= .1986    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED.    CUM ITER = 192
*** TIME = .166467E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7835E-05    OSCILLATION LIMIT = .6181
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.02    CRITERION= .1990
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
    HT FLOW CONVERGENCE VALUE= .1247E-01    CRITERION= .1984    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED.    CUM ITER = 193
*** TIME = .167256E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8070E-05    OSCILLATION LIMIT = .6366
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.23    CRITERION= .1988
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2981E-01
    HT FLOW CONVERGENCE VALUE= .1288E-01    CRITERION= .1986    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED.    CUM ITER = 194
*** TIME = .168045E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7756E-05    OSCILLATION LIMIT = .6119
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.02    CRITERION= .1989
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
    HT FLOW CONVERGENCE VALUE= .1247E-01    CRITERION= .1984    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED.    CUM ITER = 195
*** TIME = .168833E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7978E-05    OSCILLATION LIMIT = .6294
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.23    CRITERION= .1988
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2979E-01
    HT FLOW CONVERGENCE VALUE= .1288E-01    CRITERION= .1985    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 196
*** TIME = .169622E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7675E-05 OSCILLATION LIMIT = .6055
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1989
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .1983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 197
*** TIME = .170411E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7891E-05 OSCILLATION LIMIT = .6225
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1987
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2977E-01
HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .1985 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 198
*** TIME = .171200E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7599E-05 OSCILLATION LIMIT = .5995
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1988
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .1983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 199
*** TIME = .171989E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7808E-05 OSCILLATION LIMIT = .6160
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1987
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2975E-01
HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1984 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 200
*** TIME = .172778E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7525E-05 OSCILLATION LIMIT = .5937
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1988
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .1982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 201
*** TIME = .173567E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7729E-05 OSCILLATION LIMIT = .6097
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1986
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2974E-01
HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1984 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 202
*** TIME = .174356E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7457E-05 OSCILLATION LIMIT = .5883
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1987
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .1982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 203
*** TIME = .175145E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7653E-05 OSCILLATION LIMIT = .6038
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1986

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2972E-01
 HT FLOW CONVERGENCE VALUE= .1288E-01 CRITERION= .1983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 204
 *** TIME = .175934E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7391E-05 OSCILLATION LIMIT = .5831
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 205
 *** TIME = .176723E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7582E-05 OSCILLATION LIMIT = .5982
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2971E-01
 HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .1983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 206
 *** TIME = .177512E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7327E-05 OSCILLATION LIMIT = .5780
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 26 COMPLETED. CUM ITER = 207
 *** TIME = .178301E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7512E-05 OSCILLATION LIMIT = .5927
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.23 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2969E-01
 HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 27 COMPLETED. CUM ITER = 208
 *** TIME = .179090E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7264E-05 OSCILLATION LIMIT = .5731
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 28 COMPLETED. CUM ITER = 209
 *** TIME = .179879E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7445E-05 OSCILLATION LIMIT = .5874
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2968E-01
 HT FLOW CONVERGENCE VALUE= .1285E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 29 COMPLETED. CUM ITER = 210
 *** TIME = .180668E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7204E-05 OSCILLATION LIMIT = .5684
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 211
 *** TIME = .181457E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7381E-05 OSCILLATION LIMIT = .5823
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2966E-01
 HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 212
 *** TIME = .182245E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7147E-05 OSCILLATION LIMIT = .5638
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 213
 *** TIME = .183034E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7320E-05 OSCILLATION LIMIT = .5775
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2965E-01
 HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 33 COMPLETED. CUM ITER = 214
 *** TIME = .183823E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7093E-05 OSCILLATION LIMIT = .5596
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 34 COMPLETED. CUM ITER = 215
 *** TIME = .184612E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7261E-05 OSCILLATION LIMIT = .5729
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2964E-01
 HT FLOW CONVERGENCE VALUE= .1282E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 35 COMPLETED. CUM ITER = 216
 *** TIME = .185401E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7040E-05 OSCILLATION LIMIT = .5554
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 36 COMPLETED. CUM ITER = 217
 *** TIME = .186190E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7205E-05 OSCILLATION LIMIT = .5684
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2962E-01
 HT FLOW CONVERGENCE VALUE= .1281E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 37 COMPLETED. CUM ITER = 218
 *** TIME = .186979E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6989E-05 OSCILLATION LIMIT = .5514
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 38 COMPLETED. CUM ITER = 219
 *** TIME = .187768E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .7151E-05 OSCILLATION LIMIT = .5641
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.22 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2961E-01
 HT FLOW CONVERGENCE VALUE= .1281E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 39 COMPLETED. CUM ITER = 220
 *** TIME = .188557E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6941E-05 OSCILLATION LIMIT = .5476
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.02 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .1258E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 40 COMPLETED. CUM ITER = 221
 *** TIME = .189346E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7099E-05 OSCILLATION LIMIT = .5601

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:35:40 JUN 24, 1995 CP= 8252.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2554E-01
 HT FLOW CONVERGENCE VALUE= .1108E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 222
 *** TIME = .190135E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7868E-05 OSCILLATION LIMIT = .6208
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 223
 *** TIME = .190924E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = .8018
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2551E-01
 HT FLOW CONVERGENCE VALUE= .1103E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 224
 *** TIME = .191713E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8457E-05 OSCILLATION LIMIT = .6672
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 225
 *** TIME = .192502E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9199E-05 OSCILLATION LIMIT = .7257
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2550E-01
 HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 226
*** TIME = .193291E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8671E-05 OSCILLATION LIMIT = .6841
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1981
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
HT FLOW CONVERGENCE VALUE= .1071E-01 CRITERION= .1976 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 227
*** TIME = .194080E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9038E-05 OSCILLATION LIMIT = .7131
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1979
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2548E-01
HT FLOW CONVERGENCE VALUE= .1098E-01 CRITERION= .1977 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 228
*** TIME = .194868E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8635E-05 OSCILLATION LIMIT = .6813
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .1976 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 229
*** TIME = .195657E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8959E-05 OSCILLATION LIMIT = .7068
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1979
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2547E-01
HT FLOW CONVERGENCE VALUE= .1098E-01 CRITERION= .1977 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 230
*** TIME = .196446E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8582E-05 OSCILLATION LIMIT = .6771
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .1975 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 231
*** TIME = .197235E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8889E-05 OSCILLATION LIMIT = .7013
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2546E-01
HT FLOW CONVERGENCE VALUE= .1097E-01 CRITERION= .1976 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 232
*** TIME = .198024E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8529E-05 OSCILLATION LIMIT = .6729
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1979
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .1975 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 233
*** TIME = .198813E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8824E-05 OSCILLATION LIMIT = .6962
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2545E-01

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HT FLOW CONVERGENCE VALUE= .1096E-01 CRITERION= .1976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 234
 *** TIME = .199602E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8477E-05 OSCILLATION LIMIT = .6687
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 235
 *** TIME = .200391E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8763E-05 OSCILLATION LIMIT = .6913
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2544E-01
 HT FLOW CONVERGENCE VALUE= .1095E-01 CRITERION= .1975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 236
 *** TIME = .201180E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8426E-05 OSCILLATION LIMIT = .6647
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 237
 *** TIME = .201969E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8704E-05 OSCILLATION LIMIT = .6867
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2543E-01
 HT FLOW CONVERGENCE VALUE= .1094E-01 CRITERION= .1975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 238
 *** TIME = .202758E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8376E-05 OSCILLATION LIMIT = .6608
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 239
 *** TIME = .203547E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8649E-05 OSCILLATION LIMIT = .6823
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2542E-01
 HT FLOW CONVERGENCE VALUE= .1094E-01 CRITERION= .1975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 240
 *** TIME = .204336E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8329E-05 OSCILLATION LIMIT = .6571
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 241
 *** TIME = .205125E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8595E-05 OSCILLATION LIMIT = .6781
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2541E-01
 HT FLOW CONVERGENCE VALUE= .1093E-01 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 242
 *** TIME = .205914E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8283E-05 OSCILLATION LIMIT = .6535
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 243
 *** TIME = .206703E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8544E-05 OSCILLATION LIMIT = .6741
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2540E-01
 HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 244
 *** TIME = .207492E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8239E-05 OSCILLATION LIMIT = .6500
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 245
 *** TIME = .208280E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8494E-05 OSCILLATION LIMIT = .6701
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2539E-01
 HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .1973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 246
 *** TIME = .209069E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8196E-05 OSCILLATION LIMIT = .6466
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 247
 *** TIME = .209858E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8447E-05 OSCILLATION LIMIT = .6664
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.52 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2538E-01
 HT FLOW CONVERGENCE VALUE= .1091E-01 CRITERION= .1973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 248
 *** TIME = .210647E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8155E-05 OSCILLATION LIMIT = .6434
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1971 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 249
 *** TIME = .211436E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8401E-05 OSCILLATION LIMIT = .6628

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.51 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2538E-01
 HT FLOW CONVERGENCE VALUE= .1090E-01 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 250

*** TIME = .212225E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8117E-05 OSCILLATION LIMIT = .6404

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .1971 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 251

*** TIME = .213014E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8357E-05 OSCILLATION LIMIT = .6594

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.51 CRITERION= .1973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2537E-01
 HT FLOW CONVERGENCE VALUE= .1084E-01 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 252

*** TIME = .213803E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8079E-05 OSCILLATION LIMIT = .6374

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1071E-01 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 253

*** TIME = .214592E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8318E-05 OSCILLATION LIMIT = .6563

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.51 CRITERION= .1973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2536E-01
 HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .1971 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 254

*** TIME = .215381E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8055E-05 OSCILLATION LIMIT = .6355

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 255

*** TIME = .216170E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8286E-05 OSCILLATION LIMIT = .6537

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.51 CRITERION= .1972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2536E-01
 HT FLOW CONVERGENCE VALUE= .1097E-01 CRITERION= .1971 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 256

*** TIME = .216959E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .8027E-05 OSCILLATION LIMIT = .6333

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.32 CRITERION= .1973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
 HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .1969 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 257


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*** TIME = .217748E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8249E-05    OSCILLATION LIMIT = .6508
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.51    CRITERION= .1972
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2535E-01
    HT FLOW CONVERGENCE VALUE= .1096E-01    CRITERION= .1970    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 37 COMPLETED.    CUM ITER = 258
*** TIME = .218537E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7993E-05    OSCILLATION LIMIT = .6306
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.32    CRITERION= .1973
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
    HT FLOW CONVERGENCE VALUE= .1081E-01    CRITERION= .1969    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 38 COMPLETED.    CUM ITER = 259
*** TIME = .219326E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8210E-05    OSCILLATION LIMIT = .6477
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.51    CRITERION= .1972
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2534E-01
    HT FLOW CONVERGENCE VALUE= .1096E-01    CRITERION= .1970    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 39 COMPLETED.    CUM ITER = 260
*** TIME = .220115E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7960E-05    OSCILLATION LIMIT = .6280
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.32    CRITERION= .1972
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2496E-01
    HT FLOW CONVERGENCE VALUE= .1081E-01    CRITERION= .1968    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 40 COMPLETED.    CUM ITER = 261
*** TIME = .220904E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8173E-05    OSCILLATION LIMIT = .6448

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    20:01:31 JUN 24, 1995 CP= 9788.040
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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

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    HT FLOW CONVERGENCE VALUE= 9.208    CRITERION= .1970
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2225E-01
    HT FLOW CONVERGENCE VALUE= .9584E-02    CRITERION= .1969    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED.    CUM ITER = 262
*** TIME = .221692E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8849E-05    OSCILLATION LIMIT = .6982
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.017    CRITERION= .1971
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
    HT FLOW CONVERGENCE VALUE= .9268E-02    CRITERION= .1968    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED.    CUM ITER = 263
*** TIME = .222481E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1108E-04    OSCILLATION LIMIT = .8744
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.207    CRITERION= .1970
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2224E-01
    HT FLOW CONVERGENCE VALUE= .9515E-02    CRITERION= .1969    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 264
*** TIME = .223270E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9448E-05 OSCILLATION LIMIT = .7454
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.017 CRITERION= .1971
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9322E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 265
*** TIME = .224059E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1020E-04 OSCILLATION LIMIT = .8047
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.207 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2223E-01
HT FLOW CONVERGENCE VALUE= .9492E-02 CRITERION= .1968 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 266
*** TIME = .224848E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9671E-05 OSCILLATION LIMIT = .7630
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.017 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9329E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 267
*** TIME = .225637E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = .7942
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.207 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2223E-01
HT FLOW CONVERGENCE VALUE= .9484E-02 CRITERION= .1968 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 268
*** TIME = .226426E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9656E-05 OSCILLATION LIMIT = .7618
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9331E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 269
*** TIME = .227215E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1001E-04 OSCILLATION LIMIT = .7896
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.206 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2222E-01
HT FLOW CONVERGENCE VALUE= .9478E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 270
*** TIME = .228004E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9622E-05 OSCILLATION LIMIT = .7592
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9334E-02 CRITERION= .1966 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 271
*** TIME = .228793E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9959E-05 OSCILLATION LIMIT = .7857
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.206 CRITERION= .1968

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2222E-01
HT FLOW CONVERGENCE VALUE= .9473E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 272
*** TIME = .229582E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9588E-05 OSCILLATION LIMIT = .7564
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9335E-02 CRITERION= .1966 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 273
*** TIME = .230371E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9913E-05 OSCILLATION LIMIT = .7821
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.206 CRITERION= .1968
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2221E-01
HT FLOW CONVERGENCE VALUE= .9467E-02 CRITERION= .1967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 274
*** TIME = .231160E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9553E-05 OSCILLATION LIMIT = .7537
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9337E-02 CRITERION= .1965 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 275
*** TIME = .231949E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9869E-05 OSCILLATION LIMIT = .7786
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.206 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2220E-01
HT FLOW CONVERGENCE VALUE= .9462E-02 CRITERION= .1966 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 276
*** TIME = .232738E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9519E-05 OSCILLATION LIMIT = .7510
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .1968
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9338E-02 CRITERION= .1965 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 277
*** TIME = .233527E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9828E-05 OSCILLATION LIMIT = .7754
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.205 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2220E-01
HT FLOW CONVERGENCE VALUE= .9457E-02 CRITERION= .1966 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 278
*** TIME = .234315E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9486E-05 OSCILLATION LIMIT = .7484
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.019 CRITERION= .1968
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9339E-02 CRITERION= .1964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 279
*** TIME = .235104E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9788E-05 OSCILLATION LIMIT = .7722
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.205 CRITERION= .1966
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2219E-01
HT FLOW CONVERGENCE VALUE= .9452E-02 CRITERION= .1965 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 280
*** TIME = .235893E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9454E-05 OSCILLATION LIMIT = .7458
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.019 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9339E-02 CRITERION= .1964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 281
*** TIME = .236682E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9750E-05 OSCILLATION LIMIT = .7692
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.205 CRITERION= .1966
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2219E-01
HT FLOW CONVERGENCE VALUE= .9447E-02 CRITERION= .1965 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 282
*** TIME = .237471E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9422E-05 OSCILLATION LIMIT = .7434
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.019 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9340E-02 CRITERION= .1963 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 283
*** TIME = .238260E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9712E-05 OSCILLATION LIMIT = .7662
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.204 CRITERION= .1965
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2218E-01
HT FLOW CONVERGENCE VALUE= .9442E-02 CRITERION= .1964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 284
*** TIME = .239049E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9392E-05 OSCILLATION LIMIT = .7410
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.019 CRITERION= .1966
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9340E-02 CRITERION= .1963 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 285
*** TIME = .239838E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9676E-05 OSCILLATION LIMIT = .7634
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.204 CRITERION= .1965
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2218E-01
HT FLOW CONVERGENCE VALUE= .9437E-02 CRITERION= .1964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 286
*** TIME = .240627E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9363E-05 OSCILLATION LIMIT = .7387
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.019 CRITERION= .1966
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9341E-02 CRITERION= .1962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 287
*** TIME = .241416E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .9642E-05 OSCILLATION LIMIT = .7607
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.204 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2217E-01
 HT FLOW CONVERGENCE VALUE= .9391E-02 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 288
 *** TIME = .242205E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9334E-05 OSCILLATION LIMIT = .7364
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.020 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
 HT FLOW CONVERGENCE VALUE= .9304E-02 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 289
 *** TIME = .242994E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9609E-05 OSCILLATION LIMIT = .7581
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.204 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2217E-01
 HT FLOW CONVERGENCE VALUE= .9392E-02 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 290
 *** TIME = .243783E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9313E-05 OSCILLATION LIMIT = .7347
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.020 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
 HT FLOW CONVERGENCE VALUE= .9304E-02 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 291
 *** TIME = .244572E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9581E-05 OSCILLATION LIMIT = .7559
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.203 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2217E-01
 HT FLOW CONVERGENCE VALUE= .9388E-02 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 292
 *** TIME = .245361E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9287E-05 OSCILLATION LIMIT = .7327
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.020 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
 HT FLOW CONVERGENCE VALUE= .9305E-02 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 293
 *** TIME = .246150E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9549E-05 OSCILLATION LIMIT = .7534
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.203 CRITERION= .1963
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2216E-01
 HT FLOW CONVERGENCE VALUE= .9383E-02 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 294
 *** TIME = .246939E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9262E-05 OSCILLATION LIMIT = .7307
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.020 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
 HT FLOW CONVERGENCE VALUE= .9306E-02 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 295
*** TIME = .247727E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9519E-05 OSCILLATION LIMIT = .7510
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.203 CRITERION= .1963
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2216E-01
HT FLOW CONVERGENCE VALUE= .9382E-02 CRITERION= .1961 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 296
*** TIME = .248516E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9238E-05 OSCILLATION LIMIT = .7288
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.020 CRITERION= .1964
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9306E-02 CRITERION= .1960 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 297
*** TIME = .249305E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9489E-05 OSCILLATION LIMIT = .7487
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.203 CRITERION= .1962
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2215E-01
HT FLOW CONVERGENCE VALUE= .9378E-02 CRITERION= .1961 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 298
*** TIME = .250094E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9214E-05 OSCILLATION LIMIT = .7269
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.021 CRITERION= .1963
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9304E-02 CRITERION= .1960 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 299
*** TIME = .250883E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9460E-05 OSCILLATION LIMIT = .7464
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.202 CRITERION= .1962
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2215E-01
HT FLOW CONVERGENCE VALUE= .9384E-02 CRITERION= .1961 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 39 COMPLETED. CUM ITER = 300
*** TIME = .251672E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9189E-05 OSCILLATION LIMIT = .7250
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.021 CRITERION= .1963
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2185E-01
HT FLOW CONVERGENCE VALUE= .9317E-02 CRITERION= .1959 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 40 COMPLETED. CUM ITER = 301
*** TIME = .252461E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9430E-05 OSCILLATION LIMIT = .7440

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***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:27:22 JUN 24, 1995 CP= 11324.010
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 8.154 CRITERION= .1961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964E-01

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HT FLOW CONVERGENCE VALUE= .8289E-02 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 302
 *** TIME = .253250E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1022E-04 OSCILLATION LIMIT = .8060
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.972 CRITERION= .1962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8088E-02 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 303
 *** TIME = .254039E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = .9872
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.154 CRITERION= .1961
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1963E-01
 HT FLOW CONVERGENCE VALUE= .8234E-02 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 304
 *** TIME = .254828E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1087E-04 OSCILLATION LIMIT = .8573
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.972 CRITERION= .1961
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8130E-02 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 305
 *** TIME = .255617E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1164E-04 OSCILLATION LIMIT = .9185
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.154 CRITERION= .1960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1962E-01
 HT FLOW CONVERGENCE VALUE= .8216E-02 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 306
 *** TIME = .256406E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = .8763
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.972 CRITERION= .1961
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8134E-02 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 307
 *** TIME = .257195E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = .9089
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.153 CRITERION= .1960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1962E-01
 HT FLOW CONVERGENCE VALUE= .8210E-02 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 308
 *** TIME = .257984E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = .8760
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.973 CRITERION= .1960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8136E-02 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 309
 *** TIME = .258773E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1147E-04 OSCILLATION LIMIT = .9053
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.153 CRITERION= .1959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1962E-01
 HT FLOW CONVERGENCE VALUE= .8206E-02 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 310
 *** TIME = .259562E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = .8743
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.973 CRITERION= .1960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8137E-02 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 311
 *** TIME = .260351E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = .9022
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.153 CRITERION= .1959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1961E-01
 HT FLOW CONVERGENCE VALUE= .8201E-02 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 312
 *** TIME = .261139E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = .8724
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.973 CRITERION= .1959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8137E-02 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 313
 *** TIME = .261928E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1140E-04 OSCILLATION LIMIT = .8994
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.153 CRITERION= .1958
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1961E-01
 HT FLOW CONVERGENCE VALUE= .8197E-02 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 314
 *** TIME = .262717E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = .8704
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.973 CRITERION= .1959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8138E-02 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 315
 *** TIME = .263506E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1137E-04 OSCILLATION LIMIT = .8968
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.152 CRITERION= .1958
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1960E-01
 HT FLOW CONVERGENCE VALUE= .8193E-02 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 316
 *** TIME = .264295E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = .8685
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.973 CRITERION= .1959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8138E-02 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 317
 *** TIME = .265084E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1133E-04 OSCILLATION LIMIT = .8942


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*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.152    CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1960E-01
HT FLOW CONVERGENCE VALUE= .8190E-02 CRITERION= .1957    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 318
*** TIME = .265873E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1098E-04    OSCILLATION LIMIT = .8666
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.974    CRITERION= .1958
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8138E-02 CRITERION= .1955    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 319
*** TIME = .266662E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1130E-04    OSCILLATION LIMIT = .8918
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.152    CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1960E-01
HT FLOW CONVERGENCE VALUE= .8177E-02 CRITERION= .1956    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 320
*** TIME = .267451E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1096E-04    OSCILLATION LIMIT = .8647
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.974    CRITERION= .1958
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8120E-02 CRITERION= .1955    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 321
*** TIME = .268240E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1127E-04    OSCILLATION LIMIT = .8894
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.152    CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1959E-01
HT FLOW CONVERGENCE VALUE= .8165E-02 CRITERION= .1956    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 322
*** TIME = .269029E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1094E-04    OSCILLATION LIMIT = .8629
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.974    CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8120E-02 CRITERION= .1954    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 323
*** TIME = .269818E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1124E-04    OSCILLATION LIMIT = .8871
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.151    CRITERION= .1956
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1959E-01
HT FLOW CONVERGENCE VALUE= .8162E-02 CRITERION= .1955    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 324
*** TIME = .270607E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1092E-04    OSCILLATION LIMIT = .8612
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.974    CRITERION= .1957
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8121E-02 CRITERION= .1954    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 325

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*** TIME = .271396E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = .8849
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.151 CRITERION= .1956
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1959E-01
HT FLOW CONVERGENCE VALUE= .8158E-02 CRITERION= .1955 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 326
*** TIME = .272185E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1089E-04 OSCILLATION LIMIT = .8594
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.974 CRITERION= .1956
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8121E-02 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 327
*** TIME = .272974E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = .8827
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.151 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1958E-01
HT FLOW CONVERGENCE VALUE= .8155E-02 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 328
*** TIME = .273762E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1087E-04 OSCILLATION LIMIT = .8578
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1956
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8123E-02 CRITERION= .1953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 329
*** TIME = .274551E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = .8806
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.151 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1958E-01
HT FLOW CONVERGENCE VALUE= .8155E-02 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 330
*** TIME = .275340E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1085E-04 OSCILLATION LIMIT = .8561
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8123E-02 CRITERION= .1953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 331
*** TIME = .276129E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1113E-04 OSCILLATION LIMIT = .8784
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.151 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1958E-01
HT FLOW CONVERGENCE VALUE= .8145E-02 CRITERION= .1953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 332
*** TIME = .276918E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1083E-04 OSCILLATION LIMIT = .8545
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8116E-02 CRITERION= .1952 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 333
*** TIME = .277707E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = .8764
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.150 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1957E-01
HT FLOW CONVERGENCE VALUE= .8141E-02 CRITERION= .1953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 334
*** TIME = .278496E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1081E-04 OSCILLATION LIMIT = .8530
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8115E-02 CRITERION= .1952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 335
*** TIME = .279285E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = .8745
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.150 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1957E-01
HT FLOW CONVERGENCE VALUE= .8138E-02 CRITERION= .1952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 336
*** TIME = .280074E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1079E-04 OSCILLATION LIMIT = .8514
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8115E-02 CRITERION= .1951 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 337
*** TIME = .280863E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = .8726
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.150 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1957E-01
HT FLOW CONVERGENCE VALUE= .8135E-02 CRITERION= .1952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 338
*** TIME = .281652E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1077E-04 OSCILLATION LIMIT = .8499
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.975 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
HT FLOW CONVERGENCE VALUE= .8102E-02 CRITERION= .1951 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 339
*** TIME = .282441E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = .8707
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.150 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1956E-01
HT FLOW CONVERGENCE VALUE= .8117E-02 CRITERION= .1952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 340
*** TIME = .283230E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1076E-04 OSCILLATION LIMIT = .8485
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.976 CRITERION= .1953

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1933E-01
 HT FLOW CONVERGENCE VALUE= .8097E-02 CRITERION= .1950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 341
 *** TIME = .284019E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = .8689
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 87.456 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 88.300 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 89.930 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 12860.160 TIME= 20:53:14
 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 20:53:14 JUN 24, 1995 CP= 12860.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 7.446 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1790E-01
 HT FLOW CONVERGENCE VALUE= .7392E-02 CRITERION= .1951 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 342
 *** TIME = .284808E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1166E-04 OSCILLATION LIMIT = .9201
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.272 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
 HT FLOW CONVERGENCE VALUE= .7288E-02 CRITERION= .1950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 343
 *** TIME = .285597E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 1.067
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.446 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1790E-01
 HT FLOW CONVERGENCE VALUE= .7357E-02 CRITERION= .1951 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 344
 *** TIME = .286386E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1219E-04 OSCILLATION LIMIT = .9615
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.272 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
 HT FLOW CONVERGENCE VALUE= .7335E-02 CRITERION= .1950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 345
 *** TIME = .287174E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1285E-04 OSCILLATION LIMIT = 1.014
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.446 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1789E-01
 HT FLOW CONVERGENCE VALUE= .7391E-02 CRITERION= .1950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 346
 *** TIME = .287963E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1238E-04 OSCILLATION LIMIT = .9768
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.272 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
 HT FLOW CONVERGENCE VALUE= .7360E-02 CRITERION= .1949 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 347
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1276E-04 OSCILLATION LIMIT = 1.007

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*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.445      CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1789E-01
HT FLOW CONVERGENCE VALUE= .7387E-02 CRITERION= .1950      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 348
*** TIME = .289541E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1238E-04 OSCILLATION LIMIT = .9769
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.272      CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7401E-02 CRITERION= .1949      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 349
*** TIME = .290330E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1272E-04 OSCILLATION LIMIT = 1.004
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.445      CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1789E-01
HT FLOW CONVERGENCE VALUE= .7432E-02 CRITERION= .1949      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 350
*** TIME = .291119E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1237E-04 OSCILLATION LIMIT = .9758
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.272      CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7403E-02 CRITERION= .1948      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 351
*** TIME = .291908E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1270E-04 OSCILLATION LIMIT = 1.002
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.445      CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1788E-01
HT FLOW CONVERGENCE VALUE= .7420E-02 CRITERION= .1949      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 352
*** TIME = .292697E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = .9744
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.273      CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7397E-02 CRITERION= .1948      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 353
*** TIME = .293486E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1267E-04 OSCILLATION LIMIT = .9995
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.445      CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1788E-01
HT FLOW CONVERGENCE VALUE= .7414E-02 CRITERION= .1948      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 354
*** TIME = .294275E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = .9731
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.273      CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7393E-02 CRITERION= .1947      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 355

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*** TIME = .295064E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1264E-04    OSCILLATION LIMIT = .9974
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.445    CRITERION= .1949
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1788E-01
    HT FLOW CONVERGENCE VALUE= .7418E-02    CRITERION= .1948    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED.    CUM ITER = 356
*** TIME = .295853E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1232E-04    OSCILLATION LIMIT = .9716
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.273    CRITERION= .1949
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
    HT FLOW CONVERGENCE VALUE= .7406E-02    CRITERION= .1947    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED.    CUM ITER = 357
*** TIME = .296642E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1262E-04    OSCILLATION LIMIT = .9954
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.444    CRITERION= .1948
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
    HT FLOW CONVERGENCE VALUE= .7421E-02    CRITERION= .1948    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED.    CUM ITER = 358
*** TIME = .297431E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1230E-04    OSCILLATION LIMIT = .9702
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.273    CRITERION= .1949
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
    HT FLOW CONVERGENCE VALUE= .7406E-02    CRITERION= .1947    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED.    CUM ITER = 359
*** TIME = .298220E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1259E-04    OSCILLATION LIMIT = .9934
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.444    CRITERION= .1948
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
    HT FLOW CONVERGENCE VALUE= .7418E-02    CRITERION= .1947    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 19 COMPLETED.    CUM ITER = 360
*** TIME = .299009E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1228E-04    OSCILLATION LIMIT = .9687
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.273    CRITERION= .1949
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
    HT FLOW CONVERGENCE VALUE= .7406E-02    CRITERION= .1946    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED.    CUM ITER = 361
*** TIME = .299798E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1257E-04    OSCILLATION LIMIT = .9915
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.444    CRITERION= .1947
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
    HT FLOW CONVERGENCE VALUE= .7416E-02    CRITERION= .1947    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED.    CUM ITER = 362
*** TIME = .300586E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1226E-04    OSCILLATION LIMIT = .9673
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.273    CRITERION= .1948
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
    HT FLOW CONVERGENCE VALUE= .7405E-02    CRITERION= .1946    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 363
*** TIME = .301375E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = .9896
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.444 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
HT FLOW CONVERGENCE VALUE= .7413E-02 CRITERION= .1946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 364
*** TIME = .302164E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1224E-04 OSCILLATION LIMIT = .9659
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7405E-02 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 365
*** TIME = .302953E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = .9878
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.444 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1786E-01
HT FLOW CONVERGENCE VALUE= .7410E-02 CRITERION= .1946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 366
*** TIME = .303742E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = .9646
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7404E-02 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 367
*** TIME = .304531E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = .9860
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.443 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1786E-01
HT FLOW CONVERGENCE VALUE= .7407E-02 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 368
*** TIME = .305320E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = .9632
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7403E-02 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 369
*** TIME = .306109E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = .9843
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.443 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1786E-01
HT FLOW CONVERGENCE VALUE= .7404E-02 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 370
*** TIME = .306898E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1219E-04 OSCILLATION LIMIT = .9619
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1946

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7402E-02 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 371
*** TIME = .307687E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = .9826
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.443 CRITERION= .1945
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1786E-01
HT FLOW CONVERGENCE VALUE= .7402E-02 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 372
*** TIME = .308476E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1218E-04 OSCILLATION LIMIT = .9606
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7402E-02 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 373
*** TIME = .309265E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1243E-04 OSCILLATION LIMIT = .9809
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.443 CRITERION= .1945
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1786E-01
HT FLOW CONVERGENCE VALUE= .7399E-02 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 374
*** TIME = .310054E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = .9593
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1945
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7401E-02 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 375
*** TIME = .310843E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1241E-04 OSCILLATION LIMIT = .9792
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.443 CRITERION= .1944
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1785E-01
HT FLOW CONVERGENCE VALUE= .7397E-02 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 376
*** TIME = .311632E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = .9581
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.274 CRITERION= .1945
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
HT FLOW CONVERGENCE VALUE= .7400E-02 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 377
*** TIME = .312421E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1239E-04 OSCILLATION LIMIT = .9776
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.442 CRITERION= .1944
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1785E-01
HT FLOW CONVERGENCE VALUE= .7394E-02 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 378
*** TIME = .313209E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1213E-04 OSCILLATION LIMIT = .9569
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 7.275 CRITERION= .1945
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
 HT FLOW CONVERGENCE VALUE= .7399E-02 CRITERION= .1942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 379
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1237E-04 OSCILLATION LIMIT = .9760
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.442 CRITERION= .1944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1785E-01
 HT FLOW CONVERGENCE VALUE= .7391E-02 CRITERION= .1943 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 380
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = .9556
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.275 CRITERION= .1944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1766E-01
 HT FLOW CONVERGENCE VALUE= .7385E-02 CRITERION= .1942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 381
 *** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = .9745

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:19:04 JUN 24, 1995 CP= 14395.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4613E-01 CRITERION= .1941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 382
 *** TIME = .323466E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1297E-04 OSCILLATION LIMIT = 10.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4479E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 383
 *** TIME = .331355E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1896E-04 OSCILLATION LIMIT = 14.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4529E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 384
 *** TIME = .339245E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1714E-04 OSCILLATION LIMIT = 13.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .1992
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4491E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 385
*** TIME = .347134E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1846E-04 OSCILLATION LIMIT = 14.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4504E-01 CRITERION= .1934 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 386
*** TIME = .355023E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1726E-04 OSCILLATION LIMIT = 13.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .1989
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4475E-01 CRITERION= .1931 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 387
*** TIME = .362913E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1833E-04 OSCILLATION LIMIT = 14.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1986
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4486E-01 CRITERION= .1930 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 388
*** TIME = .370802E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1734E-04 OSCILLATION LIMIT = 13.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .1985
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4467E-01 CRITERION= .1927 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 389
*** TIME = .378692E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1822E-04 OSCILLATION LIMIT = 14.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1983
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4475E-01 CRITERION= .1926 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 390
*** TIME = .386581E+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= 46.50 CRITERION= .1982
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4452E-01 CRITERION= .1924 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 391
*** TIME = .394470E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1813E-04 OSCILLATION LIMIT = 14.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.67 CRITERION= .1979
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4466E-01 CRITERION= .1923 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 392
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1745E-04 OSCILLATION LIMIT = 13.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .1978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120

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HT FLOW CONVERGENCE VALUE= .4451E-01 CRITERION= .1920 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 393
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1806E-04 OSCILLATION LIMIT = 14.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4460E-01 CRITERION= .1919 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 394
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1748E-04 OSCILLATION LIMIT = 13.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4451E-01 CRITERION= .1916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 395
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1799E-04 OSCILLATION LIMIT = 14.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4452E-01 CRITERION= .1915 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 396
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1751E-04 OSCILLATION LIMIT = 13.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4430E-01 CRITERION= .1913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 397
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1794E-04 OSCILLATION LIMIT = 14.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4437E-01 CRITERION= .1912 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 398
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1752E-04 OSCILLATION LIMIT = 13.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4425E-01 CRITERION= .1909 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 399
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1789E-04 OSCILLATION LIMIT = 14.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4426E-01 CRITERION= .1908 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 400
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1754E-04 OSCILLATION LIMIT = 13.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4407E-01 CRITERION= .1906 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 401
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1785E-04 OSCILLATION LIMIT = 14.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4409E-01 CRITERION= .1905 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 402
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1754E-04 OSCILLATION LIMIT = 13.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4400E-01 CRITERION= .1902 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 403
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1781E-04 OSCILLATION LIMIT = 14.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1958
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4404E-01 CRITERION= .1901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 404
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1755E-04 OSCILLATION LIMIT = 13.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1957
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .1898 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 405
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1777E-04 OSCILLATION LIMIT = 14.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4372E-01 CRITERION= .1897 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 406
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1754E-04 OSCILLATION LIMIT = 13.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1953
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4341E-01 CRITERION= .1895 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 407
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1774E-04 OSCILLATION LIMIT = 14.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
 HT FLOW CONVERGENCE VALUE= .4339E-01 CRITERION= .1894 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 408
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1754E-04 OSCILLATION LIMIT = 13.84

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4322E-01 CRITERION= .1891 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 409

*** TIME = .536480E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1771E-04 OSCILLATION LIMIT = 13.97

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4313E-01 CRITERION= .1890 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 410

*** TIME = .544369E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1753E-04 OSCILLATION LIMIT = 13.83

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4298E-01 CRITERION= .1887 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 411

*** TIME = .552258E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1769E-04 OSCILLATION LIMIT = 13.95

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1944
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4303E-01 CRITERION= .1886 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 412

*** TIME = .560148E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1752E-04 OSCILLATION LIMIT = 13.82

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1943
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4291E-01 CRITERION= .1884 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 413

*** TIME = .568037E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1766E-04 OSCILLATION LIMIT = 13.93

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1940
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4297E-01 CRITERION= .1883 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 414

*** TIME = .575927E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1751E-04 OSCILLATION LIMIT = 13.82

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1939
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4269E-01 CRITERION= .1880 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 415

*** TIME = .583816E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1763E-04 OSCILLATION LIMIT = 13.91

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1937
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4250E-01 CRITERION= .1879 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 416

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*** TIME = .591705E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1750E-04 OSCILLATION LIMIT = 13.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1936
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4228E-01 CRITERION= .1876 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 417
*** TIME = .599595E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1761E-04 OSCILLATION LIMIT = 13.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .1933
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4226E-01 CRITERION= .1876 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 418
*** TIME = .607484E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1748E-04 OSCILLATION LIMIT = 13.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1932
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4215E-01 CRITERION= .1873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 419
*** TIME = .615374E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1758E-04 OSCILLATION LIMIT = 13.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.65 CRITERION= .1930
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4222E-01 CRITERION= .1872 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 420
*** TIME = .623263E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1747E-04 OSCILLATION LIMIT = 13.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .1929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1120
HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .1869 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 421
*** TIME = .631152E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1756E-04 OSCILLATION LIMIT = 13.85

***** ANSYS SOLVE COMMAND *****
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:44:58 JUN 24, 1995 CP= 15933.860
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1886
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .1869 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 422
*** TIME = .639042E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4812E-04 OSCILLATION LIMIT = 37.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1885
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2150E-01 CRITERION= .1866 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 423
*** TIME = .646931E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4614E-04 OSCILLATION LIMIT = 36.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1883
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .1866 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 424
*** TIME = .654821E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4005E-04 OSCILLATION LIMIT = 31.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1882
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2148E-01 CRITERION= .1863 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 425
*** TIME = .662710E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4607E-04 OSCILLATION LIMIT = 36.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1880
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2162E-01 CRITERION= .1862 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 426
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4054E-04 OSCILLATION LIMIT = 31.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1879
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2145E-01 CRITERION= .1860 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 427
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4557E-04 OSCILLATION LIMIT = 35.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1877
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2157E-01 CRITERION= .1859 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 428
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4095E-04 OSCILLATION LIMIT = 32.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1876
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2142E-01 CRITERION= .1857 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 429
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4515E-04 OSCILLATION LIMIT = 35.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1874
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2153E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 430
*** TIME = .702157E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4128E-04 OSCILLATION LIMIT = 32.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1873

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2139E-01 CRITERION= .1854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 431
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4481E-04 OSCILLATION LIMIT = 35.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1871
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2149E-01 CRITERION= .1853 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 432
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4155E-04 OSCILLATION LIMIT = 32.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1870
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2136E-01 CRITERION= .1851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 433
 *** TIME = .725825E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4453E-04 OSCILLATION LIMIT = 35.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2146E-01 CRITERION= .1850 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 434
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4176E-04 OSCILLATION LIMIT = 32.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1867
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2133E-01 CRITERION= .1848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 435
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4430E-04 OSCILLATION LIMIT = 34.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2142E-01 CRITERION= .1847 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 436
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4193E-04 OSCILLATION LIMIT = 33.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2111E-01 CRITERION= .1845 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 437
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4410E-04 OSCILLATION LIMIT = 34.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1861
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2157E-01 CRITERION= .1844 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 438
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4208E-04 OSCILLATION LIMIT = 33.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1861
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2144E-01 CRITERION= .1842 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 439
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4395E-04 OSCILLATION LIMIT = 34.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1858
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2153E-01 CRITERION= .1841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 440
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4219E-04 OSCILLATION LIMIT = 33.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1858
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2141E-01 CRITERION= .1839 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 441
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4382E-04 OSCILLATION LIMIT = 34.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1855
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2149E-01 CRITERION= .1838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 442
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4228E-04 OSCILLATION LIMIT = 33.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1855
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2137E-01 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 443
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4370E-04 OSCILLATION LIMIT = 34.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1852
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2145E-01 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 444
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4234E-04 OSCILLATION LIMIT = 33.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1852
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2134E-01 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 445
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4360E-04 OSCILLATION LIMIT = 34.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1849
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2141E-01 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 446
 *** TIME = .828387E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4239E-04 OSCILLATION LIMIT = 33.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1849
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2130E-01 CRITERION= .1829 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 447
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4352E-04 OSCILLATION LIMIT = 34.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2138E-01 CRITERION= .1829 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 448
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4243E-04 OSCILLATION LIMIT = 33.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2127E-01 CRITERION= .1826 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 449
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4345E-04 OSCILLATION LIMIT = 34.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2134E-01 CRITERION= .1826 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 450
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4246E-04 OSCILLATION LIMIT = 33.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2123E-01 CRITERION= .1823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 451
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4338E-04 OSCILLATION LIMIT = 34.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2130E-01 CRITERION= .1823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 452
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4248E-04 OSCILLATION LIMIT = 33.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2120E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 453
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4333E-04 OSCILLATION LIMIT = 34.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1837
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
 HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 454
*** TIME = .891503E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4249E-04 OSCILLATION LIMIT = 33.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .1836
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .1817 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 455
*** TIME = .899392E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4329E-04 OSCILLATION LIMIT = 34.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.00 CRITERION= .1834
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .1817 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 456
*** TIME = .907281E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4251E-04 OSCILLATION LIMIT = 33.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .1833
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2172E-01 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 457
*** TIME = .915171E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4324E-04 OSCILLATION LIMIT = 34.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.00 CRITERION= .1831
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2179E-01 CRITERION= .1813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 458
*** TIME = .923060E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4251E-04 OSCILLATION LIMIT = 33.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .1830
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2168E-01 CRITERION= .1811 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 459
*** TIME = .930950E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4320E-04 OSCILLATION LIMIT = 34.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.00 CRITERION= .1828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .1810 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 460
*** TIME = .938839E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4251E-04 OSCILLATION LIMIT = 33.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .1827
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .1808 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 461
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4317E-04 OSCILLATION LIMIT = 34.06

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:10:56 JUN 24, 1995 CP= 17476.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1405E-01 CRITERION= .1808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 462
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6896E-04 OSCILLATION LIMIT = 54.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1391E-01 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 463
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6900E-04 OSCILLATION LIMIT = 54.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1396E-01 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 464
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6532E-04 OSCILLATION LIMIT = 51.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1389E-01 CRITERION= .1803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 465
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6899E-04 OSCILLATION LIMIT = 54.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1394E-01 CRITERION= .1802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 466
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6553E-04 OSCILLATION LIMIT = 51.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1387E-01 CRITERION= .1800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 467
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6877E-04 OSCILLATION LIMIT = 54.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .1800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 468
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6571E-04 OSCILLATION LIMIT = 51.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1384E-01 CRITERION= .1798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 469
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6860E-04 OSCILLATION LIMIT = 54.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1385E-01 CRITERION= .1797 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 470
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6586E-04 OSCILLATION LIMIT = 51.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1365E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 471
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6845E-04 OSCILLATION LIMIT = 54.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1371E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 472
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6598E-04 OSCILLATION LIMIT = 52.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1344E-01 CRITERION= .1792 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 473
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6833E-04 OSCILLATION LIMIT = 53.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3879E-01
 HT FLOW CONVERGENCE VALUE= .1375E-01 CRITERION= .1792 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 474
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6608E-04 OSCILLATION LIMIT = 52.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1395E-01 CRITERION= .1790 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 475
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6824E-04 OSCILLATION LIMIT = 53.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1797
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1403E-01 CRITERION= .1789 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 476
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6617E-04 OSCILLATION LIMIT = 52.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .1787 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 477
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6816E-04 OSCILLATION LIMIT = 53.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1794
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .1787 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 478
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6623E-04 OSCILLATION LIMIT = 52.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1794
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .1785 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 479
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6808E-04 OSCILLATION LIMIT = 53.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .1784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 480
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6628E-04 OSCILLATION LIMIT = 52.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1791
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1399E-01 CRITERION= .1782 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 481
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6802E-04 OSCILLATION LIMIT = 53.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .1782 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 482
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6632E-04 OSCILLATION LIMIT = 52.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1403E-01 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 483
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6797E-04 OSCILLATION LIMIT = 53.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1411E-01 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 484

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*** TIME = .112818E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6635E-04    OSCILLATION LIMIT = 52.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.94    CRITERION= .1786
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1400E-01    CRITERION= .1777    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 485
*** TIME = .113607E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6792E-04    OSCILLATION LIMIT = 53.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1784
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1409E-01    CRITERION= .1776    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 486
*** TIME = .114396E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6638E-04    OSCILLATION LIMIT = 52.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.94    CRITERION= .1783
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1398E-01    CRITERION= .1774    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 487
*** TIME = .115185E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6788E-04    OSCILLATION LIMIT = 53.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1781
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1407E-01    CRITERION= .1774    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 488
*** TIME = .115974E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6640E-04    OSCILLATION LIMIT = 52.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.94    CRITERION= .1781
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1396E-01    CRITERION= .1772    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 489
*** TIME = .116763E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6784E-04    OSCILLATION LIMIT = 53.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1779
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1405E-01    CRITERION= .1771    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 490
*** TIME = .117552E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6641E-04    OSCILLATION LIMIT = 52.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.94    CRITERION= .1778
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1394E-01    CRITERION= .1769    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 491
*** TIME = .118341E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6781E-04    OSCILLATION LIMIT = 53.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1776
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
    HT FLOW CONVERGENCE VALUE= .1403E-01    CRITERION= .1769    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 492
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6642E-04 OSCILLATION LIMIT = 52.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.94 CRITERION= .1776
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1392E-01 CRITERION= .1766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 493
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6778E-04 OSCILLATION LIMIT = 53.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1774
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1398E-01 CRITERION= .1766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 494
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6643E-04 OSCILLATION LIMIT = 52.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.93 CRITERION= .1773
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .1764 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 495
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6776E-04 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1771
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1420E-01 CRITERION= .1763 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 496
*** TIME = .122286E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6644E-04 OSCILLATION LIMIT = 52.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.93 CRITERION= .1770
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1429E-01 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 497
*** TIME = .123075E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6774E-04 OSCILLATION LIMIT = 53.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1768
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1458E-01 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 498
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6645E-04 OSCILLATION LIMIT = 52.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.93 CRITERION= .1768
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
HT FLOW CONVERGENCE VALUE= .1455E-01 CRITERION= .1759 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 499
*** TIME = .124653E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6773E-04 OSCILLATION LIMIT = 53.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1766

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1471E-01 CRITERION= .1758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 500
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6646E-04 OSCILLATION LIMIT = 52.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.93 CRITERION= .1765
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3878E-01
 HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .1756 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 501
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6771E-04 OSCILLATION LIMIT = 53.42

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:36:53 JUN 24, 1995 CP= 19018.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1077E-01 CRITERION= .1756 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 502
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7798E-04 OSCILLATION LIMIT = 61.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .1754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 503
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7888E-04 OSCILLATION LIMIT = 62.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1758
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .1754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 504
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7657E-04 OSCILLATION LIMIT = 60.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1757
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1060E-01 CRITERION= .1752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 505
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7891E-04 OSCILLATION LIMIT = 62.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .1752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 506
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7661E-04 OSCILLATION LIMIT = 60.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .1750 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 507
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7886E-04 OSCILLATION LIMIT = 62.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .1749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 508
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7665E-04 OSCILLATION LIMIT = 60.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1049E-01 CRITERION= .1747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 509
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7882E-04 OSCILLATION LIMIT = 62.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .1747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 510
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7669E-04 OSCILLATION LIMIT = 60.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1048E-01 CRITERION= .1745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 511
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7878E-04 OSCILLATION LIMIT = 62.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .1745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 512
 *** TIME = .134909E+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= 11.41 CRITERION= .1749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 513
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7874E-04 OSCILLATION LIMIT = 62.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 514
 *** TIME = .136487E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7673E-04 OSCILLATION LIMIT = 60.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1045E-01 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 515
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7871E-04 OSCILLATION LIMIT = 62.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1745
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1052E-01 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 516
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7675E-04 OSCILLATION LIMIT = 60.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1745
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1739 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 517
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7869E-04 OSCILLATION LIMIT = 62.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .1739 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 518
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7677E-04 OSCILLATION LIMIT = 60.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1742
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 519
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7867E-04 OSCILLATION LIMIT = 62.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1741
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .1737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 520
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7678E-04 OSCILLATION LIMIT = 60.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1740
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 521
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7865E-04 OSCILLATION LIMIT = 62.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1739
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .1735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 522
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7679E-04 OSCILLATION LIMIT = 60.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1016E-01 CRITERION= .1733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 523
 *** TIME = .143587E+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= 11.58 CRITERION= .1736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1049E-01 CRITERION= .1732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 524
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7681E-04 OSCILLATION LIMIT = 60.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1040E-01 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 525
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7862E-04 OSCILLATION LIMIT = 62.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1734
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
 HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 526
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7682E-04 OSCILLATION LIMIT = 60.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1734
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1039E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 527
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7860E-04 OSCILLATION LIMIT = 62.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1048E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 528
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7682E-04 OSCILLATION LIMIT = 60.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1040E-01 CRITERION= .1726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 529
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7859E-04 OSCILLATION LIMIT = 62.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01

HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .1726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 530
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7683E-04 OSCILLATION LIMIT = 60.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1045E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 531
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7858E-04 OSCILLATION LIMIT = 61.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1728
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1055E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 532
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7683E-04 OSCILLATION LIMIT = 60.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1728
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .1722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 533
 *** TIME = .151477E+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= 11.58 CRITERION= .1726
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1060E-01 CRITERION= .1722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 534
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7683E-04 OSCILLATION LIMIT = 60.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1726
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1048E-01 CRITERION= .1720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 535
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7855E-04 OSCILLATION LIMIT = 61.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .1720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 536
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7684E-04 OSCILLATION LIMIT = 60.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1050E-01 CRITERION= .1718 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 537
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7854E-04 OSCILLATION LIMIT = 61.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .1718 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 538
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7684E-04 OSCILLATION LIMIT = 60.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1055E-01 CRITERION= .1716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 539
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7853E-04 OSCILLATION LIMIT = 61.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2796E-01
 HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .1715 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 540
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7685E-04 OSCILLATION LIMIT = 60.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.41 CRITERION= .1719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2793E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .1714 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 541
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7853E-04 OSCILLATION LIMIT = 61.95

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:02:51 JUN 24, 1995 CP= 20560.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4221E-01
 HT FLOW CONVERGENCE VALUE= .9613E-02 CRITERION= .1713 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 542
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8982E-04 OSCILLATION LIMIT = 70.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1715
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4193E-01
 HT FLOW CONVERGENCE VALUE= .9544E-02 CRITERION= .1711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 543
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9086E-04 OSCILLATION LIMIT = 71.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4044E-01
 HT FLOW CONVERGENCE VALUE= .9489E-02 CRITERION= .1711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 544
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8985E-04 OSCILLATION LIMIT = 70.89

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4190E-01
 HT FLOW CONVERGENCE VALUE= .9523E-02 CRITERION= .1709 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 545
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9089E-04 OSCILLATION LIMIT = 71.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1711
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4060E-01
 HT FLOW CONVERGENCE VALUE= .9499E-02 CRITERION= .1708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 546
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8982E-04 OSCILLATION LIMIT = 70.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1710
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4176E-01
 HT FLOW CONVERGENCE VALUE= .9504E-02 CRITERION= .1706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 547
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9092E-04 OSCILLATION LIMIT = 71.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4073E-01
 HT FLOW CONVERGENCE VALUE= .9495E-02 CRITERION= .1706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 548
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8980E-04 OSCILLATION LIMIT = 70.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4165E-01
 HT FLOW CONVERGENCE VALUE= .9481E-02 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 549
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9095E-04 OSCILLATION LIMIT = 71.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4084E-01
 HT FLOW CONVERGENCE VALUE= .9496E-02 CRITERION= .1703 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 550
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8978E-04 OSCILLATION LIMIT = 70.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4156E-01
 HT FLOW CONVERGENCE VALUE= .9472E-02 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 551
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9097E-04 OSCILLATION LIMIT = 71.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4093E-01
 HT FLOW CONVERGENCE VALUE= .9474E-02 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 552

*** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8977E-04 OSCILLATION LIMIT = 70.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4149E-01
 HT FLOW CONVERGENCE VALUE= .9352E-02 CRITERION= .1699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 553
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9098E-04 OSCILLATION LIMIT = 71.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4101E-01
 HT FLOW CONVERGENCE VALUE= .9331E-02 CRITERION= .1698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 554
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8975E-04 OSCILLATION LIMIT = 70.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1700
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4144E-01
 HT FLOW CONVERGENCE VALUE= .9277E-02 CRITERION= .1696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 555
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9099E-04 OSCILLATION LIMIT = 71.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4107E-01
 HT FLOW CONVERGENCE VALUE= .9265E-02 CRITERION= .1696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 556
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8974E-04 OSCILLATION LIMIT = 70.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4140E-01
 HT FLOW CONVERGENCE VALUE= .9176E-02 CRITERION= .1694 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 557
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9100E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1696
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4112E-01
 HT FLOW CONVERGENCE VALUE= .9214E-02 CRITERION= .1693 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 558
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8974E-04 OSCILLATION LIMIT = 70.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1695
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4137E-01
 HT FLOW CONVERGENCE VALUE= .9169E-02 CRITERION= .1691 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 559
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1693
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4116E-01
 HT FLOW CONVERGENCE VALUE= .9251E-02 CRITERION= .1691 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 560
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8973E-04 OSCILLATION LIMIT = 70.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1693
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134E-01
HT FLOW CONVERGENCE VALUE= .9188E-02 CRITERION= .1689 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 561
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1691
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4120E-01
HT FLOW CONVERGENCE VALUE= .9210E-02 CRITERION= .1688 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 562
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8973E-04 OSCILLATION LIMIT = 70.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4132E-01
HT FLOW CONVERGENCE VALUE= .9141E-02 CRITERION= .1686 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 563
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9102E-04 OSCILLATION LIMIT = 71.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4123E-01
HT FLOW CONVERGENCE VALUE= .9195E-02 CRITERION= .1686 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 564
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4131E-01
HT FLOW CONVERGENCE VALUE= .9180E-02 CRITERION= .1684 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 565
*** TIME = .176723E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9102E-04 OSCILLATION LIMIT = 71.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1686
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4125E-01
HT FLOW CONVERGENCE VALUE= .9286E-02 CRITERION= .1683 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 566
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1685
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
HT FLOW CONVERGENCE VALUE= .9191E-02 CRITERION= .1681 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 567
*** TIME = .178300E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.989 CRITERION= .1683

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4127E-01
 HT FLOW CONVERGENCE VALUE= .9244E-02 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 568
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
 HT FLOW CONVERGENCE VALUE= .9167E-02 CRITERION= .1679 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 569
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.989 CRITERION= .1681
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4129E-01
 HT FLOW CONVERGENCE VALUE= .9235E-02 CRITERION= .1678 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 570
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4129E-01
 HT FLOW CONVERGENCE VALUE= .9162E-02 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 571
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.989 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
 HT FLOW CONVERGENCE VALUE= .9209E-02 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 572
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4129E-01
 HT FLOW CONVERGENCE VALUE= .9163E-02 CRITERION= .1674 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 573
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.989 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4132E-01
 HT FLOW CONVERGENCE VALUE= .9222E-02 CRITERION= .1673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 574
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4129E-01
 HT FLOW CONVERGENCE VALUE= .9033E-02 CRITERION= .1671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 575
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1673
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4133E-01
 HT FLOW CONVERGENCE VALUE= .9070E-02 CRITERION= .1671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 576
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.820 CRITERION= .1673
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4129E-01
 HT FLOW CONVERGENCE VALUE= .9024E-02 CRITERION= .1669 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 577
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134E-01
 HT FLOW CONVERGENCE VALUE= .9118E-02 CRITERION= .1668 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 578
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.821 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
 HT FLOW CONVERGENCE VALUE= .9029E-02 CRITERION= .1666 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 579
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9101E-04 OSCILLATION LIMIT = 71.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.990 CRITERION= .1668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4135E-01
 HT FLOW CONVERGENCE VALUE= .9112E-02 CRITERION= .1666 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 580
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8972E-04 OSCILLATION LIMIT = 70.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.821 CRITERION= .1668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
 HT FLOW CONVERGENCE VALUE= .9021E-02 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 581
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9100E-04 OSCILLATION LIMIT = 71.80

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:28:47 JUN 24, 1995 CP= 22102.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3176E-01
 HT FLOW CONVERGENCE VALUE= .7146E-02 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 582
 *** TIME = .190135E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8993E-04 OSCILLATION LIMIT = 70.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3144E-01
 HT FLOW CONVERGENCE VALUE= .7016E-02 CRITERION= .1662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 583
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9191E-04 OSCILLATION LIMIT = 72.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3227E-01
 HT FLOW CONVERGENCE VALUE= .7152E-02 CRITERION= .1662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 584
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9000E-04 OSCILLATION LIMIT = 71.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3151E-01
 HT FLOW CONVERGENCE VALUE= .7023E-02 CRITERION= .1660 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 585
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9189E-04 OSCILLATION LIMIT = 72.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3220E-01
 HT FLOW CONVERGENCE VALUE= .7134E-02 CRITERION= .1660 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 586
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9001E-04 OSCILLATION LIMIT = 71.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3157E-01
 HT FLOW CONVERGENCE VALUE= .7030E-02 CRITERION= .1658 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 587
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9187E-04 OSCILLATION LIMIT = 72.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3215E-01
 HT FLOW CONVERGENCE VALUE= .7154E-02 CRITERION= .1658 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 588
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9003E-04 OSCILLATION LIMIT = 71.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162E-01
 HT FLOW CONVERGENCE VALUE= .7040E-02 CRITERION= .1656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 589
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9185E-04 OSCILLATION LIMIT = 72.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3211E-01
 HT FLOW CONVERGENCE VALUE= .7147E-02 CRITERION= .1656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 590
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9004E-04 OSCILLATION LIMIT = 71.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3167E-01
 HT FLOW CONVERGENCE VALUE= .7020E-02 CRITERION= .1654 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 591
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9184E-04 OSCILLATION LIMIT = 72.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3208E-01
 HT FLOW CONVERGENCE VALUE= .7115E-02 CRITERION= .1654 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 592
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9005E-04 OSCILLATION LIMIT = 71.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3171E-01
 HT FLOW CONVERGENCE VALUE= .6998E-02 CRITERION= .1652 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 593
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9182E-04 OSCILLATION LIMIT = 72.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1654
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3205E-01
 HT FLOW CONVERGENCE VALUE= .7091E-02 CRITERION= .1652 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 594
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9006E-04 OSCILLATION LIMIT = 71.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3174E-01
 HT FLOW CONVERGENCE VALUE= .6975E-02 CRITERION= .1650 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 595
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9181E-04 OSCILLATION LIMIT = 72.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3203E-01
 HT FLOW CONVERGENCE VALUE= .7081E-02 CRITERION= .1650 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 596
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9007E-04 OSCILLATION LIMIT = 71.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1651
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3176E-01
 HT FLOW CONVERGENCE VALUE= .6988E-02 CRITERION= .1648 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 597
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9180E-04 OSCILLATION LIMIT = 72.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3201E-01

HT FLOW CONVERGENCE VALUE= .7092E-02 CRITERION= .1648 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 598
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9007E-04 OSCILLATION LIMIT = 71.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3178E-01
 HT FLOW CONVERGENCE VALUE= .6993E-02 CRITERION= .1646 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 599
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9179E-04 OSCILLATION LIMIT = 72.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3200E-01
 HT FLOW CONVERGENCE VALUE= .7098E-02 CRITERION= .1646 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 600
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9008E-04 OSCILLATION LIMIT = 71.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3180E-01
 HT FLOW CONVERGENCE VALUE= .7010E-02 CRITERION= .1644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 601
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9179E-04 OSCILLATION LIMIT = 72.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3199E-01
 HT FLOW CONVERGENCE VALUE= .7138E-02 CRITERION= .1644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 602
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9008E-04 OSCILLATION LIMIT = 71.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.950 CRITERION= .1646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3182E-01
 HT FLOW CONVERGENCE VALUE= .7040E-02 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 603
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9178E-04 OSCILLATION LIMIT = 72.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.119 CRITERION= .1644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3198E-01
 HT FLOW CONVERGENCE VALUE= .7145E-02 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 604
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9009E-04 OSCILLATION LIMIT = 71.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3184E-01
 HT FLOW CONVERGENCE VALUE= .7032E-02 CRITERION= .1640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 605
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9177E-04 OSCILLATION LIMIT = 72.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3198E-01
 HT FLOW CONVERGENCE VALUE= .7120E-02 CRITERION= .1640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 606
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9009E-04 OSCILLATION LIMIT = 71.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3185E-01
 HT FLOW CONVERGENCE VALUE= .7023E-02 CRITERION= .1639 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 607
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9177E-04 OSCILLATION LIMIT = 72.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3197E-01
 HT FLOW CONVERGENCE VALUE= .7111E-02 CRITERION= .1638 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 608
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9010E-04 OSCILLATION LIMIT = 71.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3186E-01
 HT FLOW CONVERGENCE VALUE= .7018E-02 CRITERION= .1637 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 609
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9176E-04 OSCILLATION LIMIT = 72.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3197E-01
 HT FLOW CONVERGENCE VALUE= .7108E-02 CRITERION= .1636 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 610
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9010E-04 OSCILLATION LIMIT = 71.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3187E-01
 HT FLOW CONVERGENCE VALUE= .7018E-02 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 611
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9176E-04 OSCILLATION LIMIT = 72.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3197E-01
 HT FLOW CONVERGENCE VALUE= .7102E-02 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 612
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9010E-04 OSCILLATION LIMIT = 71.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3188E-01
 HT FLOW CONVERGENCE VALUE= .7014E-02 CRITERION= .1633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 613
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9175E-04 OSCILLATION LIMIT = 72.39

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3196E-01
 HT FLOW CONVERGENCE VALUE= .7098E-02 CRITERION= .1633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 614
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9010E-04 OSCILLATION LIMIT = 71.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3189E-01
 HT FLOW CONVERGENCE VALUE= .7018E-02 CRITERION= .1631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 615
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9175E-04 OSCILLATION LIMIT = 72.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3196E-01
 HT FLOW CONVERGENCE VALUE= .7102E-02 CRITERION= .1631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 616
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9011E-04 OSCILLATION LIMIT = 71.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3190E-01
 HT FLOW CONVERGENCE VALUE= .7017E-02 CRITERION= .1629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 617
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9174E-04 OSCILLATION LIMIT = 72.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3196E-01
 HT FLOW CONVERGENCE VALUE= .7108E-02 CRITERION= .1629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 618
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9011E-04 OSCILLATION LIMIT = 71.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.951 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3190E-01
 HT FLOW CONVERGENCE VALUE= .6986E-02 CRITERION= .1627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 619
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9174E-04 OSCILLATION LIMIT = 72.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.120 CRITERION= .1628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3197E-01
 HT FLOW CONVERGENCE VALUE= .7085E-02 CRITERION= .1627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 620
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9011E-04 OSCILLATION LIMIT = 71.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.952 CRITERION= .1628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3191E-01
 HT FLOW CONVERGENCE VALUE= .6994E-02 CRITERION= .1625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 621

*** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9173E-04 OSCILLATION LIMIT = 72.37

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:54:45 JUN 24, 1995 CP= 23644.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
 HT FLOW CONVERGENCE VALUE= .6817E-02 CRITERION= .1625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 622
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9024E-04 OSCILLATION LIMIT = 71.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.828 CRITERION= .1626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2965E-01
 HT FLOW CONVERGENCE VALUE= .6697E-02 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 623
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9206E-04 OSCILLATION LIMIT = 72.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2990E-01
 HT FLOW CONVERGENCE VALUE= .6792E-02 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 624
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9025E-04 OSCILLATION LIMIT = 71.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.828 CRITERION= .1624
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2967E-01
 HT FLOW CONVERGENCE VALUE= .6679E-02 CRITERION= .1621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 625
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9205E-04 OSCILLATION LIMIT = 72.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
 HT FLOW CONVERGENCE VALUE= .6775E-02 CRITERION= .1621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 626
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9026E-04 OSCILLATION LIMIT = 71.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2969E-01
 HT FLOW CONVERGENCE VALUE= .6664E-02 CRITERION= .1619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 627
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9204E-04 OSCILLATION LIMIT = 72.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2987E-01
 HT FLOW CONVERGENCE VALUE= .6770E-02 CRITERION= .1619 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 628
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9026E-04 OSCILLATION LIMIT = 71.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1621
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2971E-01
HT FLOW CONVERGENCE VALUE= .6679E-02 CRITERION= .1618 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 629
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9204E-04 OSCILLATION LIMIT = 72.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1619
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2986E-01
HT FLOW CONVERGENCE VALUE= .6790E-02 CRITERION= .1618 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 630
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1619
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2973E-01
HT FLOW CONVERGENCE VALUE= .6694E-02 CRITERION= .1616 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 631
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9203E-04 OSCILLATION LIMIT = 72.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
HT FLOW CONVERGENCE VALUE= .6783E-02 CRITERION= .1616 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 632
*** TIME = .229582E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
HT FLOW CONVERGENCE VALUE= .6685E-02 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 633
*** TIME = .230371E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9203E-04 OSCILLATION LIMIT = 72.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1615
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
HT FLOW CONVERGENCE VALUE= .6738E-02 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 634
*** TIME = .231159E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1615
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2975E-01
HT FLOW CONVERGENCE VALUE= .6560E-02 CRITERION= .1612 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 635
*** TIME = .231948E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1614

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6515E-02 CRITERION= .1612 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 636
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1613
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2976E-01
 HT FLOW CONVERGENCE VALUE= .6421E-02 CRITERION= .1610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 637
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9203E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.997 CRITERION= .1612
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6495E-02 CRITERION= .1610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 638
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1612
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2977E-01
 HT FLOW CONVERGENCE VALUE= .6390E-02 CRITERION= .1608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 639
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6382E-02 CRITERION= .1608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 640
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2978E-01
 HT FLOW CONVERGENCE VALUE= .6307E-02 CRITERION= .1607 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 641
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6349E-02 CRITERION= .1607 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 642
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2979E-01
 HT FLOW CONVERGENCE VALUE= .6274E-02 CRITERION= .1605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 643
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6322E-02 CRITERION= .1605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 644
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9027E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .1606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2980E-01
 HT FLOW CONVERGENCE VALUE= .6230E-02 CRITERION= .1603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 645
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6277E-02 CRITERION= .1603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 646
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9028E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2980E-01
 HT FLOW CONVERGENCE VALUE= .6214E-02 CRITERION= .1601 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 647
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6282E-02 CRITERION= .1601 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 648
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9028E-04 OSCILLATION LIMIT = 71.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2981E-01
 HT FLOW CONVERGENCE VALUE= .6228E-02 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 649
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9202E-04 OSCILLATION LIMIT = 72.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6290E-02 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 650
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9028E-04 OSCILLATION LIMIT = 71.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .1601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2981E-01
 HT FLOW CONVERGENCE VALUE= .6203E-02 CRITERION= .1597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 651
 *** TIME = .244571E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .9201E-04 OSCILLATION LIMIT = 72.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.998 CRITERION= .1599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
HT FLOW CONVERGENCE VALUE= .6265E-02 CRITERION= .1597 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 652
*** TIME = .245360E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9028E-04 OSCILLATION LIMIT = 71.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .1599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982E-01
HT FLOW CONVERGENCE VALUE= .6205E-02 CRITERION= .1596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 653
*** TIME = .246149E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9201E-04 OSCILLATION LIMIT = 72.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.999 CRITERION= .1597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
HT FLOW CONVERGENCE VALUE= .6276E-02 CRITERION= .1596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 654
*** TIME = .246938E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9028E-04 OSCILLATION LIMIT = 71.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .1597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982E-01
HT FLOW CONVERGENCE VALUE= .6198E-02 CRITERION= .1594 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 655
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9201E-04 OSCILLATION LIMIT = 72.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.999 CRITERION= .1595
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
HT FLOW CONVERGENCE VALUE= .6265E-02 CRITERION= .1594 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 656
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9029E-04 OSCILLATION LIMIT = 71.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .1595
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2983E-01
HT FLOW CONVERGENCE VALUE= .6201E-02 CRITERION= .1592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 657
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9200E-04 OSCILLATION LIMIT = 72.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.999 CRITERION= .1593
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
HT FLOW CONVERGENCE VALUE= .6263E-02 CRITERION= .1592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 658
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9029E-04 OSCILLATION LIMIT = 71.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .1593
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2983E-01
HT FLOW CONVERGENCE VALUE= .6193E-02 CRITERION= .1590 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 659
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9200E-04 OSCILLATION LIMIT = 72.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.999 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
 HT FLOW CONVERGENCE VALUE= .6253E-02 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 660
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9029E-04 OSCILLATION LIMIT = 71.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .6187E-02 CRITERION= .1588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 661
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9200E-04 OSCILLATION LIMIT = 72.58

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:20:43 JUN 25, 1995 CP= 25186.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= .9040 CRITERION= .1588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4051E-01
 HT FLOW CONVERGENCE VALUE= .6184E-02 CRITERION= .1588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 662
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5170E-04 OSCILLATION LIMIT = 40.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7397 CRITERION= .1588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4006E-01
 HT FLOW CONVERGENCE VALUE= .6137E-02 CRITERION= .1587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 663
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5172E-04 OSCILLATION LIMIT = 40.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9033 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3861E-01
 HT FLOW CONVERGENCE VALUE= .5897E-02 CRITERION= .1587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 664
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5201E-04 OSCILLATION LIMIT = 41.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7397 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4007E-01
 HT FLOW CONVERGENCE VALUE= .6119E-02 CRITERION= .1585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 665
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5176E-04 OSCILLATION LIMIT = 40.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3877E-01

HT FLOW CONVERGENCE VALUE= .5909E-02 CRITERION= .1585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 666
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5197E-04 OSCILLATION LIMIT = 41.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7397 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3993E-01
 HT FLOW CONVERGENCE VALUE= .6070E-02 CRITERION= .1583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 667
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5179E-04 OSCILLATION LIMIT = 40.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3890E-01
 HT FLOW CONVERGENCE VALUE= .5902E-02 CRITERION= .1583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 668
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5194E-04 OSCILLATION LIMIT = 40.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7397 CRITERION= .1583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3983E-01
 HT FLOW CONVERGENCE VALUE= .6047E-02 CRITERION= .1581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 669
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5181E-04 OSCILLATION LIMIT = 40.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3901E-01
 HT FLOW CONVERGENCE VALUE= .5911E-02 CRITERION= .1581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 670
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5191E-04 OSCILLATION LIMIT = 40.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7398 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3974E-01
 HT FLOW CONVERGENCE VALUE= .6031E-02 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 671
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5183E-04 OSCILLATION LIMIT = 40.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3910E-01
 HT FLOW CONVERGENCE VALUE= .5919E-02 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 672
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5189E-04 OSCILLATION LIMIT = 40.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7398 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3967E-01
 HT FLOW CONVERGENCE VALUE= .6015E-02 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 673
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5184E-04 OSCILLATION LIMIT = 40.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED


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HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1578
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3917E-01
HT FLOW CONVERGENCE VALUE= .5924E-02 CRITERION= .1578 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 674
*** TIME = .262717E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5187E-04 OSCILLATION LIMIT = 40.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7398 CRITERION= .1578
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3962E-01
HT FLOW CONVERGENCE VALUE= .6001E-02 CRITERION= .1576 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 675
*** TIME = .263506E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5185E-04 OSCILLATION LIMIT = 40.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9032 CRITERION= .1576
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3923E-01
HT FLOW CONVERGENCE VALUE= .5926E-02 CRITERION= .1576 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 676
*** TIME = .264295E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7398 CRITERION= .1576
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3958E-01
HT FLOW CONVERGENCE VALUE= .5980E-02 CRITERION= .1575 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 677
*** TIME = .265084E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5185E-04 OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1575
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3928E-01
HT FLOW CONVERGENCE VALUE= .5927E-02 CRITERION= .1575 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 678
*** TIME = .265873E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5184E-04 OSCILLATION LIMIT = 40.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7398 CRITERION= .1575
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3954E-01
HT FLOW CONVERGENCE VALUE= .5978E-02 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 679
*** TIME = .266662E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1573
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3932E-01
HT FLOW CONVERGENCE VALUE= .5924E-02 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 680
*** TIME = .267451E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5183E-04 OSCILLATION LIMIT = 40.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7399 CRITERION= .1573
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3952E-01
HT FLOW CONVERGENCE VALUE= .5959E-02 CRITERION= .1571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 681
*** TIME = .268240E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.92

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1571
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3936E-01
HT FLOW CONVERGENCE VALUE= .5920E-02 CRITERION= .1571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 682

*** TIME = .269029E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5182E-04 OSCILLATION LIMIT = 40.89

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7399 CRITERION= .1571
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3950E-01
HT FLOW CONVERGENCE VALUE= .5952E-02 CRITERION= .1570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 683

*** TIME = .269818E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.92

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1569
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3939E-01
HT FLOW CONVERGENCE VALUE= .5918E-02 CRITERION= .1570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 684

*** TIME = .270606E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5182E-04 OSCILLATION LIMIT = 40.88

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7399 CRITERION= .1569
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3949E-01
HT FLOW CONVERGENCE VALUE= .5942E-02 CRITERION= .1568 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 685

*** TIME = .271395E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.92

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1568
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3941E-01
HT FLOW CONVERGENCE VALUE= .5913E-02 CRITERION= .1568 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 686

*** TIME = .272184E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5181E-04 OSCILLATION LIMIT = 40.87

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7399 CRITERION= .1568
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3948E-01
HT FLOW CONVERGENCE VALUE= .5933E-02 CRITERION= .1566 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 687

*** TIME = .272973E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5186E-04 OSCILLATION LIMIT = 40.92

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9031 CRITERION= .1566
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3943E-01
HT FLOW CONVERGENCE VALUE= .5911E-02 CRITERION= .1566 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 688

*** TIME = .273762E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5180E-04 OSCILLATION LIMIT = 40.87

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7399 CRITERION= .1566
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
HT FLOW CONVERGENCE VALUE= .5910E-02 CRITERION= .1564 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 689

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*** TIME = .274551E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04    OSCILLATION LIMIT = 40.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9031    CRITERION= .1564
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3945E-01
    HT FLOW CONVERGENCE VALUE= .5889E-02    CRITERION= .1564    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED.    CUM ITER = 690
*** TIME = .275340E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5179E-04    OSCILLATION LIMIT = 40.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7399    CRITERION= .1564
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
    HT FLOW CONVERGENCE VALUE= .5900E-02    CRITERION= .1563    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED.    CUM ITER = 691
*** TIME = .276129E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04    OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9030    CRITERION= .1563
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3946E-01
    HT FLOW CONVERGENCE VALUE= .5850E-02    CRITERION= .1563    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 31 COMPLETED.    CUM ITER = 692
*** TIME = .276918E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5179E-04    OSCILLATION LIMIT = 40.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7400    CRITERION= .1563
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
    HT FLOW CONVERGENCE VALUE= .5878E-02    CRITERION= .1561    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED.    CUM ITER = 693
*** TIME = .277707E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04    OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9030    CRITERION= .1561
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
    HT FLOW CONVERGENCE VALUE= .5864E-02    CRITERION= .1561    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED.    CUM ITER = 694
*** TIME = .278496E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5178E-04    OSCILLATION LIMIT = 40.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7400    CRITERION= .1561
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
    HT FLOW CONVERGENCE VALUE= .5868E-02    CRITERION= .1559    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED.    CUM ITER = 695
*** TIME = .279285E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5186E-04    OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9030    CRITERION= .1559
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3948E-01
    HT FLOW CONVERGENCE VALUE= .5856E-02    CRITERION= .1559    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED.    CUM ITER = 696
*** TIME = .280074E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5178E-04    OSCILLATION LIMIT = 40.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7400    CRITERION= .1559
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
    HT FLOW CONVERGENCE VALUE= .5861E-02    CRITERION= .1558    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 697
*** TIME = .280863E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5185E-04 OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9030 CRITERION= .1558
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3949E-01
HT FLOW CONVERGENCE VALUE= .5852E-02 CRITERION= .1556 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 698
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5177E-04 OSCILLATION LIMIT = 40.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7400 CRITERION= .1558
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3947E-01
HT FLOW CONVERGENCE VALUE= .5855E-02 CRITERION= .1556 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 699
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5185E-04 OSCILLATION LIMIT = 40.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9030 CRITERION= .1556
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3950E-01
HT FLOW CONVERGENCE VALUE= .5848E-02 CRITERION= .1556 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 700
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5177E-04 OSCILLATION LIMIT = 40.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7400 CRITERION= .1556
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3948E-01
HT FLOW CONVERGENCE VALUE= .5849E-02 CRITERION= .1554 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 701
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5185E-04 OSCILLATION LIMIT = 40.90
    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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

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LOAD LABELS = TEMP
VALUES = 99.493 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 100.19 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 101.56 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 26728.830 TIME= 00:46:41
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 00:46:41 JUN 25, 1995 CP= 26728.830
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 1.531 CRITERION= .1554
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2939E-01
HT FLOW CONVERGENCE VALUE= .4385E-02 CRITERION= .1554 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 702
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6086E-04 OSCILLATION LIMIT = 48.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1554
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2928E-01
HT FLOW CONVERGENCE VALUE= .4297E-02 CRITERION= .1553 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 703
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6163E-04 OSCILLATION LIMIT = 48.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3033E-01
 HT FLOW CONVERGENCE VALUE= .4442E-02 CRITERION= .1553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 704
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6070E-04 OSCILLATION LIMIT = 47.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2933E-01
 HT FLOW CONVERGENCE VALUE= .4305E-02 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 705
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6157E-04 OSCILLATION LIMIT = 48.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3024E-01
 HT FLOW CONVERGENCE VALUE= .4427E-02 CRITERION= .1552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 706
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6075E-04 OSCILLATION LIMIT = 47.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2942E-01
 HT FLOW CONVERGENCE VALUE= .4313E-02 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 707
 *** TIME = .288752E+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= 1.531 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3016E-01
 HT FLOW CONVERGENCE VALUE= .4414E-02 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 708
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6079E-04 OSCILLATION LIMIT = 47.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2950E-01
 HT FLOW CONVERGENCE VALUE= .4318E-02 CRITERION= .1549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 709
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6146E-04 OSCILLATION LIMIT = 48.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3010E-01
 HT FLOW CONVERGENCE VALUE= .4403E-02 CRITERION= .1549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 710
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6082E-04 OSCILLATION LIMIT = 47.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2956E-01
 HT FLOW CONVERGENCE VALUE= .4322E-02 CRITERION= .1547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 711
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6142E-04 OSCILLATION LIMIT = 48.46

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3005E-01
 HT FLOW CONVERGENCE VALUE= .4393E-02 CRITERION= .1548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 712

*** TIME = .292697E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6085E-04 OSCILLATION LIMIT = 48.01

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2961E-01
 HT FLOW CONVERGENCE VALUE= .4325E-02 CRITERION= .1546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 713

*** TIME = .293486E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6139E-04 OSCILLATION LIMIT = 48.43

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3001E-01
 HT FLOW CONVERGENCE VALUE= .4385E-02 CRITERION= .1546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 714

*** TIME = .294275E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6087E-04 OSCILLATION LIMIT = 48.02

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2965E-01
 HT FLOW CONVERGENCE VALUE= .4326E-02 CRITERION= .1545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 715

*** TIME = .295064E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6136E-04 OSCILLATION LIMIT = 48.41

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2998E-01
 HT FLOW CONVERGENCE VALUE= .4377E-02 CRITERION= .1545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 716

*** TIME = .295853E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6088E-04 OSCILLATION LIMIT = 48.03

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2969E-01
 HT FLOW CONVERGENCE VALUE= .4327E-02 CRITERION= .1543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 717

*** TIME = .296641E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6134E-04 OSCILLATION LIMIT = 48.39

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2996E-01
 HT FLOW CONVERGENCE VALUE= .4370E-02 CRITERION= .1543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 718

*** TIME = .297430E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6089E-04 OSCILLATION LIMIT = 48.04

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.364 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2971E-01
 HT FLOW CONVERGENCE VALUE= .4327E-02 CRITERION= .1542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 719

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*** TIME = .298219E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6132E-04    OSCILLATION LIMIT = 48.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.531    CRITERION= .1542
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2994E-01
    HT FLOW CONVERGENCE VALUE= .4364E-02    CRITERION= .1542    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED.    CUM ITER = 720
*** TIME = .299008E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6090E-04    OSCILLATION LIMIT = 48.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.364    CRITERION= .1542
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
    HT FLOW CONVERGENCE VALUE= .4325E-02    CRITERION= .1541    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED.    CUM ITER = 721
*** TIME = .299797E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6130E-04    OSCILLATION LIMIT = 48.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.531    CRITERION= .1541
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2992E-01
    HT FLOW CONVERGENCE VALUE= .4357E-02    CRITERION= .1541    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 21 COMPLETED.    CUM ITER = 722
*** TIME = .300586E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6091E-04    OSCILLATION LIMIT = 48.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.364    CRITERION= .1541
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2976E-01
    HT FLOW CONVERGENCE VALUE= .4321E-02    CRITERION= .1539    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 22 COMPLETED.    CUM ITER = 723
*** TIME = .301375E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6129E-04    OSCILLATION LIMIT = 48.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.531    CRITERION= .1539
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2991E-01
    HT FLOW CONVERGENCE VALUE= .4350E-02    CRITERION= .1539    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 23 COMPLETED.    CUM ITER = 724
*** TIME = .302164E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6091E-04    OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.365    CRITERION= .1539
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2978E-01
    HT FLOW CONVERGENCE VALUE= .4320E-02    CRITERION= .1538    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED.    CUM ITER = 725
*** TIME = .302953E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6127E-04    OSCILLATION LIMIT = 48.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.531    CRITERION= .1538
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2990E-01
    HT FLOW CONVERGENCE VALUE= .4346E-02    CRITERION= .1538    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED.    CUM ITER = 726
*** TIME = .303742E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6092E-04    OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.365    CRITERION= .1538
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2979E-01
    HT FLOW CONVERGENCE VALUE= .4318E-02    CRITERION= .1537    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 727
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6126E-04 OSCILLATION LIMIT = 48.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2990E-01
HT FLOW CONVERGENCE VALUE= .4342E-02 CRITERION= .1537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 728
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6092E-04 OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2981E-01
HT FLOW CONVERGENCE VALUE= .4316E-02 CRITERION= .1535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 729
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6125E-04 OSCILLATION LIMIT = 48.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
HT FLOW CONVERGENCE VALUE= .4338E-02 CRITERION= .1535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 730
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6092E-04 OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982E-01
HT FLOW CONVERGENCE VALUE= .4314E-02 CRITERION= .1534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 731
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6124E-04 OSCILLATION LIMIT = 48.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
HT FLOW CONVERGENCE VALUE= .4334E-02 CRITERION= .1534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 732
*** TIME = .308476E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6092E-04 OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2983E-01
HT FLOW CONVERGENCE VALUE= .4312E-02 CRITERION= .1532 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 733
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6123E-04 OSCILLATION LIMIT = 48.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
HT FLOW CONVERGENCE VALUE= .4330E-02 CRITERION= .1533 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 734
*** TIME = .310053E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6092E-04 OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1533

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984E-01
 HT FLOW CONVERGENCE VALUE= .4309E-02 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 735
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6123E-04 OSCILLATION LIMIT = 48.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
 HT FLOW CONVERGENCE VALUE= .4327E-02 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 736
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6091E-04 OSCILLATION LIMIT = 48.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
 HT FLOW CONVERGENCE VALUE= .4307E-02 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 737
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6122E-04 OSCILLATION LIMIT = 48.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.531 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
 HT FLOW CONVERGENCE VALUE= .4323E-02 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 738
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6091E-04 OSCILLATION LIMIT = 48.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2985E-01
 HT FLOW CONVERGENCE VALUE= .4303E-02 CRITERION= .1528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 739
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6121E-04 OSCILLATION LIMIT = 48.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.530 CRITERION= .1528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
 HT FLOW CONVERGENCE VALUE= .4319E-02 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 740
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6091E-04 OSCILLATION LIMIT = 48.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.365 CRITERION= .1529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2986E-01
 HT FLOW CONVERGENCE VALUE= .4300E-02 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 741
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6120E-04 OSCILLATION LIMIT = 48.29

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:12:38 JUN 25, 1995 CP= 28271.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3377
 HT FLOW CONVERGENCE VALUE= .4686E-01 CRITERION= .1521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 742
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4867E-04 OSCILLATION LIMIT = 384.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3132
 HT FLOW CONVERGENCE VALUE= .4543E-01 CRITERION= .1514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 743
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4810E-04 OSCILLATION LIMIT = 379.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3141
 HT FLOW CONVERGENCE VALUE= .4486E-01 CRITERION= .1508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 744
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4810E-04 OSCILLATION LIMIT = 379.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3148
 HT FLOW CONVERGENCE VALUE= .4483E-01 CRITERION= .1501 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 745
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4809E-04 OSCILLATION LIMIT = 379.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3144
 HT FLOW CONVERGENCE VALUE= .4461E-01 CRITERION= .1495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 746
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4809E-04 OSCILLATION LIMIT = 379.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3152
 HT FLOW CONVERGENCE VALUE= .4451E-01 CRITERION= .1487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 747
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4807E-04 OSCILLATION LIMIT = 379.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3149
 HT FLOW CONVERGENCE VALUE= .4426E-01 CRITERION= .1481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 748
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4807E-04 OSCILLATION LIMIT = 379.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1481
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3156
 HT FLOW CONVERGENCE VALUE= .4404E-01 CRITERION= .1474 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 749
*** TIME = .378691E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4805E-04 OSCILLATION LIMIT = 379.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1474
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3153
HT FLOW CONVERGENCE VALUE= .4403E-01 CRITERION= .1468 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 750
*** TIME = .386581E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4805E-04 OSCILLATION LIMIT = 379.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1468
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3160
HT FLOW CONVERGENCE VALUE= .4388E-01 CRITERION= .1461 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 751
*** TIME = .394470E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4804E-04 OSCILLATION LIMIT = 379.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1461
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3157
HT FLOW CONVERGENCE VALUE= .4371E-01 CRITERION= .1455 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 752
*** TIME = .402359E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4803E-04 OSCILLATION LIMIT = 378.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1455
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3165
HT FLOW CONVERGENCE VALUE= .4345E-01 CRITERION= .1447 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 753
*** TIME = .410249E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4802E-04 OSCILLATION LIMIT = 378.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1447
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
HT FLOW CONVERGENCE VALUE= .4324E-01 CRITERION= .1442 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 754
*** TIME = .418138E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4801E-04 OSCILLATION LIMIT = 378.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1442
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3169
HT FLOW CONVERGENCE VALUE= .4324E-01 CRITERION= .1434 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 755
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4800E-04 OSCILLATION LIMIT = 378.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1434
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3166
HT FLOW CONVERGENCE VALUE= .4307E-01 CRITERION= .1428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 756
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4799E-04 OSCILLATION LIMIT = 378.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1428
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3173

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HT FLOW CONVERGENCE VALUE= .4287E-01 CRITERION= .1421 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 757
 *** TIME = .441806E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4798E-04 OSCILLATION LIMIT = 378.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
 HT FLOW CONVERGENCE VALUE= .4264E-01 CRITERION= .1415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 758
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4797E-04 OSCILLATION LIMIT = 378.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3177
 HT FLOW CONVERGENCE VALUE= .4252E-01 CRITERION= .1407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 759
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4796E-04 OSCILLATION LIMIT = 378.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3175
 HT FLOW CONVERGENCE VALUE= .4231E-01 CRITERION= .1402 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 760
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4795E-04 OSCILLATION LIMIT = 378.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.581 CRITERION= .1402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3182
 HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .1394 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 761
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4794E-04 OSCILLATION LIMIT = 378.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3179
 HT FLOW CONVERGENCE VALUE= .4194E-01 CRITERION= .1388 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 762
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4793E-04 OSCILLATION LIMIT = 378.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3186
 HT FLOW CONVERGENCE VALUE= .4178E-01 CRITERION= .1381 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 763
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4792E-04 OSCILLATION LIMIT = 378.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3184
 HT FLOW CONVERGENCE VALUE= .4145E-01 CRITERION= .1375 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 764
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4791E-04 OSCILLATION LIMIT = 378.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1375
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3190
 HT FLOW CONVERGENCE VALUE= .4136E-01 CRITERION= .1368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 765
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4790E-04 OSCILLATION LIMIT = 377.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1368
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3188
 HT FLOW CONVERGENCE VALUE= .4101E-01 CRITERION= .1362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 766
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4789E-04 OSCILLATION LIMIT = 377.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3195
 HT FLOW CONVERGENCE VALUE= .4086E-01 CRITERION= .1354 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 767
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4788E-04 OSCILLATION LIMIT = 377.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3193
 HT FLOW CONVERGENCE VALUE= .4057E-01 CRITERION= .1348 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 768
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4787E-04 OSCILLATION LIMIT = 377.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3199
 HT FLOW CONVERGENCE VALUE= .4041E-01 CRITERION= .1341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 769
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4786E-04 OSCILLATION LIMIT = 377.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1341
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3197
 HT FLOW CONVERGENCE VALUE= .4009E-01 CRITERION= .1335 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 770
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4786E-04 OSCILLATION LIMIT = 377.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1335
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3204
 HT FLOW CONVERGENCE VALUE= .3987E-01 CRITERION= .1328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 771
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4785E-04 OSCILLATION LIMIT = 377.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.741 CRITERION= .1328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3202
 HT FLOW CONVERGENCE VALUE= .3955E-01 CRITERION= .1322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 772
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4784E-04 OSCILLATION LIMIT = 377.4

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.582    CRITERION= .1322
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3208
  HT FLOW CONVERGENCE VALUE= .3936E-01 CRITERION= .1314    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 773
*** TIME = .568037E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4783E-04 OSCILLATION LIMIT = 377.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.741    CRITERION= .1314
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3207
  HT FLOW CONVERGENCE VALUE= .3900E-01 CRITERION= .1309    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 774
*** TIME = .575926E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4782E-04 OSCILLATION LIMIT = 377.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.582    CRITERION= .1309
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3213
  HT FLOW CONVERGENCE VALUE= .3877E-01 CRITERION= .1301    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 775
*** TIME = .583816E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4781E-04 OSCILLATION LIMIT = 377.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.741    CRITERION= .1301
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3212
  HT FLOW CONVERGENCE VALUE= .3849E-01 CRITERION= .1295    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 776
*** TIME = .591705E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4780E-04 OSCILLATION LIMIT = 377.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.582    CRITERION= .1295
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3218
  HT FLOW CONVERGENCE VALUE= .3823E-01 CRITERION= .1288    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 777
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4779E-04 OSCILLATION LIMIT = 377.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.742    CRITERION= .1288
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3216
  HT FLOW CONVERGENCE VALUE= .3784E-01 CRITERION= .1282    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 778
*** TIME = .607484E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4778E-04 OSCILLATION LIMIT = 377.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.582    CRITERION= .1282
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3223
  HT FLOW CONVERGENCE VALUE= .3763E-01 CRITERION= .1274    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 779
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4777E-04 OSCILLATION LIMIT = 376.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 3.742    CRITERION= .1275
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3221
  HT FLOW CONVERGENCE VALUE= .3729E-01 CRITERION= .1269    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 780

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*** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4776E-04 OSCILLATION LIMIT = 376.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.582 CRITERION= .1269
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3228
 HT FLOW CONVERGENCE VALUE= .3710E-01 CRITERION= .1261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 781
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4775E-04 OSCILLATION LIMIT = 376.8

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:38:37 JUN 25, 1995 CP= 29814.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2736
 HT FLOW CONVERGENCE VALUE= .3448E-01 CRITERION= .1257 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 782
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-04 OSCILLATION LIMIT = 242.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1264
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2749
 HT FLOW CONVERGENCE VALUE= .3394E-01 CRITERION= .1251 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 783
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3072E-04 OSCILLATION LIMIT = 242.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2752
 HT FLOW CONVERGENCE VALUE= .3364E-01 CRITERION= .1247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 784
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2754
 HT FLOW CONVERGENCE VALUE= .3346E-01 CRITERION= .1241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 785
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3073E-04 OSCILLATION LIMIT = 242.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2756
 HT FLOW CONVERGENCE VALUE= .3332E-01 CRITERION= .1237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 786
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2758
 HT FLOW CONVERGENCE VALUE= .3321E-01 CRITERION= .1231 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 787
*** TIME = .678488E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3073E-04 OSCILLATION LIMIT = 242.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2760
HT FLOW CONVERGENCE VALUE= .3307E-01 CRITERION= .1227 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 788
*** TIME = .686378E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2762
HT FLOW CONVERGENCE VALUE= .3296E-01 CRITERION= .1221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 789
*** TIME = .694267E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3073E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2763
HT FLOW CONVERGENCE VALUE= .3283E-01 CRITERION= .1217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 790
*** TIME = .702157E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1224
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2765
HT FLOW CONVERGENCE VALUE= .3275E-01 CRITERION= .1211 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 791
*** TIME = .710046E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3073E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1218
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2767
HT FLOW CONVERGENCE VALUE= .3262E-01 CRITERION= .1207 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 792
*** TIME = .717935E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1214
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2769
HT FLOW CONVERGENCE VALUE= .3252E-01 CRITERION= .1201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 793
*** TIME = .725825E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3073E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1209
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2770
HT FLOW CONVERGENCE VALUE= .3234E-01 CRITERION= .1197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 794
*** TIME = .733714E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1204

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2772
HT FLOW CONVERGENCE VALUE= .3222E-01 CRITERION= .1191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 795
*** TIME = .741604E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2774
HT FLOW CONVERGENCE VALUE= .3203E-01 CRITERION= .1187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 796
*** TIME = .749493E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.56 CRITERION= .1195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2776
HT FLOW CONVERGENCE VALUE= .3192E-01 CRITERION= .1181 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 797
*** TIME = .757382E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1189
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2778
HT FLOW CONVERGENCE VALUE= .3175E-01 CRITERION= .1177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 798
*** TIME = .765272E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2779
HT FLOW CONVERGENCE VALUE= .3159E-01 CRITERION= .1171 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 799
*** TIME = .773161E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2781
HT FLOW CONVERGENCE VALUE= .3136E-01 CRITERION= .1167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 800
*** TIME = .781051E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2783
HT FLOW CONVERGENCE VALUE= .3119E-01 CRITERION= .1162 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 801
*** TIME = .788940E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1169
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2785
HT FLOW CONVERGENCE VALUE= .3098E-01 CRITERION= .1157 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 802
*** TIME = .796829E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2787
 HT FLOW CONVERGENCE VALUE= .3081E-01 CRITERION= .1152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 803
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 242.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2789
 HT FLOW CONVERGENCE VALUE= .3061E-01 CRITERION= .1147 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 804
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2791
 HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .1142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 805
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2794
 HT FLOW CONVERGENCE VALUE= .3028E-01 CRITERION= .1137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 806
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2796
 HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .1132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 807
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2798
 HT FLOW CONVERGENCE VALUE= .3010E-01 CRITERION= .1127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 808
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2800
 HT FLOW CONVERGENCE VALUE= .3005E-01 CRITERION= .1122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 809
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3075E-04 OSCILLATION LIMIT = 242.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2802
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .1118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 810
 *** TIME = .859945E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2804
 HT FLOW CONVERGENCE VALUE= .2994E-01 CRITERION= .1112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 811
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2806
 HT FLOW CONVERGENCE VALUE= .2980E-01 CRITERION= .1108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 812
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2808
 HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .1102 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 813
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2810
 HT FLOW CONVERGENCE VALUE= .2959E-01 CRITERION= .1098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 814
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2811
 HT FLOW CONVERGENCE VALUE= .2952E-01 CRITERION= .1092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 815
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2813
 HT FLOW CONVERGENCE VALUE= .2938E-01 CRITERION= .1088 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 816
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2815
 HT FLOW CONVERGENCE VALUE= .2928E-01 CRITERION= .1082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 817
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2818
 HT FLOW CONVERGENCE VALUE= .2914E-01 CRITERION= .1078 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 818
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1086
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2820
 HT FLOW CONVERGENCE VALUE= .2904E-01 CRITERION= .1072 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 819
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3076E-04 OSCILLATION LIMIT = 242.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2822
 HT FLOW CONVERGENCE VALUE= .2888E-01 CRITERION= .1068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 820
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3078E-04 OSCILLATION LIMIT = 242.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.55 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2824
 HT FLOW CONVERGENCE VALUE= .2879E-01 CRITERION= .1062 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 821
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3077E-04 OSCILLATION LIMIT = 242.7

***** ANSYS SOLVE COMMAND *****

1
 ***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:04:49 JUN 25, 1995 CP= 31358.940
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2462
 HT FLOW CONVERGENCE VALUE= .2925E-01 CRITERION= .1059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 822
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-04 OSCILLATION LIMIT = 150.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2468
 HT FLOW CONVERGENCE VALUE= .2909E-01 CRITERION= .1054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 823
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1902E-04 OSCILLATION LIMIT = 150.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2473
 HT FLOW CONVERGENCE VALUE= .2898E-01 CRITERION= .1051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 824
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1906E-04 OSCILLATION LIMIT = 150.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2471

HT FLOW CONVERGENCE VALUE= .2892E-01 CRITERION= .1047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 825
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-04 OSCILLATION LIMIT = 150.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2476
 HT FLOW CONVERGENCE VALUE= .2892E-01 CRITERION= .1044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 826
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1907E-04 OSCILLATION LIMIT = 150.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2474
 HT FLOW CONVERGENCE VALUE= .2889E-01 CRITERION= .1039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 827
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1904E-04 OSCILLATION LIMIT = 150.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2479
 HT FLOW CONVERGENCE VALUE= .2873E-01 CRITERION= .1036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 828
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1908E-04 OSCILLATION LIMIT = 150.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1066
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2477
 HT FLOW CONVERGENCE VALUE= .2863E-01 CRITERION= .1032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 829
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1905E-04 OSCILLATION LIMIT = 150.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2482
 HT FLOW CONVERGENCE VALUE= .2871E-01 CRITERION= .1029 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 830
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1909E-04 OSCILLATION LIMIT = 150.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2481
 HT FLOW CONVERGENCE VALUE= .2878E-01 CRITERION= .1024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 831
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1906E-04 OSCILLATION LIMIT = 150.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2485
 HT FLOW CONVERGENCE VALUE= .2873E-01 CRITERION= .1021 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 832
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1910E-04 OSCILLATION LIMIT = 150.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .1051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2484
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .1016    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 833
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1907E-04 OSCILLATION LIMIT = 150.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .1046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2489
HT FLOW CONVERGENCE VALUE= .2845E-01 CRITERION= .1013    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 834
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1911E-04 OSCILLATION LIMIT = 150.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .1043
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2487
HT FLOW CONVERGENCE VALUE= .2834E-01 CRITERION= .1009    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 835
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1908E-04 OSCILLATION LIMIT = 150.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .1039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2491
HT FLOW CONVERGENCE VALUE= .2806E-01 CRITERION= .1006    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 836
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1912E-04 OSCILLATION LIMIT = 150.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .1036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2490
HT FLOW CONVERGENCE VALUE= .2813E-01 CRITERION= .1001    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 837
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1909E-04 OSCILLATION LIMIT = 150.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .1031
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2494
HT FLOW CONVERGENCE VALUE= .2813E-01 CRITERION= .9981E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 838
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1913E-04 OSCILLATION LIMIT = 150.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .1029
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2494
HT FLOW CONVERGENCE VALUE= .2802E-01 CRITERION= .9935E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 839
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1910E-04 OSCILLATION LIMIT = 150.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .1024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2498
HT FLOW CONVERGENCE VALUE= .2794E-01 CRITERION= .9905E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 840
*** TIME = .109663E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1914E-04 OSCILLATION LIMIT = 151.0

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2497
 HT FLOW CONVERGENCE VALUE= .2789E-01 CRITERION= .9859E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 841
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1911E-04 OSCILLATION LIMIT = 150.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2501
 HT FLOW CONVERGENCE VALUE= .2783E-01 CRITERION= .9829E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 842
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1914E-04 OSCILLATION LIMIT = 151.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2500
 HT FLOW CONVERGENCE VALUE= .2735E-01 CRITERION= .9783E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 843
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1912E-04 OSCILLATION LIMIT = 150.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2504
 HT FLOW CONVERGENCE VALUE= .2729E-01 CRITERION= .9753E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 844
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1915E-04 OSCILLATION LIMIT = 151.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .1006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2503
 HT FLOW CONVERGENCE VALUE= .2722E-01 CRITERION= .9707E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 845
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1913E-04 OSCILLATION LIMIT = 150.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .1002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2507
 HT FLOW CONVERGENCE VALUE= .2712E-01 CRITERION= .9677E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 846
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1916E-04 OSCILLATION LIMIT = 151.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .9991E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2507
 HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .9631E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 847
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1914E-04 OSCILLATION LIMIT = 151.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .9944E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2510
 HT FLOW CONVERGENCE VALUE= .2690E-01 CRITERION= .9601E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 848


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*** TIME = .115974E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1917E-04    OSCILLATION LIMIT = 151.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .9918E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2510
    HT FLOW CONVERGENCE VALUE= .2676E-01    CRITERION= .9555E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 849
*** TIME = .116763E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1915E-04    OSCILLATION LIMIT = 151.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .9871E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2514
    HT FLOW CONVERGENCE VALUE= .2657E-01    CRITERION= .9525E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 850
*** TIME = .117552E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1918E-04    OSCILLATION LIMIT = 151.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .9844E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2513
    HT FLOW CONVERGENCE VALUE= .2652E-01    CRITERION= .9479E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 851
*** TIME = .118341E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1916E-04    OSCILLATION LIMIT = 151.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .9797E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2517
    HT FLOW CONVERGENCE VALUE= .2655E-01    CRITERION= .9449E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 852
*** TIME = .119130E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1919E-04    OSCILLATION LIMIT = 151.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .9770E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2516
    HT FLOW CONVERGENCE VALUE= .2648E-01    CRITERION= .9402E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 853
*** TIME = .119919E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1917E-04    OSCILLATION LIMIT = 151.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .9723E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2519
    HT FLOW CONVERGENCE VALUE= .2637E-01    CRITERION= .9373E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 854
*** TIME = .120708E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1920E-04    OSCILLATION LIMIT = 151.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.99    CRITERION= .9697E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2518
    HT FLOW CONVERGENCE VALUE= .2629E-01    CRITERION= .9326E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 855
*** TIME = .121497E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1918E-04    OSCILLATION LIMIT = 151.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.82    CRITERION= .9650E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2522
    HT FLOW CONVERGENCE VALUE= .2619E-01    CRITERION= .9296E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 856
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1921E-04 OSCILLATION LIMIT = 151.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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```
HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .9623E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2521
HT FLOW CONVERGENCE VALUE= .2596E-01 CRITERION= .9250E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 857
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1919E-04 OSCILLATION LIMIT = 151.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .9576E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2525
HT FLOW CONVERGENCE VALUE= .2583E-01 CRITERION= .9220E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 858
*** TIME = .123864E+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= 24.99 CRITERION= .9550E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2524
HT FLOW CONVERGENCE VALUE= .2575E-01 CRITERION= .9174E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 859
*** TIME = .124653E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1920E-04 OSCILLATION LIMIT = 151.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .9503E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2527
HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .9144E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 860
*** TIME = .125441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1923E-04 OSCILLATION LIMIT = 151.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 24.99 CRITERION= .9478E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2527
HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .9098E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 861
*** TIME = .126230E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1921E-04 OSCILLATION LIMIT = 151.5
```

***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:30:49 JUN 25, 1995 CP= 32902.710
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```

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

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HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9378E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2103
HT FLOW CONVERGENCE VALUE= .2194E-01 CRITERION= .9075E-01 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 862
*** TIME = .127019E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 137.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9358E-01
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2121
HT FLOW CONVERGENCE VALUE= .2192E-01 CRITERION= .9035E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 863
*** TIME = .127808E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1752E-04 OSCILLATION LIMIT = 138.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9318E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2128
HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .9012E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 864
*** TIME = .128597E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1758E-04 OSCILLATION LIMIT = 138.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9298E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2122
HT FLOW CONVERGENCE VALUE= .2176E-01 CRITERION= .8973E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 865
*** TIME = .129386E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1752E-04 OSCILLATION LIMIT = 138.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9258E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2130
HT FLOW CONVERGENCE VALUE= .2172E-01 CRITERION= .8950E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 866
*** TIME = .130175E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1759E-04 OSCILLATION LIMIT = 138.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9237E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2124
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .8911E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 867
*** TIME = .130964E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1753E-04 OSCILLATION LIMIT = 138.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9197E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .8888E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 868
*** TIME = .131753E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1760E-04 OSCILLATION LIMIT = 138.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9177E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2126
HT FLOW CONVERGENCE VALUE= .2151E-01 CRITERION= .8848E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 869
*** TIME = .132542E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1754E-04 OSCILLATION LIMIT = 138.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9137E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2134
HT FLOW CONVERGENCE VALUE= .2147E-01 CRITERION= .8825E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 870
*** TIME = .133331E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1761E-04 OSCILLATION LIMIT = 138.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9117E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2128
HT FLOW CONVERGENCE VALUE= .2139E-01 CRITERION= .8786E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 871
*** TIME = .134120E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1755E-04 OSCILLATION LIMIT = 138.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9076E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2136
HT FLOW CONVERGENCE VALUE= .2135E-01 CRITERION= .8763E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 872
*** TIME = .134909E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1762E-04 OSCILLATION LIMIT = 139.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .9056E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2130
HT FLOW CONVERGENCE VALUE= .2126E-01 CRITERION= .8724E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 873
*** TIME = .135698E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1756E-04 OSCILLATION LIMIT = 138.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .9016E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2138
HT FLOW CONVERGENCE VALUE= .2122E-01 CRITERION= .8701E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 874
*** TIME = .136487E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1762E-04 OSCILLATION LIMIT = 139.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8996E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
HT FLOW CONVERGENCE VALUE= .2113E-01 CRITERION= .8661E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 875
*** TIME = .137276E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1757E-04 OSCILLATION LIMIT = 138.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8956E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2139
HT FLOW CONVERGENCE VALUE= .2109E-01 CRITERION= .8638E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 876
*** TIME = .138065E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1763E-04 OSCILLATION LIMIT = 139.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8936E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2134
HT FLOW CONVERGENCE VALUE= .2100E-01 CRITERION= .8599E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 877
*** TIME = .138853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1757E-04 OSCILLATION LIMIT = 138.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8895E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2141
HT FLOW CONVERGENCE VALUE= .2096E-01 CRITERION= .8576E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 878
*** TIME = .139642E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1764E-04 OSCILLATION LIMIT = 139.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8875E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2136
 HT FLOW CONVERGENCE VALUE= .2088E-01 CRITERION= .8536E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 879
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1758E-04 OSCILLATION LIMIT = 138.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8835E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2143
 HT FLOW CONVERGENCE VALUE= .2083E-01 CRITERION= .8513E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 880
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1765E-04 OSCILLATION LIMIT = 139.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8815E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2138
 HT FLOW CONVERGENCE VALUE= .2075E-01 CRITERION= .8474E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 881
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1759E-04 OSCILLATION LIMIT = 138.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8775E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2145
 HT FLOW CONVERGENCE VALUE= .2070E-01 CRITERION= .8451E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 882
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-04 OSCILLATION LIMIT = 139.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8755E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2140
 HT FLOW CONVERGENCE VALUE= .2062E-01 CRITERION= .8412E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 883
 *** TIME = .143587E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1760E-04 OSCILLATION LIMIT = 138.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8715E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2147
 HT FLOW CONVERGENCE VALUE= .2057E-01 CRITERION= .8388E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 884
 *** TIME = .144376E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1767E-04 OSCILLATION LIMIT = 139.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8695E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2142
 HT FLOW CONVERGENCE VALUE= .2048E-01 CRITERION= .8349E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 885
 *** TIME = .145165E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1761E-04 OSCILLATION LIMIT = 138.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8654E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2149
 HT FLOW CONVERGENCE VALUE= .2043E-01 CRITERION= .8326E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 886
 *** TIME = .145954E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1767E-04 OSCILLATION LIMIT = 139.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8634E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2144
 HT FLOW CONVERGENCE VALUE= .2035E-01 CRITERION= .8287E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 887
 *** TIME = .146743E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1762E-04 OSCILLATION LIMIT = 139.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8594E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2151
 HT FLOW CONVERGENCE VALUE= .2030E-01 CRITERION= .8264E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 888
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1768E-04 OSCILLATION LIMIT = 139.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8574E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2146
 HT FLOW CONVERGENCE VALUE= .2024E-01 CRITERION= .8224E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 889
 *** TIME = .148321E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1763E-04 OSCILLATION LIMIT = 139.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8534E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2153
 HT FLOW CONVERGENCE VALUE= .2019E-01 CRITERION= .8201E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 890
 *** TIME = .149110E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1769E-04 OSCILLATION LIMIT = 139.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8514E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2148
 HT FLOW CONVERGENCE VALUE= .2013E-01 CRITERION= .8162E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 891
 *** TIME = .149899E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1764E-04 OSCILLATION LIMIT = 139.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8474E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2155
 HT FLOW CONVERGENCE VALUE= .2006E-01 CRITERION= .8139E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 892
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1770E-04 OSCILLATION LIMIT = 139.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8454E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2150
 HT FLOW CONVERGENCE VALUE= .1999E-01 CRITERION= .8099E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 893
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1765E-04 OSCILLATION LIMIT = 139.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8414E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2156

HT FLOW CONVERGENCE VALUE= .1992E-01 CRITERION= .8076E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 894
 *** TIME = .152265E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1771E-04 OSCILLATION LIMIT = 139.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8394E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2152
 HT FLOW CONVERGENCE VALUE= .1984E-01 CRITERION= .8037E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 895
 *** TIME = .153054E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-04 OSCILLATION LIMIT = 139.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8353E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2158
 HT FLOW CONVERGENCE VALUE= .1979E-01 CRITERION= .8014E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 896
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1771E-04 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8333E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2154
 HT FLOW CONVERGENCE VALUE= .1971E-01 CRITERION= .7974E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 897
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-04 OSCILLATION LIMIT = 139.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8293E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2160
 HT FLOW CONVERGENCE VALUE= .1965E-01 CRITERION= .7951E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 898
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1772E-04 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8273E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2156
 HT FLOW CONVERGENCE VALUE= .1957E-01 CRITERION= .7912E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 899
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1767E-04 OSCILLATION LIMIT = 139.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.81 CRITERION= .8233E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2162
 HT FLOW CONVERGENCE VALUE= .1952E-01 CRITERION= .7888E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 900
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1773E-04 OSCILLATION LIMIT = 139.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.98 CRITERION= .8213E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2158
 HT FLOW CONVERGENCE VALUE= .1944E-01 CRITERION= .7849E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 901
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1768E-04 OSCILLATION LIMIT = 139.5

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:56:48 JUN 25, 1995 CP= 34446.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .8096E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1723
 HT FLOW CONVERGENCE VALUE= .1598E-01 CRITERION= .7833E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 902
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1608E-04 OSCILLATION LIMIT = 126.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .8082E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
 HT FLOW CONVERGENCE VALUE= .1596E-01 CRITERION= .7800E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 903
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1618E-04 OSCILLATION LIMIT = 127.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .8049E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1747
 HT FLOW CONVERGENCE VALUE= .1595E-01 CRITERION= .7783E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 904
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1629E-04 OSCILLATION LIMIT = 128.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .8035E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
 HT FLOW CONVERGENCE VALUE= .1587E-01 CRITERION= .7751E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 905
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1618E-04 OSCILLATION LIMIT = 127.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .8001E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1748
 HT FLOW CONVERGENCE VALUE= .1586E-01 CRITERION= .7734E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 906
 *** TIME = .161733E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1630E-04 OSCILLATION LIMIT = 128.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7987E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .7702E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 907
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1619E-04 OSCILLATION LIMIT = 127.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7954E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1749
 HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .7685E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 908
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1630E-04 OSCILLATION LIMIT = 128.6

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7940E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1740
 HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .7653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 909
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1620E-04 OSCILLATION LIMIT = 127.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7906E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1750
 HT FLOW CONVERGENCE VALUE= .1569E-01 CRITERION= .7636E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 910
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1631E-04 OSCILLATION LIMIT = 128.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7892E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1742
 HT FLOW CONVERGENCE VALUE= .1561E-01 CRITERION= .7603E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 911
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1620E-04 OSCILLATION LIMIT = 127.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7859E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1751
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .7587E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 912
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1632E-04 OSCILLATION LIMIT = 128.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7845E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
 HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .7554E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 913
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1621E-04 OSCILLATION LIMIT = 127.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7811E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1753
 HT FLOW CONVERGENCE VALUE= .1551E-01 CRITERION= .7538E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 914
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1632E-04 OSCILLATION LIMIT = 128.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7797E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1744
 HT FLOW CONVERGENCE VALUE= .1543E-01 CRITERION= .7505E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 915
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1622E-04 OSCILLATION LIMIT = 128.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7764E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1754
 HT FLOW CONVERGENCE VALUE= .1542E-01 CRITERION= .7489E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 916

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*** TIME = .169622E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1633E-04    OSCILLATION LIMIT = 128.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.04    CRITERION= .7750E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1746
  HT FLOW CONVERGENCE VALUE= .1535E-01    CRITERION= .7456E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 16 COMPLETED.    CUM ITER = 917
*** TIME = .170411E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1623E-04    OSCILLATION LIMIT = 128.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 19.88    CRITERION= .7716E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1755
  HT FLOW CONVERGENCE VALUE= .1533E-01    CRITERION= .7440E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 17 COMPLETED.    CUM ITER = 918
*** TIME = .171200E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1633E-04    OSCILLATION LIMIT = 128.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.04    CRITERION= .7702E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1747
  HT FLOW CONVERGENCE VALUE= .1526E-01    CRITERION= .7407E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 18 COMPLETED.    CUM ITER = 919
*** TIME = .171989E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1624E-04    OSCILLATION LIMIT = 128.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 19.88    CRITERION= .7669E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1756
  HT FLOW CONVERGENCE VALUE= .1524E-01    CRITERION= .7390E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 19 COMPLETED.    CUM ITER = 920
*** TIME = .172778E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1634E-04    OSCILLATION LIMIT = 128.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.04    CRITERION= .7655E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1748
  HT FLOW CONVERGENCE VALUE= .1517E-01    CRITERION= .7358E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED.    CUM ITER = 921
*** TIME = .173567E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1625E-04    OSCILLATION LIMIT = 128.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 19.88    CRITERION= .7621E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1757
  HT FLOW CONVERGENCE VALUE= .1516E-01    CRITERION= .7341E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED.    CUM ITER = 922
*** TIME = .174356E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1635E-04    OSCILLATION LIMIT = 129.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.04    CRITERION= .7607E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1750
  HT FLOW CONVERGENCE VALUE= .1508E-01    CRITERION= .7309E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED.    CUM ITER = 923
*** TIME = .175145E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1625E-04    OSCILLATION LIMIT = 128.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 19.88    CRITERION= .7574E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1759
  HT FLOW CONVERGENCE VALUE= .1507E-01    CRITERION= .7292E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 924
*** TIME = .175934E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1635E-04 OSCILLATION LIMIT = 129.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .7560E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1751
HT FLOW CONVERGENCE VALUE= .1500E-01 CRITERION= .7259E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 925
*** TIME = .176723E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1626E-04 OSCILLATION LIMIT = 128.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7526E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1760
HT FLOW CONVERGENCE VALUE= .1498E-01 CRITERION= .7243E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 926
*** TIME = .177512E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1636E-04 OSCILLATION LIMIT = 129.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7513E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1753
HT FLOW CONVERGENCE VALUE= .1491E-01 CRITERION= .7210E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 927
*** TIME = .178300E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1627E-04 OSCILLATION LIMIT = 128.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7479E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1761
HT FLOW CONVERGENCE VALUE= .1489E-01 CRITERION= .7194E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 928
*** TIME = .179089E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1637E-04 OSCILLATION LIMIT = 129.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7465E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1754
HT FLOW CONVERGENCE VALUE= .1482E-01 CRITERION= .7161E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 929
*** TIME = .179878E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1628E-04 OSCILLATION LIMIT = 128.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7431E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1762
HT FLOW CONVERGENCE VALUE= .1480E-01 CRITERION= .7144E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 930
*** TIME = .180667E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1637E-04 OSCILLATION LIMIT = 129.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7418E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1755
HT FLOW CONVERGENCE VALUE= .1473E-01 CRITERION= .7112E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 931
*** TIME = .181456E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1629E-04 OSCILLATION LIMIT = 128.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7384E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1764
 HT FLOW CONVERGENCE VALUE= .1471E-01 CRITERION= .7095E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 932
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1638E-04 OSCILLATION LIMIT = 129.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7370E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1757
 HT FLOW CONVERGENCE VALUE= .1464E-01 CRITERION= .7063E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 933
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1629E-04 OSCILLATION LIMIT = 128.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7337E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1765
 HT FLOW CONVERGENCE VALUE= .1462E-01 CRITERION= .7046E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 934
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1639E-04 OSCILLATION LIMIT = 129.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7323E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1758
 HT FLOW CONVERGENCE VALUE= .1455E-01 CRITERION= .7013E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 935
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1630E-04 OSCILLATION LIMIT = 128.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7289E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1766
 HT FLOW CONVERGENCE VALUE= .1453E-01 CRITERION= .6997E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 936
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1639E-04 OSCILLATION LIMIT = 129.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7276E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1760
 HT FLOW CONVERGENCE VALUE= .1446E-01 CRITERION= .6964E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 937
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1631E-04 OSCILLATION LIMIT = 128.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7242E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1767
 HT FLOW CONVERGENCE VALUE= .1444E-01 CRITERION= .6948E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 938
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1640E-04 OSCILLATION LIMIT = 129.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7228E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1761
 HT FLOW CONVERGENCE VALUE= .1440E-01 CRITERION= .6915E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 939
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1632E-04 OSCILLATION LIMIT = 128.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .7195E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1769
 HT FLOW CONVERGENCE VALUE= .1447E-01 CRITERION= .6898E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 940
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1641E-04 OSCILLATION LIMIT = 129.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .7181E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1762
 HT FLOW CONVERGENCE VALUE= .1446E-01 CRITERION= .6866E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 941
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1633E-04 OSCILLATION LIMIT = 128.8

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:22:46 JUN 25, 1995 CP= 35989.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .7084E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1448
 HT FLOW CONVERGENCE VALUE= .1215E-01 CRITERION= .6854E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 942
 *** TIME = .190135E+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= 17.62 CRITERION= .7074E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1453
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .6826E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 943
 *** TIME = .190923E+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= 17.45 CRITERION= .7045E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1464
 HT FLOW CONVERGENCE VALUE= .1214E-01 CRITERION= .6814E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 944
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1529E-04 OSCILLATION LIMIT = 120.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .7036E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1454
 HT FLOW CONVERGENCE VALUE= .1208E-01 CRITERION= .6786E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 945
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1514E-04 OSCILLATION LIMIT = 119.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .7007E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1465
 HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .6774E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 946
 *** TIME = .193290E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1529E-04 OSCILLATION LIMIT = 120.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6997E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1455
 HT FLOW CONVERGENCE VALUE= .1205E-01 CRITERION= .6746E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 947
 *** TIME = .194079E+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= 17.45 CRITERION= .6968E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1465
 HT FLOW CONVERGENCE VALUE= .1206E-01 CRITERION= .6734E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 948
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1530E-04 OSCILLATION LIMIT = 120.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6959E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1456
 HT FLOW CONVERGENCE VALUE= .1201E-01 CRITERION= .6706E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 949
 *** TIME = .195657E+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= 17.45 CRITERION= .6930E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1466
 HT FLOW CONVERGENCE VALUE= .1206E-01 CRITERION= .6695E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 950
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1530E-04 OSCILLATION LIMIT = 120.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6920E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1457
 HT FLOW CONVERGENCE VALUE= .1203E-01 CRITERION= .6667E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 951
 *** TIME = .197235E+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= 17.45 CRITERION= .6891E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1467
 HT FLOW CONVERGENCE VALUE= .1206E-01 CRITERION= .6655E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 952
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1531E-04 OSCILLATION LIMIT = 120.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6882E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1458
 HT FLOW CONVERGENCE VALUE= .1200E-01 CRITERION= .6627E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 953
 *** TIME = .198813E+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= 17.45 CRITERION= .6853E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1468
 HT FLOW CONVERGENCE VALUE= .1202E-01 CRITERION= .6615E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 954
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1531E-04 OSCILLATION LIMIT = 120.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6843E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1459
 HT FLOW CONVERGENCE VALUE= .1192E-01 CRITERION= .6587E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 955
 *** TIME = .200391E+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= 17.45 CRITERION= .6814E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
 HT FLOW CONVERGENCE VALUE= .1205E-01 CRITERION= .6575E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 956
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1532E-04 OSCILLATION LIMIT = 120.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6805E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1460
 HT FLOW CONVERGENCE VALUE= .1200E-01 CRITERION= .6547E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 957
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1519E-04 OSCILLATION LIMIT = 119.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6776E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
 HT FLOW CONVERGENCE VALUE= .1201E-01 CRITERION= .6535E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 958
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1532E-04 OSCILLATION LIMIT = 120.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6767E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1461
 HT FLOW CONVERGENCE VALUE= .1195E-01 CRITERION= .6507E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 959
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1520E-04 OSCILLATION LIMIT = 119.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6737E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
 HT FLOW CONVERGENCE VALUE= .1195E-01 CRITERION= .6496E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 960
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1533E-04 OSCILLATION LIMIT = 120.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6728E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1462
 HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .6468E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 961
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1520E-04 OSCILLATION LIMIT = 120.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6699E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1471

HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .6456E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 962
 *** TIME = .205913E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1533E-04 OSCILLATION LIMIT = 121.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6690E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1463
 HT FLOW CONVERGENCE VALUE= .1180E-01 CRITERION= .6428E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 963
 *** TIME = .206702E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1521E-04 OSCILLATION LIMIT = 120.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6660E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1472
 HT FLOW CONVERGENCE VALUE= .1184E-01 CRITERION= .6416E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 964
 *** TIME = .207491E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1534E-04 OSCILLATION LIMIT = 121.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6651E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1464
 HT FLOW CONVERGENCE VALUE= .1179E-01 CRITERION= .6388E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 965
 *** TIME = .208280E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1522E-04 OSCILLATION LIMIT = 120.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6622E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
 HT FLOW CONVERGENCE VALUE= .1179E-01 CRITERION= .6376E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 966
 *** TIME = .209069E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1534E-04 OSCILLATION LIMIT = 121.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6613E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1465
 HT FLOW CONVERGENCE VALUE= .1161E-01 CRITERION= .6348E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 967
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1523E-04 OSCILLATION LIMIT = 120.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6584E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1474
 HT FLOW CONVERGENCE VALUE= .1174E-01 CRITERION= .6336E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 968
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1535E-04 OSCILLATION LIMIT = 121.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6574E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1466
 HT FLOW CONVERGENCE VALUE= .1168E-01 CRITERION= .6308E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 969
 *** TIME = .211436E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1523E-04 OSCILLATION LIMIT = 120.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6545E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1474
 HT FLOW CONVERGENCE VALUE= .1165E-01 CRITERION= .6296E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 970
 *** TIME = .212225E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1535E-04 OSCILLATION LIMIT = 121.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6536E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1467
 HT FLOW CONVERGENCE VALUE= .1163E-01 CRITERION= .6268E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 971
 *** TIME = .213014E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1524E-04 OSCILLATION LIMIT = 120.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6507E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1475
 HT FLOW CONVERGENCE VALUE= .1162E-01 CRITERION= .6257E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 972
 *** TIME = .213803E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1536E-04 OSCILLATION LIMIT = 121.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6498E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1468
 HT FLOW CONVERGENCE VALUE= .1156E-01 CRITERION= .6229E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 973
 *** TIME = .214592E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1525E-04 OSCILLATION LIMIT = 120.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6468E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1476
 HT FLOW CONVERGENCE VALUE= .1153E-01 CRITERION= .6217E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 974
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1536E-04 OSCILLATION LIMIT = 121.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6459E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
 HT FLOW CONVERGENCE VALUE= .1143E-01 CRITERION= .6189E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 975
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1526E-04 OSCILLATION LIMIT = 120.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6430E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1477
 HT FLOW CONVERGENCE VALUE= .1148E-01 CRITERION= .6177E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 976
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1537E-04 OSCILLATION LIMIT = 121.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6421E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
 HT FLOW CONVERGENCE VALUE= .1142E-01 CRITERION= .6149E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 977
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1526E-04 OSCILLATION LIMIT = 120.4

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6392E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1478
 HT FLOW CONVERGENCE VALUE= .1142E-01 CRITERION= .6137E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 978
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1538E-04 OSCILLATION LIMIT = 121.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6383E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1471
 HT FLOW CONVERGENCE VALUE= .1128E-01 CRITERION= .6109E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 979
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1527E-04 OSCILLATION LIMIT = 120.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .6353E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1479
 HT FLOW CONVERGENCE VALUE= .1138E-01 CRITERION= .6097E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 980
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1538E-04 OSCILLATION LIMIT = 121.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.62 CRITERION= .6344E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1472
 HT FLOW CONVERGENCE VALUE= .1135E-01 CRITERION= .6069E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 981
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1528E-04 OSCILLATION LIMIT = 120.5

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:48:46 JUN 25, 1995 CP= 37530.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6346E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1071E-01 CRITERION= .6061E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 982
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1180E-04 OSCILLATION LIMIT = 93.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6340E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
 HT FLOW CONVERGENCE VALUE= .1065E-01 CRITERION= .6037E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 983
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1172E-04 OSCILLATION LIMIT = 92.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6315E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1301
 HT FLOW CONVERGENCE VALUE= .1066E-01 CRITERION= .6028E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 984

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*** TIME = .223270E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1187E-04    OSCILLATION LIMIT = 93.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.69    CRITERION= .6309E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
    HT FLOW CONVERGENCE VALUE= .1059E-01    CRITERION= .6004E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 985
*** TIME = .224059E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1173E-04    OSCILLATION LIMIT = 92.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.52    CRITERION= .6284E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1302
    HT FLOW CONVERGENCE VALUE= .1056E-01    CRITERION= .5996E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 986
*** TIME = .224848E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1187E-04    OSCILLATION LIMIT = 93.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.69    CRITERION= .6278E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
    HT FLOW CONVERGENCE VALUE= .1060E-01    CRITERION= .5972E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 987
*** TIME = .225637E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1174E-04    OSCILLATION LIMIT = 92.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.52    CRITERION= .6253E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1303
    HT FLOW CONVERGENCE VALUE= .1064E-01    CRITERION= .5964E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 988
*** TIME = .226426E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1188E-04    OSCILLATION LIMIT = 93.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.69    CRITERION= .6247E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
    HT FLOW CONVERGENCE VALUE= .1058E-01    CRITERION= .5939E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 989
*** TIME = .227215E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1175E-04    OSCILLATION LIMIT = 92.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.52    CRITERION= .6222E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1303
    HT FLOW CONVERGENCE VALUE= .1050E-01    CRITERION= .5931E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 990
*** TIME = .228004E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1188E-04    OSCILLATION LIMIT = 93.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.69    CRITERION= .6217E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
    HT FLOW CONVERGENCE VALUE= .1066E-01    CRITERION= .5907E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 991
*** TIME = .228793E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1175E-04    OSCILLATION LIMIT = 92.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.52    CRITERION= .6191E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1304
    HT FLOW CONVERGENCE VALUE= .1065E-01    CRITERION= .5899E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 992
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1188E-04 OSCILLATION LIMIT = 93.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6186E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1296
HT FLOW CONVERGENCE VALUE= .1054E-01 CRITERION= .5875E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 993
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1176E-04 OSCILLATION LIMIT = 92.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6160E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1304
HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .5867E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 994
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1189E-04 OSCILLATION LIMIT = 93.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6155E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1297
HT FLOW CONVERGENCE VALUE= .1052E-01 CRITERION= .5842E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 995
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1177E-04 OSCILLATION LIMIT = 92.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6129E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1305
HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .5834E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 996
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1189E-04 OSCILLATION LIMIT = 93.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6124E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1298
HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .5810E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 997
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1177E-04 OSCILLATION LIMIT = 92.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6098E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1306
HT FLOW CONVERGENCE VALUE= .1045E-01 CRITERION= .5802E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 998
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1190E-04 OSCILLATION LIMIT = 93.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6093E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1298
HT FLOW CONVERGENCE VALUE= .1033E-01 CRITERION= .5777E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 999
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1178E-04 OSCILLATION LIMIT = 92.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6067E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1306
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .5769E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 1000
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1190E-04 OSCILLATION LIMIT = 93.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6062E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1299
 HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .5745E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 1001
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1179E-04 OSCILLATION LIMIT = 93.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6037E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1307
 HT FLOW CONVERGENCE VALUE= .1015E-01 CRITERION= .5737E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 1002
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1191E-04 OSCILLATION LIMIT = 93.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6031E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1300
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .5713E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 1003
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1179E-04 OSCILLATION LIMIT = 93.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .6006E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1307
 HT FLOW CONVERGENCE VALUE= .1001E-01 CRITERION= .5704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 1004
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1191E-04 OSCILLATION LIMIT = 93.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .6001E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1301
 HT FLOW CONVERGENCE VALUE= .1005E-01 CRITERION= .5680E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 1005
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1180E-04 OSCILLATION LIMIT = 93.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5975E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1308
 HT FLOW CONVERGENCE VALUE= .1006E-01 CRITERION= .5672E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 1006
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1192E-04 OSCILLATION LIMIT = 94.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5970E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1302
 HT FLOW CONVERGENCE VALUE= .9991E-02 CRITERION= .5648E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 1007
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1181E-04 OSCILLATION LIMIT = 93.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5944E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1309
 HT FLOW CONVERGENCE VALUE= .1001E-01 CRITERION= .5640E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 1008.
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1192E-04 OSCILLATION LIMIT = 94.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5939E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1302
 HT FLOW CONVERGENCE VALUE= .9957E-02 CRITERION= .5615E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 1009
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1182E-04 OSCILLATION LIMIT = 93.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5913E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1309
 HT FLOW CONVERGENCE VALUE= .1001E-01 CRITERION= .5607E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 1010
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1193E-04 OSCILLATION LIMIT = 94.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5908E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1303
 HT FLOW CONVERGENCE VALUE= .1002E-01 CRITERION= .5583E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 1011
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1182E-04 OSCILLATION LIMIT = 93.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5882E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1310
 HT FLOW CONVERGENCE VALUE= .9931E-02 CRITERION= .5575E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 1012
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1194E-04 OSCILLATION LIMIT = 94.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5877E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1304
 HT FLOW CONVERGENCE VALUE= .9954E-02 CRITERION= .5550E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 1013
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 93.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5852E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1311
 HT FLOW CONVERGENCE VALUE= .9951E-02 CRITERION= .5542E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 1014
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1194E-04 OSCILLATION LIMIT = 94.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5847E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1305
 HT FLOW CONVERGENCE VALUE= .9742E-02 CRITERION= .5518E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 1015
 *** TIME = .247727E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1184E-04 OSCILLATION LIMIT = 93.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5821E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1312
 HT FLOW CONVERGENCE VALUE= .9897E-02 CRITERION= .5510E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 1016
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1195E-04 OSCILLATION LIMIT = 94.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5816E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1306
 HT FLOW CONVERGENCE VALUE= .9843E-02 CRITERION= .5486E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 1017
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1184E-04 OSCILLATION LIMIT = 93.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5790E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1312
 HT FLOW CONVERGENCE VALUE= .9839E-02 CRITERION= .5477E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 1018
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1195E-04 OSCILLATION LIMIT = 94.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5785E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1306
 HT FLOW CONVERGENCE VALUE= .9788E-02 CRITERION= .5453E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1019
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1185E-04 OSCILLATION LIMIT = 93.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.52 CRITERION= .5760E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1313
 HT FLOW CONVERGENCE VALUE= .9782E-02 CRITERION= .5445E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1020
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1196E-04 OSCILLATION LIMIT = 94.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.69 CRITERION= .5754E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1307
 HT FLOW CONVERGENCE VALUE= .9727E-02 CRITERION= .5421E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1021
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1186E-04 OSCILLATION LIMIT = 93.55

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:29 JUN 25, 1995 CP= 39071.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5601E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1013
 HT FLOW CONVERGENCE VALUE= .7493E-02 CRITERION= .5416E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1022
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1228E-04 OSCILLATION LIMIT = 96.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5598E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1017
 HT FLOW CONVERGENCE VALUE= .7470E-02 CRITERION= .5395E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1023
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1230E-04 OSCILLATION LIMIT = 97.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5576E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1026
 HT FLOW CONVERGENCE VALUE= .7495E-02 CRITERION= .5390E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1024
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 98.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5573E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1017
 HT FLOW CONVERGENCE VALUE= .7475E-02 CRITERION= .5370E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1025
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1230E-04 OSCILLATION LIMIT = 97.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5551E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1026
 HT FLOW CONVERGENCE VALUE= .7478E-02 CRITERION= .5365E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1026
 *** TIME = .256406E+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= 14.23 CRITERION= .5549E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1017
 HT FLOW CONVERGENCE VALUE= .7416E-02 CRITERION= .5344E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1027
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5526E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1027
 HT FLOW CONVERGENCE VALUE= .7453E-02 CRITERION= .5339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1028
 *** TIME = .257983E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5524E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1018
 HT FLOW CONVERGENCE VALUE= .7407E-02 CRITERION= .5318E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1029
 *** TIME = .258772E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5502E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1027

HT FLOW CONVERGENCE VALUE= .7423E-02 CRITERION= .5314E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1030
 *** TIME = .259561E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5499E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1018
 HT FLOW CONVERGENCE VALUE= .7367E-02 CRITERION= .5293E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1031
 *** TIME = .260350E+10 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= 14.07 CRITERION= .5477E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1028
 HT FLOW CONVERGENCE VALUE= .7385E-02 CRITERION= .5288E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1032
 *** TIME = .261139E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5474E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1019
 HT FLOW CONVERGENCE VALUE= .7334E-02 CRITERION= .5267E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1033
 *** TIME = .261928E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = 97.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5452E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1028
 HT FLOW CONVERGENCE VALUE= .7354E-02 CRITERION= .5262E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1034
 *** TIME = .262717E+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= 14.23 CRITERION= .5450E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1020
 HT FLOW CONVERGENCE VALUE= .7301E-02 CRITERION= .5242E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1035
 *** TIME = .263506E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = 97.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5427E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1028
 HT FLOW CONVERGENCE VALUE= .7317E-02 CRITERION= .5237E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1036
 *** TIME = .264295E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5425E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1020
 HT FLOW CONVERGENCE VALUE= .7266E-02 CRITERION= .5216E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1037
 *** TIME = .265084E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1234E-04 OSCILLATION LIMIT = 97.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5403E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1029
 HT FLOW CONVERGENCE VALUE= .7242E-02 CRITERION= .5211E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1038
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5400E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1021
 HT FLOW CONVERGENCE VALUE= .7232E-02 CRITERION= .5190E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1039
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = 97.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5378E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1029
 HT FLOW CONVERGENCE VALUE= .7237E-02 CRITERION= .5186E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1040
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1021
 HT FLOW CONVERGENCE VALUE= .7157E-02 CRITERION= .5165E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1041
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = 97.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5353E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1029
 HT FLOW CONVERGENCE VALUE= .7289E-02 CRITERION= .5160E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1042
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5351E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1022
 HT FLOW CONVERGENCE VALUE= .7241E-02 CRITERION= .5139E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1043
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5329E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .7254E-02 CRITERION= .5134E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1044
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5326E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1022
 HT FLOW CONVERGENCE VALUE= .7197E-02 CRITERION= .5114E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1045
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.55

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5304E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .7353E-02 CRITERION= .5109E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1046
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1253E-04 OSCILLATION LIMIT = 98.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5302E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1023
 HT FLOW CONVERGENCE VALUE= .7306E-02 CRITERION= .5088E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1047
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1237E-04 OSCILLATION LIMIT = 97.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5279E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .7316E-02 CRITERION= .5083E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1048
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1253E-04 OSCILLATION LIMIT = 98.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5277E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1023
 HT FLOW CONVERGENCE VALUE= .7267E-02 CRITERION= .5062E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1049
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1238E-04 OSCILLATION LIMIT = 97.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5255E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .7271E-02 CRITERION= .5058E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1050
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 98.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5252E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1024
 HT FLOW CONVERGENCE VALUE= .7226E-02 CRITERION= .5037E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1051
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1239E-04 OSCILLATION LIMIT = 97.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5230E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .7212E-02 CRITERION= .5032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1052
 *** TIME = .276918E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 98.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5228E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1024
 HT FLOW CONVERGENCE VALUE= .7091E-02 CRITERION= .5011E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1053

*** TIME = .277707E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1239E-04 OSCILLATION LIMIT = 97.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5205E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .7186E-02 CRITERION= .5006E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1054
 *** TIME = .278496E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 98.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5203E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1025
 HT FLOW CONVERGENCE VALUE= .7141E-02 CRITERION= .4986E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1055
 *** TIME = .279285E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1240E-04 OSCILLATION LIMIT = 97.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5181E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1032
 HT FLOW CONVERGENCE VALUE= .7151E-02 CRITERION= .4981E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1056
 *** TIME = .280074E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 98.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5178E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1025
 HT FLOW CONVERGENCE VALUE= .7110E-02 CRITERION= .4960E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1057
 *** TIME = .280863E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1240E-04 OSCILLATION LIMIT = 97.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.07 CRITERION= .5156E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1032
 HT FLOW CONVERGENCE VALUE= .7120E-02 CRITERION= .4955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1058
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 99.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5154E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1026
 HT FLOW CONVERGENCE VALUE= .7076E-02 CRITERION= .4934E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1059
 *** TIME = .282441E+10 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= 14.07 CRITERION= .5131E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1033
 HT FLOW CONVERGENCE VALUE= .7082E-02 CRITERION= .4930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1060
 *** TIME = .283229E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 99.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.23 CRITERION= .5129E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1026
 HT FLOW CONVERGENCE VALUE= .7057E-02 CRITERION= .4909E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1061
*** TIME = .284018E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1241E-04 OSCILLATION LIMIT = 97.94
    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

    6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

    1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
    6 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 56 STEP 1

    56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

    3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 86.642 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 86.902 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 87.393 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 40612.560 TIME= 04:41:28
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 04:41:28 JUN 25, 1995 CP= 40612.560
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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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

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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= 12.14 CRITERION= .5057E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8960E-01
HT FLOW CONVERGENCE VALUE= .6165E-02 CRITERION= .4906E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1062
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1268E-04 OSCILLATION LIMIT = 100.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .5056E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8938E-01
HT FLOW CONVERGENCE VALUE= .6161E-02 CRITERION= .4886E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1063
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 99.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .5035E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9018E-01
HT FLOW CONVERGENCE VALUE= .6176E-02 CRITERION= .4883E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1064
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1278E-04 OSCILLATION LIMIT = 100.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .5034E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8941E-01
HT FLOW CONVERGENCE VALUE= .6064E-02 CRITERION= .4864E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1065
*** TIME = .287174E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 99.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .5014E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9020E-01
HT FLOW CONVERGENCE VALUE= .6145E-02 CRITERION= .4861E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1066
*** TIME = .287963E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1278E-04 OSCILLATION LIMIT = 100.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .5012E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8945E-01
HT FLOW CONVERGENCE VALUE= .6100E-02 CRITERION= .4842E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1067
*** TIME = .288752E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 99.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4992E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9022E-01
 HT FLOW CONVERGENCE VALUE= .6118E-02 CRITERION= .4838E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1068
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1278E-04 OSCILLATION LIMIT = 100.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4991E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8949E-01
 HT FLOW CONVERGENCE VALUE= .6075E-02 CRITERION= .4819E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1069
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1260E-04 OSCILLATION LIMIT = 99.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4970E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9025E-01
 HT FLOW CONVERGENCE VALUE= .6090E-02 CRITERION= .4816E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1070
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1279E-04 OSCILLATION LIMIT = 100.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4969E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8954E-01
 HT FLOW CONVERGENCE VALUE= .6046E-02 CRITERION= .4797E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1071
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1261E-04 OSCILLATION LIMIT = 99.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4948E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9028E-01
 HT FLOW CONVERGENCE VALUE= .6062E-02 CRITERION= .4793E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1072
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1279E-04 OSCILLATION LIMIT = 100.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4947E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8958E-01
 HT FLOW CONVERGENCE VALUE= .6019E-02 CRITERION= .4774E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1073
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1261E-04 OSCILLATION LIMIT = 99.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9031E-01
 HT FLOW CONVERGENCE VALUE= .6012E-02 CRITERION= .4771E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1074
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1279E-04 OSCILLATION LIMIT = 100.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4926E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8962E-01
 HT FLOW CONVERGENCE VALUE= .5962E-02 CRITERION= .4752E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1075
 *** TIME = .295064E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1262E-04 OSCILLATION LIMIT = 99.55

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4905E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9033E-01
 HT FLOW CONVERGENCE VALUE= .5952E-02 CRITERION= .4749E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1076
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1280E-04 OSCILLATION LIMIT = 100.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4904E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8966E-01
 HT FLOW CONVERGENCE VALUE= .5954E-02 CRITERION= .4729E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1077
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1262E-04 OSCILLATION LIMIT = 99.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4883E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9035E-01
 HT FLOW CONVERGENCE VALUE= .5967E-02 CRITERION= .4726E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1078
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1280E-04 OSCILLATION LIMIT = 101.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4882E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8970E-01
 HT FLOW CONVERGENCE VALUE= .5928E-02 CRITERION= .4707E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1079
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1263E-04 OSCILLATION LIMIT = 99.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4861E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9038E-01
 HT FLOW CONVERGENCE VALUE= .5940E-02 CRITERION= .4704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1080
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1280E-04 OSCILLATION LIMIT = 101.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4860E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8974E-01
 HT FLOW CONVERGENCE VALUE= .5901E-02 CRITERION= .4684E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1081
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1263E-04 OSCILLATION LIMIT = 99.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4840E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9041E-01
 HT FLOW CONVERGENCE VALUE= .5909E-02 CRITERION= .4681E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1082
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1280E-04 OSCILLATION LIMIT = 101.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4839E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8978E-01
 HT FLOW CONVERGENCE VALUE= .5872E-02 CRITERION= .4662E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1083


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*** TIME = .301375E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1264E-04    OSCILLATION LIMIT = 99.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.14    CRITERION= .4818E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9044E-01
    HT FLOW CONVERGENCE VALUE= .5878E-02    CRITERION= .4659E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1084
*** TIME = .302164E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1281E-04    OSCILLATION LIMIT = 101.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.31    CRITERION= .4817E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8983E-01
    HT FLOW CONVERGENCE VALUE= .5841E-02    CRITERION= .4640E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1085
*** TIME = .302953E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1265E-04    OSCILLATION LIMIT = 99.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.14    CRITERION= .4796E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9046E-01
    HT FLOW CONVERGENCE VALUE= .5842E-02    CRITERION= .4636E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1086
*** TIME = .303742E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1281E-04    OSCILLATION LIMIT = 101.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.31    CRITERION= .4795E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8986E-01
    HT FLOW CONVERGENCE VALUE= .5731E-02    CRITERION= .4617E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1087
*** TIME = .304531E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1265E-04    OSCILLATION LIMIT = 99.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.14    CRITERION= .4775E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9049E-01
    HT FLOW CONVERGENCE VALUE= .5813E-02    CRITERION= .4614E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1088
*** TIME = .305320E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1281E-04    OSCILLATION LIMIT = 101.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.31    CRITERION= .4774E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8990E-01
    HT FLOW CONVERGENCE VALUE= .5774E-02    CRITERION= .4595E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1089
*** TIME = .306109E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1266E-04    OSCILLATION LIMIT = 99.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.14    CRITERION= .4753E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9051E-01
    HT FLOW CONVERGENCE VALUE= .5786E-02    CRITERION= .4591E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1090
*** TIME = .306898E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1281E-04    OSCILLATION LIMIT = 101.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.31    CRITERION= .4752E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8995E-01
    HT FLOW CONVERGENCE VALUE= .5752E-02    CRITERION= .4572E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1091
*** TIME = .307687E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1266E-04 OSCILLATION LIMIT = 99.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4731E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9055E-01
HT FLOW CONVERGENCE VALUE= .5761E-02 CRITERION= .4569E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1092
*** TIME = .308476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1282E-04 OSCILLATION LIMIT = 101.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4730E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8999E-01
HT FLOW CONVERGENCE VALUE= .5727E-02 CRITERION= .4550E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1093
*** TIME = .309264E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1267E-04 OSCILLATION LIMIT = 99.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4709E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9057E-01
HT FLOW CONVERGENCE VALUE= .5715E-02 CRITERION= .4547E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1094
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1282E-04 OSCILLATION LIMIT = 101.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4708E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9003E-01
HT FLOW CONVERGENCE VALUE= .5672E-02 CRITERION= .4527E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1095
*** TIME = .310842E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1267E-04 OSCILLATION LIMIT = 99.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4688E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9060E-01
HT FLOW CONVERGENCE VALUE= .5685E-02 CRITERION= .4524E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1096
*** TIME = .311631E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1282E-04 OSCILLATION LIMIT = 101.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4687E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9007E-01
HT FLOW CONVERGENCE VALUE= .5655E-02 CRITERION= .4505E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1097
*** TIME = .312420E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1268E-04 OSCILLATION LIMIT = 100.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4666E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9063E-01
HT FLOW CONVERGENCE VALUE= .5661E-02 CRITERION= .4502E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1098
*** TIME = .313209E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1283E-04 OSCILLATION LIMIT = 101.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4665E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9011E-01
 HT FLOW CONVERGENCE VALUE= .5623E-02 CRITERION= .4482E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1099
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1268E-04 OSCILLATION LIMIT = 100.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .4644E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9066E-01
 HT FLOW CONVERGENCE VALUE= .5630E-02 CRITERION= .4479E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1100
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1283E-04 OSCILLATION LIMIT = 101.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.31 CRITERION= .4643E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9015E-01
 HT FLOW CONVERGENCE VALUE= .5598E-02 CRITERION= .4460E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1101
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1269E-04 OSCILLATION LIMIT = 100.1

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:07:25 JUN 25, 1995 CP= 42152.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 65.34 CRITERION= .7913E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4280
 HT FLOW CONVERGENCE VALUE= .2670E-01 CRITERION= .4420E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1102
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.50 CRITERION= .7897E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4143
 HT FLOW CONVERGENCE VALUE= .2651E-01 CRITERION= .4365E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1103
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 196.2 CRITERION= .2010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.279
 HT FLOW CONVERGENCE VALUE= .7530E-01 CRITERION= .4230E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4693E-01
 HT FLOW CONVERGENCE VALUE= .1083E-02 CRITERION= .4229E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1105
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 196.4 CRITERION= .2008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.296
 HT FLOW CONVERGENCE VALUE= .7217E-01 CRITERION= .4078E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4606E-01
 HT FLOW CONVERGENCE VALUE= .9909E-03 CRITERION= .4078E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1107

*** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 523.3 CRITERION= .5249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.463
 HT FLOW CONVERGENCE VALUE= .1684 CRITERION= .3704E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1111
 HT FLOW CONVERGENCE VALUE= .2019E-02 CRITERION= .3703E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1109
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 523.5 CRITERION= .5248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.478
 HT FLOW CONVERGENCE VALUE= .1489 CRITERION= .3313E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9787E-01
 HT FLOW CONVERGENCE VALUE= .1512E-02 CRITERION= .3312E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1111
 *** TIME = .504922E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 523.4 CRITERION= .5245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.493
 HT FLOW CONVERGENCE VALUE= .1334 CRITERION= .2937E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8285E-01
 HT FLOW CONVERGENCE VALUE= .1182E-02 CRITERION= .2936E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1113
 *** TIME = .568037E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 523.6 CRITERION= .5244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.506
 HT FLOW CONVERGENCE VALUE= .1181 CRITERION= .2544E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7103E-01
 HT FLOW CONVERGENCE VALUE= .9048E-03 CRITERION= .2543E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1115
 *** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:30 JUN 25, 1995 CP= 42572.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 241.3 CRITERION= .2427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.280
 HT FLOW CONVERGENCE VALUE= .4736E-01 CRITERION= .2432E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2670E-01
 HT FLOW CONVERGENCE VALUE= .3583E-03 CRITERION= .2432E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1117
 *** TIME = .694267E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 241.5 CRITERION= .2426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.279
 HT FLOW CONVERGENCE VALUE= .4505E-01 CRITERION= .2305E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2550E-01
 HT FLOW CONVERGENCE VALUE= .3254E-03 CRITERION= .2305E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1119
 *** TIME = .757382E+10 TIME INC = .631152E+09

*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 241.3 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.283
 HT FLOW CONVERGENCE VALUE= .4278E-01 CRITERION= .2194E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .2942E-03 CRITERION= .2194E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1121
 *** TIME = .820498E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 241.5 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.283
 HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2067E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2312E-01
 HT FLOW CONVERGENCE VALUE= .2641E-03 CRITERION= .2067E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1123
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 241.3 CRITERION= .2422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.286
 HT FLOW CONVERGENCE VALUE= .3817E-01 CRITERION= .1955E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2193E-01
 HT FLOW CONVERGENCE VALUE= .2357E-03 CRITERION= .1955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1125
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1
 ***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:19:20 JUN 25, 1995 CP= 42858.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 137.5 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7210
 HT FLOW CONVERGENCE VALUE= .2103E-01 CRITERION= .1881E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202E-01
 HT FLOW CONVERGENCE VALUE= .1263E-03 CRITERION= .1881E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1127
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.3 CRITERION= .1386
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7228
 HT FLOW CONVERGENCE VALUE= .2032E-01 CRITERION= .1823E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1165E-01
 HT FLOW CONVERGENCE VALUE= .1180E-03 CRITERION= .1823E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1129
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.5 CRITERION= .1386
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7220
 HT FLOW CONVERGENCE VALUE= .1957E-01 CRITERION= .1749E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124E-01
 HT FLOW CONVERGENCE VALUE= .1098E-03 CRITERION= .1749E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1131
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 137.3    CRITERION= .1384
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7239
HT FLOW CONVERGENCE VALUE= .1886E-01 CRITERION= .1690E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1087E-01
HT FLOW CONVERGENCE VALUE= .1020E-03 CRITERION= .1690E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1133
*** TIME = .119919E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 137.5    CRITERION= .1385
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7231
HT FLOW CONVERGENCE VALUE= .1812E-01 CRITERION= .1616E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1046E-01
HT FLOW CONVERGENCE VALUE= .9440E-04 CRITERION= .1616E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1135
*** TIME = .126230E+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 05:24:11 JUN 25, 1995 CP= 43144.870
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 103.6    CRITERION= .1049
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5092
HT FLOW CONVERGENCE VALUE= .1293E-01 CRITERION= .1580E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1136
*** TIME = .132542E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 103.8    CRITERION= .1049
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5007
HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .1529E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1137
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 103.6    CRITERION= .1047
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5026
HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .1493E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1138
*** TIME = .145165E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 103.8    CRITERION= .1048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5017
HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .1442E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1139
*** TIME = .151476E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 103.6    CRITERION= .1046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5035
HT FLOW CONVERGENCE VALUE= .1148E-01 CRITERION= .1406E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1140
*** TIME = .157788E+11 TIME INC = .631152E+09

```

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:27:29 JUN 25, 1995 CP= 43340.530
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 105.0 CRITERION= .1058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4512
 HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .1363E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1141
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.8 CRITERION= .1057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4535
 HT FLOW CONVERGENCE VALUE= .1049E-01 CRITERION= .1336E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1142
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 105.0 CRITERION= .1058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4524
 HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .1294E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1143
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.8 CRITERION= .1056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4541
 HT FLOW CONVERGENCE VALUE= .9955E-02 CRITERION= .1267E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1144
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 105.0 CRITERION= .1057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4530
 HT FLOW CONVERGENCE VALUE= .9674E-02 CRITERION= .1224E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1145
 *** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:30:48 JUN 25, 1995 CP= 43536.230
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 93.42 CRITERION= .9425E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3768
 HT FLOW CONVERGENCE VALUE= .8217E-02 CRITERION= .1206E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1146
 *** TIME = .195657E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.58 CRITERION= .9432E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3764
 HT FLOW CONVERGENCE VALUE= .8032E-02 CRITERION= .1172E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1147
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.42 CRITERION= .9419E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3781
HT FLOW CONVERGENCE VALUE= .7866E-02 CRITERION= .1153E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1148
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.59 CRITERION= .9425E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3769
HT FLOW CONVERGENCE VALUE= .7677E-02 CRITERION= .1119E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1149
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

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HT FLOW CONVERGENCE VALUE= 93.42 CRITERION= .9413E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785
HT FLOW CONVERGENCE VALUE= .7510E-02 CRITERION= .1101E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1150
*** TIME = .220903E+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 05:34:07 JUN 25, 1995 CP= 43732.100
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```

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

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HT FLOW CONVERGENCE VALUE= 85.09 CRITERION= .8576E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3347
HT FLOW CONVERGENCE VALUE= .6622E-02 CRITERION= .1070E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1151
*** TIME = .227215E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
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```
HT FLOW CONVERGENCE VALUE= 84.93 CRITERION= .8564E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3368
HT FLOW CONVERGENCE VALUE= .6496E-02 CRITERION= .1055E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1152
*** TIME = .233526E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 85.10 CRITERION= .8571E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3355
HT FLOW CONVERGENCE VALUE= .6348E-02 CRITERION= .1025E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1153
*** TIME = .239838E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 84.93 CRITERION= .8559E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3371
HT FLOW CONVERGENCE VALUE= .6219E-02 CRITERION= .1010E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1154
*** TIME = .246149E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.10 CRITERION= .8565E-01
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3358
 HT FLOW CONVERGENCE VALUE= .6072E-02 CRITERION= .9796E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1155
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:37:25 JUN 25, 1995 CP= 43927.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 75.62 CRITERION= .7629E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2872
 HT FLOW CONVERGENCE VALUE= .5232E-02 CRITERION= .9694E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1156
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.79 CRITERION= .7636E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2864
 HT FLOW CONVERGENCE VALUE= .5127E-02 CRITERION= .9436E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1157
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.62 CRITERION= .7625E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2879
 HT FLOW CONVERGENCE VALUE= .5040E-02 CRITERION= .9333E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1158
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.79 CRITERION= .7632E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2866
 HT FLOW CONVERGENCE VALUE= .4934E-02 CRITERION= .9075E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1159
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.62 CRITERION= .7621E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2882
 HT FLOW CONVERGENCE VALUE= .4846E-02 CRITERION= .8972E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1160
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:40:44 JUN 25, 1995 CP= 44123.620
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 66.87 CRITERION= .6743E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2464
 HT FLOW CONVERGENCE VALUE= .4160E-02 CRITERION= .8745E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1161

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*** TIME = .290330E+11    TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 66.71    CRITERION= .6732E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2483
  HT FLOW CONVERGENCE VALUE= .4100E-02 CRITERION= .8674E-02 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1162
*** TIME = .296641E+11    TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 66.87    CRITERION= .6739E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2469
  HT FLOW CONVERGENCE VALUE= .4021E-02 CRITERION= .8447E-02 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1163
*** TIME = .302953E+11    TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 66.71    CRITERION= .6728E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2484
  HT FLOW CONVERGENCE VALUE= .3960E-02 CRITERION= .8376E-02 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1164
*** TIME = .309264E+11    TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 66.88    CRITERION= .6736E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2471
  HT FLOW CONVERGENCE VALUE= .3882E-02 CRITERION= .8149E-02 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1165
*** TIME = .315576E+11    TIME INC = .631152E+09

```

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 44318.310

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12w.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 05:44:06 JUN 25, 1995 CP= 44322.170
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1298 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	1298 TEMP	peakclad	74.84	.3156E+11	190.9	.6312E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 63115231.6

***** ROUTINE COMPLETED ***** CP = 44322.370

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:44:07 JUN 25, 1995 CP= 44322.390
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 .76525E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

2845 ELEMENTS (OF 3306 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= 421
TIME/FREQUENCY= .63115E+08

TITLE=
12 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=
12 PWR UCF/WP at Time of Peak Temp. (2.000001 years)

*** WARNING *** CP= 44347.020 TIME= 05:44:34
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= 741
TIME/FREQUENCY= .31558E+09

TITLE=
12 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 92.708 BY .77278 TO 190.85

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 10 years

*** WARNING *** CP= 44379.880 TIME= 05:45:08
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= 901
TIME/FREQUENCY= .15779E+10

TITLE=
12 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 92.708 BY .77278 TO 190.85

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 50 years

*** WARNING *** CP= 44411.170 TIME= 05:45:39
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= 1101
TIME/FREQUENCY= .31558E+10

TITLE=
12 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 92.708 BY .77278 TO 190.85

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 100 years

*** WARNING *** CP= 44442.210 TIME= 05:46:10
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 44448.540

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 05:46:17 JUN 25, 1995 CP= 44448.550
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

*** WARNING *** CP= 44448.650 TIME= 05:46:17
Invalid NSOL label =

*** WARNING *** CP= 44448.740 TIME= 05:46:17
Invalid NSOL label =

*** WARNING *** CP= 44448.840 TIME= 05:46:17
Invalid NSOL label =

*** WARNING *** CP= 44448.930 TIME= 05:46:17
Invalid NSOL label =

*** WARNING *** CP= 44449.030 TIME= 05:46:17
Invalid NSOL label =

```

*** WARNING ***          CP= 44449.130   TIME= 05:46:17
Invalid NSOL label =

*** WARNING ***          CP= 44449.220   TIME= 05:46:17
Invalid NSOL label =

*** WARNING ***          CP= 44449.320   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.410   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.510   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.610   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.700   TIME= 05:46:18
Invalid NSOL label =
      Add centers of assemblies 3 and 5

*** WARNING ***          CP= 44449.800   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.890   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44449.940   TIME= 05:46:18
No data points saved this storage step.

```

```

*****
*   Temperature Profile from center to upper right (135 deg.) *
*****

```

```

*** WARNING ***          CP= 44450.050   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44450.050   TIME= 05:46:18
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

*** WARNING ***          CP= 44450.150   TIME= 05:46:18
Invalid NSOL label =

*** WARNING ***          CP= 44450.250   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.340   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.440   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.530   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.630   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.720   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.820   TIME= 05:46:19
Invalid NSOL label =

*** WARNING ***          CP= 44450.920   TIME= 05:46:19
Invalid NSOL label =

```

*** WARNING *** CP= 44451.010 TIME= 05:46:19
Invalid NSOL label =

*** WARNING *** CP= 44451.110 TIME= 05:46:19
Invalid NSOL label =
Add centers of assemblies 4 and 6

*** WARNING *** CP= 44451.200 TIME= 05:46:19
Invalid NSOL label =

*** WARNING *** CP= 44451.300 TIME= 05:46:20
Invalid NSOL label =

*** WARNING *** CP= 44451.340 TIME= 05:46:20
No data points saved this storage step.

***** ROUTINE COMPLETED ***** CP = 44451.350

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12w.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 53
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*****
*-----*
*               ANSYS RUN COMPLETED               *
*-----*
*               REV. 5.0 A               HP 9000/7XX               *
*               CP TIME   (sec) =    44454.000   TIME = 05:46:22   *
*               ELAPSED TIME (sec) =    44983.000   DATE  = 06/25/95   *
*-----*
*****
```

```
*****
*-----*
*               WELCOME TO THE ANSYS PROGRAM               *
*-----*
*****
```

***** ANSYS COMMAND LINE ARGUMENTS *****
JOB NAME = ucfn12w
BATCH MODE REQUESTED

start.ans FILE

```

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
WORK SPACE REQUESTED      = 8388608      32.000 MB  DEFAULT
MINIMUM WORK SPACE REQUIRED = 4718592      18.000 MB
MINIMUM WORK SPACE RECOMMENDED = 6702496    25.568 MB
WORK SPACE OBTAINED       = 8388606      32.000 MB
BYTES PER WORD            = 4

```

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
FINITE ELEMENT COMPUTER PROGRAM. NEITHER SWANSON ANALYSIS
SYSTEMS, INC. NOR THE DISTRIBUTOR SUPPLYING THIS PROGRAM
ASSUME ANY RESPONSIBILITY FOR THE VALIDITY, ACCURACY, OR
APPLICABILITY OF ANY RESULTS OBTAINED FROM THE ANSYS SYSTEM.
USERS MUST VERIFY THEIR OWN RESULTS.

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ANSYS PROGRAM AS COMPLETE, ACCURATE, AND EASY TO USE AS
POSSIBLE. SUGGESTIONS AND COMMENTS ARE WELCOMED. ANY
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 resume
2 /COM, *****
3 /COM,      Print time/temperature output at specific locations
4 /COM,      Save profile from center to edge
5 /COM,
6 /COM,      Variable Legend: A01i000
7 /COM,      c = center of assembly
8 /COM,      h = halfway between center and tube
9 /COM,      s = inside structural stainless tube layer
10 /COM,     t = stainless tube cladding
11 /COM,     g = tube guide
12 /COM,     i = inner barrier of DC
13 /COM,     o = outer barrier of DC
14 /COM,     ## = ID number of assembly (01 is center)
15 /COM,     i = side of assembly toward center of WP
16 /COM,     o = side of assembly toward edge of WP
17 /COM,     000 = profile center down
18 /COM,     045 = profile 45 deg down
19 /COM,     090 = profile center side
20 /COM,     135 = profile 45 deg up
21 /COM,     180 = profile center up
22 /POST26,
23 NUMVAR,30,
24 /COM,
25 /COM,
26 /COM, *****
27 /COM, * Temperature Profile from center to lower right (45 deg.) *
28 /COM, *****
29 NSOL, 2,(NODE(0.0,0.0,0.0)),TEMP,,t010045,
30 NSOL, 3,(NODE(TWALL/2.0,(0.0-TWALL/2.0),0.0)),TEMP,,s010t45,
31 NSOL, 4,(NODE((TWALL/2.0+SWALL),(-TWALL/2.0-SWALL),0.0)),TEMP,,s01i145,
32 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),(-TWALL/2.-SWALL-QCELL),0.0)),TEMP,,c01i045,
33 NSOL, 6,(NODE((SCELL+TWALL/2.0),(-SCELL-TWALL/2.0),0.0)),TEMP,,c01c045,

```



```

34 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL), 0)), TEMP, ,c01o045
35 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (-PITCH-TWALL/2.+SWALL), 0)), TEMP, ,s01ir45,
36 NSOL, 9, (NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH), 0.0)), TEMP, ,s01or45,
37 NSOL, 10, (NODE((TWALL/2.0+PITCH+G WALL), (-TWALL/2.-PITCH-G WALL), 0)), TEMP, ,g01o045,
38 NSOL, 11, (NODE( DI45, (-1.0*DI45), 0.0)), TEMP, ,i01i045,
39 NSOL, 12, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, ,i01o045,
40 NSOL, 13, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, ,o08o045,
41 /COM, Add centers of assemblies 3 and 5
42 NSOL, 14, (NODE( (SCCELL+TWALL/2.0+PITCH) , -(SCCELL+TWALL/2.0), 0.0)), TEMP, ,c03c045,
43 NSOL, 15, (NODE( (SCCELL+TWALL/2.0) , -(SCCELL-TWALL/2.0-PITCH), 0.0)), TEMP, ,c05c045,
44 PRVAR, 2, 3, 4, 5, 6,
45 PRVAR, 7, 8, 9, 10, 11,
46 PRVAR, 12, 13, 14, 15,
47 /COM,
48 /COM,
49 /COM, *****
50 /COM, * Temperature Profile from center to upper right (135 deg.) *
51 /COM, *****
52 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,t0200135,
53 NSOL, 3, (NODE(TWALL/2.0, TWALL/2.0, 0.0)), TEMP, ,s02o0135,
54 NSOL, 4, (NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL), 0.0)), TEMP, ,s02i0135,
55 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.+SWALL+QCELL), 0)), TEMP, ,c02i0135,
56 NSOL, 6, (NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0), 0.0)), TEMP, ,c02c0135,
57 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (TWALL/2+SWALL+3*QCELL), 0)), TEMP, ,c02o0135,
58 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (PITCH+TWALL/2.-SWALL), 0)), TEMP, ,s02ir135,
59 NSOL, 9, (NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH), 0.0)), TEMP, ,s02or135,
60 NSOL, 10, (NODE((TWALL/2.0+PITCH+G WALL), (TWALL/2.+PITCH+G WALL), 0)), TEMP, ,g02o0135,
61 NSOL, 11, (NODE( DI45, DI45, 0.0)), TEMP, ,i02i0135,
62 NSOL, 12, (NODE( DM45, DM45, 0.0)), TEMP, ,i02o0135,
63 NSOL, 13, (NODE( DO45, DO45, 0.0)), TEMP, ,o02o0135,
64 /COM, Add centers of assemblies 4 and 6
65 NSOL, 14, (NODE( (SCCELL+TWALL/2.0+PITCH) , (SCCELL+TWALL/2.0), 0.0)), TEMP, ,c04c0135,
66 NSOL, 15, (NODE( (SCCELL+TWALL/2.0) , (SCCELL+TWALL/2.0+PITCH), 0.0)), TEMP, ,c06c0135,
67 PRVAR, 2, 3, 4, 5, 6,
68 PRVAR, 7, 8, 9, 10, 11,
69 PRVAR, 12, 13, 14, 15,
70 /COM, *****
71 /COM, * Temperature profile from the center of inner column *****
72 /COM, *****
73 NSOL, 2, (NODE((TWALL/4.0+PITCH/2.0), 0.0, 0.0)), TEMP, ,t01c090,
74 NSOL, 3, (NODE((TWALL/2.0+PITCH/2.0), -(TWALL/2.0), 0.0)), TEMP, ,s01ou90,
75 NSOL, 4, (NODE((SCCELL+TWALL/2.0), -(TWALL/2.0+SWALL), 0.0)), TEMP, ,s01iu90,
76 NSOL, 5, (NODE((SCCELL+TWALL/2.0), -(QCELL+TWALL/2.0+SWALL), 0.0)), TEMP, ,c01u090,
77 NSOL, 6, (NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0), 0.0)), TEMP, ,c01c090,
78 NSOL, 7, (NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0+QCELL), 0.0)), TEMP, ,c01l090,
79 NSOL, 8, (NODE((SCCELL+TWALL/2.0), -(PITCH-SWALL+TWALL/2.0), 0.0)), TEMP, ,s01il90,
80 NSOL, 9, (NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0), 0.0)), TEMP, ,s01ol90,
81 NSOL, 10, (NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0+SWALL), 0.0)), TEMP, ,s05iu90,
82 NSOL, 11, (NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0-QCELL), 0)), TEMP, ,c05u090,
83 NSOL, 12, (NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0), 0.0)), TEMP, ,c05c090,
84 NSOL, 13, (NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0+QCELL), 0)), TEMP, ,c05l090,
85 NSOL, 14, (NODE((SCCELL+TWALL/2.0), -(2.0*PITCH-SWALL), 0.0)), TEMP, ,s05il90,
86 NSOL, 15, (NODE((TWALL/2.0+PITCH/2.0), -(2.0*PITCH), 0.0)), TEMP, ,s05ol90,
87 NSOL, 16, (NODE(DCIRD*SIN(.2157), -(DCIRD*COS(.2157)), 0.0)), TEMP, ,i05i090,
88 NSOL, 17, (NODE(DCRAD*OWALL)*SIN(.2157), -(DCRAD*OWALL)*COS(.2157), 0)), TEMP, ,i5o90,
89 NSOL, 18, (NODE(DCRAD*SIN(.2157), -DCRAD*COS(.2157), 0.0)), TEMP, ,o050090,
90 PRVAR, 2, 3, 4, 5, 6,
91 PRVAR, 7, 8, 9, 10, 11,
92 PRVAR, 12, 13, 14, 15, 16,
93 PRVAR, 17, 18,
94 FINISH
95 /COM, *****
96 /COM, End of batch input file
97 /COM, *****
98 /EXIT,
99 /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

RESUME ANSYS DATA FROM FILE NAME=ucfn12w.db

*** ANSYS GLOBAL STATUS ***

TITLE = 12 PWR UCF/WP at 100 years
ANALYSIS TYPE = TRANSIENT
NUMBER OF ELEMENT TYPES = 8
3306 ELEMENTS CURRENTLY SELECTED. MAX ELEMENT NUMBER = 3530
3379 NODES CURRENTLY SELECTED. MAX NODE NUMBER = 3633
77 KEYPOINTS CURRENTLY SELECTED. MAX KEYPOINT NUMBER = 1001
135 LINES CURRENTLY SELECTED. MAX LINE NUMBER = 143
56 AREAS CURRENTLY SELECTED. MAX AREA NUMBER = 56
MAXIMUM LINEAR PROPERTY NUMBER = 15
ACTIVE COORDINATE SYSTEM = 0 (CARTESIAN)
NUMBER OF SPECIFIED CONSTRAINTS = 109
NUMBER OF SPECIFIED ELEM BODY FORCES = 1176

INITIAL JOBNAME = ucfn12w

CURRENT JOBNAME = ucfn12w

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 13:06:54 JUL 21, 1995 CP= 2.190
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t010045

VARIABLE 3 IS AT NODE 31 ITEM= TEMP COMP= NAME= s010145

VARIABLE 4 IS AT NODE 1105 ITEM= TEMP COMP= NAME= s01i145
 VARIABLE 5 IS AT NODE 1242 ITEM= TEMP COMP= NAME= c01i045
 VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c045
 VARIABLE 7 IS AT NODE 1353 ITEM= TEMP COMP= NAME= c01o045
 VARIABLE 8 IS AT NODE 1063 ITEM= TEMP COMP= NAME= s01ir45
 VARIABLE 9 IS AT NODE 229 ITEM= TEMP COMP= NAME= s01or45
 VARIABLE 10 IS AT NODE 243 ITEM= TEMP COMP= NAME= g01o045
 VARIABLE 11 IS AT NODE 2682 ITEM= TEMP COMP= NAME= i01i045
 VARIABLE 12 IS AT NODE 2631 ITEM= TEMP COMP= NAME= i01o045
 VARIABLE 13 IS AT NODE 2845 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 3 and 5
 VARIABLE 14 IS AT NODE 2309 ITEM= TEMP COMP= NAME= c03c045
 VARIABLE 15 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c045

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	2 TEMP	t010045	73.12	.3156E+11	163.1	.6312E+08
3	NSOL	31 TEMP	s01o145	73.12	.3156E+11	163.1	.6312E+08
4	NSOL	1105 TEMP	s01i145	73.12	.3156E+11	163.1	.6312E+08
5	NSOL	1242 TEMP	c01i045	73.94	.3156E+11	176.9	.6312E+08
6	NSOL	1298 TEMP	c01c045	74.84	.3156E+11	190.9	.6312E+08
7	NSOL	1353 TEMP	c01o045	74.35	.3156E+11	182.0	.6312E+08
8	NSOL	1063 TEMP	s01ir45	72.89	.3156E+11	154.7	.9467E+08
9	NSOL	229 TEMP	s01or45	72.83	.3156E+11	153.4	.9467E+08
10	NSOL	243 TEMP	g01o045	72.70	.3156E+11	150.7	.9467E+08
11	NSOL	2682 TEMP	i01i045	27.59	.1000E-05	102.3	.6312E+09
12	NSOL	2631 TEMP	i01o045	26.87	.1000E-05	101.7	.6312E+09
13	NSOL	2845 TEMP	o08o045	26.14	.1000E-05	101.1	.6312E+09
14	NSOL	2309 TEMP	c03c045	73.73	.3156E+11	169.6	.6312E+08
15	NSOL	1635 TEMP	c05c045	73.71	.3156E+11	168.6	.6312E+08

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:00 JUL 21, 1995 CP= 3.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s01o145	s01i145	c01i045	c01c045
.10000E-05	109.502	109.504	109.514	127.358	145.953
.20000E-05	136.669	136.672	136.683	152.909	169.612
31.558	136.669	136.672	136.683	152.909	169.612
.31558E+07	152.053	152.060	152.075	167.404	183.057
.63116E+07	155.160	155.168	155.183	170.307	185.753
.94673E+07	156.945	156.952	156.967	171.931	187.205
.12623E+08	158.185	158.193	158.208	173.041	188.176
.15779E+08	159.117	159.124	159.139	173.860	188.877
.18935E+08	159.839	159.846	159.862	174.482	189.394
.22090E+08	160.420	160.427	160.442	174.972	189.789
.25246E+08	160.895	160.902	160.918	175.362	190.091

.28402E+08	161.285	161.292	161.307	175.673	190.320
.31558E+08	161.619	161.626	161.641	175.931	190.500
.63115E+08	163.121	163.128	163.142	176.863	190.851
.94673E+08	163.111	163.118	163.133	176.423	189.979
.12623E+09	162.644	162.651	162.665	175.607	188.816
.15779E+09	162.123	162.129	162.143	174.804	187.735
.18935E+09	161.099	161.106	161.119	173.464	186.083
.22090E+09	160.316	160.322	160.335	172.432	184.807
.25246E+09	159.595	159.601	159.614	171.474	183.615
.28402E+09	158.421	158.427	158.439	170.095	182.036
.31558E+09	157.557	157.563	157.576	169.065	180.843
.63115E+09	148.117	148.122	148.133	157.957	168.097
.94673E+09	139.538	139.543	139.551	148.077	156.957
.12623E+10	131.585	131.589	131.597	139.096	146.963
.15779E+10	124.785	124.789	124.795	131.417	138.398
.18935E+10	119.221	119.224	119.230	125.136	131.388
.22090E+10	114.569	114.571	114.576	119.884	125.523
.25246E+10	110.363	110.366	110.370	115.183	120.311
.28402E+10	107.083	107.085	107.089	111.500	116.212
.31558E+10	104.217	104.219	104.223	108.273	112.609
.63115E+10	90.6637	90.6650	90.6673	93.0874	95.7060
.94673E+10	85.4860	85.4870	85.4888	87.3730	89.4174
.12623E+11	82.5629	82.5637	82.5652	84.1445	85.8608
.15779E+11	80.4737	80.4744	80.4757	81.8491	83.3431
.18935E+11	78.5475	78.5482	78.5493	79.7603	81.0788
.22090E+11	76.9191	76.9197	76.9207	78.0077	79.1922
.25246E+11	75.4631	75.4636	75.4645	76.4441	77.5123
.28402E+11	74.2066	74.2070	74.2079	75.1012	76.0759
.31558E+11	73.1184	73.1188	73.1196	73.9415	74.8388

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:00 JUL 21, 1995 CP= 3.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s01ir45	s01or45	g01o045	i01i045
.10000E-05	136.029	103.819	102.253	99.2456	27.5921
.20000E-05	159.952	129.112	127.574	124.600	58.6050
31.558	159.952	129.112	127.574	124.600	58.6051
.31558E+07	173.624	143.774	142.260	139.332	77.1072
.63116E+07	176.349	146.692	145.185	142.269	80.8869
.94673E+07	177.843	148.376	146.875	143.974	83.2521
.12623E+08	178.855	149.555	148.061	145.174	85.0009
.15779E+08	179.594	150.448	148.961	146.087	86.3977
.18935E+08	180.148	151.146	149.665	146.804	87.5514
.22090E+08	180.578	151.714	150.239	147.391	88.5426
.25246E+08	180.916	152.183	150.714	147.878	89.4075
.28402E+08	181.178	152.574	151.111	148.286	90.1724
.31558E+08	181.392	152.911	151.454	148.642	90.8693
.63115E+08	182.025	154.547	153.139	150.424	95.2607
.94673E+08	181.393	154.740	153.376	150.745	97.5818
.12623E+09	180.437	154.481	153.154	150.594	99.0583
.15779E+09	179.526	154.138	152.841	150.340	100.110
.18935E+09	178.076	153.353	152.092	149.660	100.906
.22090E+09	176.957	152.752	151.519	149.141	101.534
.25246E+09	175.916	152.204	150.998	148.671	102.152
.28402E+09	174.476	151.214	150.033	147.754	102.182
.31558E+09	173.395	150.493	149.332	147.090	102.283
.63115E+09	161.772	142.467	141.501	139.635	102.284
.94673E+09	151.502	134.948	134.129	132.548	100.746
.12623E+10	142.203	127.808	127.103	125.742	98.1647
.15779E+10	134.232	121.648	121.037	119.858	95.8184
.18935E+10	127.698	116.569	116.032	114.998	93.7883

.22090E+10	122.226	112.295	111.818	110.903	92.0145
.25246E+10	117.338	108.391	107.965	107.145	90.1547
.28402E+10	113.498	105.340	104.953	104.209	88.7401
.31558E+10	110.126	102.668	102.315	101.639	87.5185
.63115E+10	94.2369	89.8584	89.6552	89.2679	81.0311
.94673E+10	88.2785	84.8923	84.7363	84.4398	78.0750
.12623E+11	84.9084	82.0813	81.9515	81.7054	76.3943
.15779E+11	82.5162	80.0635	79.9511	79.7384	75.1292
.18935E+11	80.3509	78.1935	78.0950	77.9086	73.8553
.22090E+11	78.5397	76.6073	76.5192	76.3528	72.7225
.25246E+11	76.9250	75.1871	75.1081	74.9589	71.6939
.28402E+11	75.5412	73.9592	73.8874	73.7519	70.7798
.31558E+11	74.3474	72.8944	72.8285	72.7044	69.9741

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:00 JUL 21, 1995 CP= 3.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
	101o045	o08o045	c03c045	c05c045
.10000E-05	26.8674	26.1398	122.244	120.982
.20000E-05	57.7801	56.9590	146.363	144.997
31.558	57.7801	56.9590	146.363	144.996
.31558E+07	76.2308	75.3638	160.155	159.194
.63116E+07	80.0024	79.1275	162.958	162.001
.94673E+07	82.3644	81.4861	164.523	163.567
.12623E+08	84.1120	83.2323	165.602	164.644
.15779E+08	85.5087	84.6289	166.403	165.448
.18935E+08	86.6631	85.7839	167.017	166.062
.22090E+08	87.6554	86.7774	167.505	166.553
.25246E+08	88.5218	87.6453	167.899	166.949
.28402E+08	89.2886	88.4139	168.216	167.269
.31558E+08	89.9874	89.1146	168.484	167.539
.63115E+08	94.4015	93.5503	169.562	168.642
.94673E+08	96.7475	95.9192	169.306	168.412
.12623E+09	98.2466	97.4396	168.670	167.799
.15779E+09	99.3168	98.5277	168.021	167.169
.18935E+09	100.136	99.3694	166.880	166.052
.22090E+09	100.782	100.033	166.002	165.193
.25246E+09	101.417	100.685	165.189	164.398
.28402E+09	101.464	100.749	163.962	163.184
.31558E+09	101.578	100.876	163.051	162.283
.63115E+09	101.708	101.134	153.094	152.455
.94673E+09	100.268	99.7900	144.089	143.554
.12623E+10	97.7605	97.3579	135.794	135.337
.15779E+10	95.4742	95.1319	128.661	128.271
.18935E+10	93.4905	93.1948	122.796	122.460
.22090E+10	91.7541	91.4955	117.870	117.579
.25246E+10	89.9247	89.6961	113.430	113.174
.28402E+10	88.5336	88.3284	109.946	109.717
.31558E+10	87.3324	87.1473	106.886	106.682
.63115E+10	80.9291	80.8275	92.3522	92.2465
.94673E+10	77.9984	77.9217	86.8287	86.7512
.12623E+11	76.3312	76.2682	83.7016	83.6395
.15779E+11	75.0751	75.0208	81.4709	81.4178
.18935E+11	73.8080	73.7609	79.4338	79.3876
.22090E+11	72.6808	72.6388	77.7202	77.6791
.25246E+11	71.6565	71.6192	76.1895	76.1529
.28402E+11	70.7461	70.7123	74.8727	74.8403
.31558E+11	69.9432	69.9125	73.7342	73.7052

* Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 3.890 TIME= 13:07:01
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135

VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135

VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135

VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135

VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135

VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135

VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s02or135

VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135

VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135

VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135

VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
Add centers of assemblies 4 and 6

VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135

VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	73.12	.3156E+11	163.1	.6312E+08
3	NSOL	1 TEMP	s02o0135	73.12	.3156E+11	163.1	.6312E+08
4	NSOL	402 TEMP	s02i0135	73.12	.3156E+11	163.1	.6312E+08
5	NSOL	486 TEMP	c02i0135	73.93	.3156E+11	176.6	.6312E+08
6	NSOL	542 TEMP	c02c0135	74.81	.3156E+11	190.4	.6312E+08
7	NSOL	597 TEMP	c02o0135	74.31	.3156E+11	181.6	.6312E+08
8	NSOL	417 TEMP	s02ir135	72.84	.3156E+11	154.2	.9467E+08
9	NSOL	316 TEMP	s02or135	72.78	.3156E+11	152.8	.9467E+08
10	NSOL	315 TEMP	g02o0135	72.65	.3156E+11	150.2	.9467E+08
11	NSOL	2473 TEMP	i02i0135	27.60	.1000E-05	101.4	.6312E+09
12	NSOL	2422 TEMP	i02o0135	26.87	.1000E-05	100.8	.6312E+09
13	NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	100.3	.6312E+09
14	NSOL	1972 TEMP	c04c0135	73.71	.3156E+11	169.3	.6312E+08
15	NSOL	961 TEMP	c06c0135	73.69	.3156E+11	169.0	.6312E+08

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 13:07:02 JUL 21, 1995 CP= 5.310
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years.

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
.10000E-05	t0200135 109.502	s02o0135 109.499	s02i0135 109.505	c02i0135 127.296	c02c0135 145.911

.20000E-05	136.669	136.666	136.671	152.825	169.540
31.558	136.669	136.666	136.671	152.825	169.540
.31558E+07	152.053	152.045	152.046	167.154	182.641
.63116E+07	155.160	155.152	155.153	170.051	185.326
.94673E+07	156.945	156.937	156.937	171.674	186.776
.12623E+08	158.185	158.177	158.178	172.784	187.747
.15779E+08	159.117	159.109	159.109	173.603	188.448
.18935E+08	159.839	159.831	159.831	174.226	188.966
.22090E+08	160.420	160.412	160.412	174.715	189.360
.25246E+08	160.895	160.887	160.887	175.106	189.663
.28402E+08	161.285	161.277	161.277	175.417	189.892
.31558E+08	161.619	161.611	161.611	175.676	190.073
.63115E+08	163.121	163.113	163.113	176.612	190.429
.94673E+08	163.111	163.104	163.104	176.177	189.564
.12623E+09	162.644	162.637	162.637	175.365	188.407
.15779E+09	162.123	162.115	162.115	174.566	187.332
.18935E+09	161.099	161.092	161.092	173.230	185.686
.22090E+09	160.316	160.309	160.308	172.203	184.416
.25246E+09	159.595	159.588	159.587	171.248	183.229
.28402E+09	158.421	158.414	158.414	169.874	181.658
.31558E+09	157.557	157.551	157.550	168.848	180.472
.63115E+09	148.117	148.112	148.111	157.772	167.776
.94673E+09	139.538	139.533	139.533	147.916	156.675
.12623E+10	131.585	131.581	131.581	138.957	146.716
.15779E+10	124.785	124.782	124.781	131.295	138.179
.18935E+10	119.221	119.218	119.218	125.027	131.191
.22090E+10	114.569	114.566	114.565	119.786	125.343
.25246E+10	110.363	110.361	110.360	115.093	120.147
.28402E+10	107.083	107.080	107.080	111.417	116.059
.31558E+10	104.217	104.215	104.215	108.196	112.467
.63115E+10	90.6637	90.6624	90.6622	93.0404	95.6160
.94673E+10	85.4860	85.4850	85.4848	87.3360	89.3460
.12623E+11	82.5629	82.5620	82.5618	84.1132	85.8001
.15779E+11	80.4737	80.4729	80.4728	81.8219	83.2901
.18935E+11	78.5475	78.5469	78.5468	79.7365	81.0324
.22090E+11	76.9191	76.9185	76.9184	77.9864	79.1507
.25246E+11	75.4631	75.4626	75.4625	76.4250	77.4749
.28402E+11	74.2066	74.2061	74.2060	75.0836	76.0415
.31558E+11	73.1184	73.1179	73.1178	73.9252	74.8067

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:02 JUL 21, 1995 CP= 5.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP	417 TEMP	316 TEMP	315 TEMP	2473 TEMP
	c02o0135	s02ir135	s020r135	g02o0135	i02i0135
.10000E-05	136.078	103.995	102.436	99.4400	27.6029
.20000E-05	159.979	129.274	127.743	124.781	58.5932
31.558	159.979	129.274	127.743	124.781	58.5932
.31558E+07	173.169	143.229	141.712	138.779	75.8781
.63116E+07	175.881	146.133	144.622	141.701	79.6431
.94673E+07	177.373	147.813	146.310	143.403	82.0061
.12623E+08	178.385	148.993	147.497	144.603	83.7595
.15779E+08	179.123	149.886	148.396	145.516	85.1585
.18935E+08	179.678	150.586	149.102	146.235	86.3175
.22090E+08	180.108	151.154	149.676	146.822	87.3116
.25246E+08	180.446	151.624	150.153	147.310	88.1811
.28402E+08	180.709	152.015	150.549	147.719	88.9492
.31558E+08	180.924	152.353	150.894	148.075	89.6502
.63115E+08	181.562	153.996	152.586	149.865	94.0741
.94673E+08	180.937	154.196	152.829	150.192	96.4217
.12623E+09	179.986	153.942	152.612	150.046	97.9206
.15779E+09	179.081	153.606	152.307	149.799	98.9935

.18935E+09	177.636	152.825	151.562	149.124	99.8089
.22090E+09	176.523	152.231	150.995	148.611	100.455
.25246E+09	175.486	151.687	150.479	148.145	101.090
.28402E+09	174.056	150.709	149.526	147.240	101.147
.31558E+09	172.982	149.998	148.834	146.586	101.268
.63115E+09	161.412	142.033	141.064	139.193	101.424
.94673E+09	151.183	134.562	133.740	132.154	100.000
.12623E+10	141.922	127.467	126.760	125.394	97.5191
.15779E+10	133.980	121.341	120.728	119.545	95.2465
.18935E+10	127.469	116.288	115.749	114.712	93.2735
.22090E+10	122.016	112.035	111.557	110.637	91.5453
.25246E+10	117.145	108.153	107.724	106.901	89.7280
.28402E+10	113.318	105.116	104.727	103.981	88.3440
.31558E+10	109.957	102.457	102.102	101.423	87.1482
.63115E+10	94.1274	89.7202	89.5159	89.1264	80.7978
.94673E+10	88.1910	84.7815	84.6244	84.3261	77.8899
.12623E+11	84.8336	81.9862	81.8556	81.6079	76.2367
.15779E+11	82.4509	79.9804	79.8673	79.6532	74.9919
.18935E+11	80.2935	78.1205	78.0213	77.8337	73.7348
.22090E+11	78.4884	76.5420	76.4534	76.2859	72.6149
.25246E+11	76.8788	75.1282	75.0486	74.8985	71.5969
.28402E+11	75.4984	73.9047	73.8323	73.6960	70.6903
.31558E+11	74.3075	72.8433	72.7770	72.6520	69.8906

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:02 JUL 21, 1995 CP= 5.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	102o0135	o02o0135	c04c0135	c06c0135
.10000E-05	26.8732	26.1398	122.287	122.288
.20000E-05	57.7618	56.9334	146.401	146.393
31.558	57.7618	56.9334	146.400	146.393
.31558E+07	74.9941	74.1183	159.878	159.622
.63116E+07	78.7509	77.8670	162.673	162.412
.94673E+07	81.1104	80.2230	164.237	163.976
.12623E+08	82.8625	81.9736	165.316	165.056
.15779E+08	84.2613	83.3722	166.117	165.858
.18935E+08	85.4209	84.5324	166.732	166.474
.22090E+08	86.4161	85.5287	167.220	166.963
.25246E+08	87.2871	86.4012	167.614	167.358
.28402E+08	88.0569	87.1728	167.932	167.676
.31558E+08	88.7599	87.8777	168.200	167.945
.63115E+08	93.2053	92.3447	169.282	169.032
.94673E+08	95.5780	94.7404	169.029	168.784
.12623E+09	97.0997	96.2833	168.396	168.154
.15779E+09	98.1915	97.3931	167.751	167.513
.18935E+09	99.0301	98.2542	166.612	166.378
.22090E+09	99.6944	98.9360	165.738	165.506
.25246E+09	100.346	99.6046	164.927	164.698
.28402E+09	100.420	99.6949	163.706	163.482
.31558E+09	100.555	99.8431	162.799	162.578
.63115E+09	100.841	100.259	152.873	152.681
.94673E+09	99.5158	99.0321	143.892	143.722
.12623E+10	97.1100	96.7022	135.620	135.471
.15779E+10	94.8981	94.5513	128.504	128.370
.18935E+10	92.9721	92.6724	122.653	122.531
.22090E+10	91.2818	91.0197	117.738	117.626
.25246E+10	89.4952	89.2635	113.309	113.206
.28402E+10	88.1350	87.9269	109.832	109.736
.31558E+10	86.9597	86.7721	106.779	106.689
.63115E+10	80.6945	80.5914	92.2822	92.2237
.94673E+10	77.8122	77.7344	86.7726	86.7256

.12623E+11	76.1727	76.1088	83.6536	83.6135
.15779E+11	74.9370	74.8820	81.4289	81.3938
.18935E+11	73.6869	73.6391	79.3969	79.3660
.22090E+11	72.5726	72.5300	77.6872	77.6595
.25246E+11	71.5590	71.5212	76.1597	76.1346
.28402E+11	70.6562	70.6219	74.8451	74.8219
.31558E+11	69.8594	69.8282	73.7084	73.6867

* Temperature profile from the center of inner column

VARIABLE 2 IS AT NODE 10 ITEM= TEMP COMP= NAME= t01c090

*** WARNING *** CP= 5.450 TIME= 13:07:03

NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 39 ITEM= TEMP COMP= NAME= s01ou90

VARIABLE 4 IS AT NODE 1140 ITEM= TEMP COMP= NAME= s01iu90

VARIABLE 5 IS AT NODE 1294 ITEM= TEMP COMP= NAME= c01u090

VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= C01C090

VARIABLE 7 IS AT NODE 1302 ITEM= TEMP COMP= NAME= c01l090

VARIABLE 8 IS AT NODE 1071 ITEM= TEMP COMP= NAME= s01il90

VARIABLE 9 IS AT NODE 1056 ITEM= TEMP COMP= NAME= s01ol90

VARIABLE 10 IS AT NODE 1477 ITEM= TEMP COMP= NAME= s05iu90

VARIABLE 11 IS AT NODE 1631 ITEM= TEMP COMP= NAME= c05u090

VARIABLE 12 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c090

VARIABLE 13 IS AT NODE 1638 ITEM= TEMP COMP= NAME= c05l090

VARIABLE 14 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05il90

VARIABLE 15 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05ol90

VARIABLE 16 IS AT NODE 2666 ITEM= TEMP COMP= NAME= i05i090

VARIABLE 17 IS AT NODE 2651 ITEM= TEMP COMP= NAME= i5o90

VARIABLE 18 IS AT NODE 2865 ITEM= TEMP COMP= NAME= 0050090

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	10 TEMP	t01c090	73.05	.3156E+11	161.7	.9467E+08
3	NSOL	39 TEMP	s01ou90	73.05	.3156E+11	161.7	.9467E+08
4	NSOL	1140 TEMP	s01iu90	73.06	.3156E+11	161.8	.9467E+08
5	NSOL	1294 TEMP	c01u090	74.26	.3156E+11	181.8	.6312E+08
6	NSOL	1298 TEMP	C01C090	74.84	.3156E+11	190.9	.6312E+08
7	NSOL	1302 TEMP	c01l090	74.52	.3156E+11	185.4	.6312E+08
8	NSOL	1071 TEMP	s01il90	73.66	.3156E+11	171.2	.6312E+08
9	NSOL	1056 TEMP	s01ol90	73.66	.3156E+11	171.2	.6312E+08
10	NSOL	1477 TEMP	s05iu90	73.66	.3156E+11	171.2	.6312E+08
11	NSOL	1631 TEMP	c05u090	73.99	.3156E+11	175.1	.6312E+08
12	NSOL	1635 TEMP	c05c090	73.71	.3156E+11	168.6	.6312E+08
13	NSOL	1638 TEMP	c05l090	73.01	.3156E+11	155.6	.9467E+08
14	NSOL	1408 TEMP	s05il90	62.05	.1000E-05	123.4	.2525E+09
15	NSOL	1408 TEMP	s05ol90	62.05	.1000E-05	123.4	.2525E+09
16	NSOL	2666 TEMP	i05i090	27.70	.1000E-05	102.7	.3156E+09
17	NSOL	2651 TEMP	i5o90	27.15	.1000E-05	102.2	.6312E+09

18 NSOL 2865 TEMP 0050090 26.14 .1000E-05 101.6 .6312E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:06 JUL 21, 1995 CP= 7.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	10 TEMP t01c090	39 TEMP s01c090	1140 TEMP s01i090	1294 TEMP c01u090	1298 TEMP c01c090
.10000E-05	107.963	107.881	108.033	134.109	145.953
.20000E-05	135.143	135.062	135.208	158.938	169.612
31.558	135.143	135.062	135.209	158.938	169.612
.31558E+07	150.521	150.440	150.583	172.981	183.057
.63116E+07	153.633	153.553	153.695	175.801	185.753
.94673E+07	155.424	155.344	155.485	177.358	187.205
.12623E+08	156.672	156.592	156.732	178.416	188.176
.15779E+08	157.609	157.530	157.669	179.191	188.877
.18935E+08	158.338	158.260	158.398	179.774	189.394
.22090E+08	158.925	158.847	158.985	180.228	189.789
.25246E+08	159.407	159.329	159.466	180.586	190.091
.28402E+08	159.803	159.725	159.861	180.866	190.320
.31558E+08	160.142	160.065	160.201	181.095	190.500
.63115E+08	161.696	161.621	161.752	181.815	190.851
.94673E+08	161.731	161.659	161.786	181.220	189.979
.12623E+09	161.302	161.232	161.355	180.280	188.816
.15779E+09	160.812	160.744	160.864	179.378	187.735
.18935E+09	159.826	159.760	159.876	177.927	186.083
.22090E+09	159.071	159.006	159.120	176.809	184.807
.25246E+09	158.378	158.314	158.426	175.768	183.615
.28402E+09	157.230	157.168	157.277	174.319	182.036
.31558E+09	156.387	156.326	156.433	173.232	180.843
.63115E+09	147.149	147.098	147.188	161.548	168.097
.94673E+09	138.720	138.677	138.753	151.223	156.957
.12623E+10	130.883	130.846	130.912	141.883	146.963
.15779E+10	124.178	124.146	124.204	133.892	138.398
.18935E+10	118.690	118.662	118.712	127.353	131.388
.22090E+10	114.098	114.073	114.118	121.885	125.523
.25246E+10	109.942	109.920	109.961	117.003	120.311
.28402E+10	106.701	106.681	106.718	113.172	116.212
.31558E+10	103.870	103.852	103.885	109.812	112.609
.63115E+10	90.4645	90.4541	90.4733	94.0163	95.7060
.94673E+10	85.3329	85.3249	85.3397	88.0983	89.4174
.12623E+11	82.4356	82.4289	82.4412	84.7534	85.8608
.15779E+11	80.3635	80.3577	80.3684	82.3791	83.3431
.18935E+11	78.4509	78.4459	78.4552	80.2282	81.0788
.22090E+11	76.8328	76.8283	76.8366	78.4281	79.1922
.25246E+11	75.3857	75.3817	75.3892	76.8233	77.5123
.28402E+11	74.1362	74.1325	74.1393	75.4472	76.0759
.31558E+11	73.0538	73.0505	73.0567	74.2600	74.8388

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:06 JUL 21, 1995 CP= 7.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1302 TEMP c01l090	1071 TEMP s01i190	1056 TEMP s01o190	1477 TEMP s05i090	1631 TEMP c05u090
.10000E-05	139.401	121.501	121.439	121.447	127.827

.20000E-05	163.385	146.838	146.777	146.782	152.001
31.558	163.385	146.839	146.777	146.782	152.001
.31558E+07	177.132	161.537	161.477	161.481	166.101
.63116E+07	179.865	164.438	164.378	164.381	168.890
.94673E+07	181.355	166.067	166.007	166.011	170.435
.12623E+08	182.359	167.187	167.128	167.131	171.489
.15779E+08	183.090	168.019	167.960	167.963	172.268
.18935E+08	183.634	168.654	168.595	168.598	172.858
.22090E+08	184.055	169.159	169.100	169.103	173.324
.25246E+08	184.382	169.564	169.506	169.509	173.694
.28402E+08	184.635	169.891	169.833	169.836	173.990
.31558E+08	184.838	170.165	170.108	170.110	174.235
.63115E+08	185.377	171.249	171.193	171.196	175.123
.94673E+08	184.658	170.952	170.898	170.900	174.702
.12623E+09	183.625	170.265	170.212	170.214	173.922
.15779E+09	182.649	169.569	169.517	169.520	173.155
.18935E+09	181.121	168.361	168.311	168.313	171.875
.22090E+09	179.942	167.431	167.382	167.385	170.888
.25246E+09	178.842	166.571	166.523	166.525	169.971
.28402E+09	177.346	165.283	165.237	165.239	168.644
.31558E+09	176.220	164.326	164.280	164.283	167.653
.63115E+09	164.149	153.961	153.922	153.925	156.929
.94673E+09	153.536	144.675	144.643	144.645	147.345
.12623E+10	143.962	136.169	136.142	136.144	138.592
.15779E+10	135.761	128.883	128.859	128.862	131.082
.18935E+10	129.044	122.913	122.892	122.894	124.919
.22090E+10	123.423	117.915	117.896	117.898	119.752
.25246E+10	118.413	113.419	113.403	113.404	115.114
.28402E+10	114.475	109.900	109.884	109.886	111.474
.31558E+10	111.017	106.816	106.803	106.804	108.278
.63115E+10	94.7572	92.2408	92.2328	92.2340	93.1580
.94673E+10	88.6796	86.7188	86.7127	86.7136	87.4471
.12623E+11	85.2429	83.5987	83.5936	83.5944	84.2160
.15779E+11	82.8059	81.3758	81.3714	81.3721	81.9159
.18935E+11	80.6053	79.3437	79.3399	79.3405	79.8234
.22090E+11	78.7672	77.6343	77.6309	77.6315	78.0677
.25246E+11	77.1294	76.1083	76.1052	76.1057	76.5010
.28402E+11	75.7270	74.7958	74.7930	74.7934	75.1558
.31558E+11	74.5180	73.6613	73.6587	73.6591	73.9939

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:06 JUL 21, 1995 CP= 7.120
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1635 TEMP	1638 TEMP	1408 TEMP	1408 TEMP	2666 TEMP
	c05c090	c05l090	s05i190	s05o190	i05i090
.10000E-05	120.982	105.200	62.0468	62.0468	27.7029
.20000E-05	144.997	129.970	89.4935	89.4935	58.6349
31.558	144.996	129.970	89.4935	89.4935	58.6349
.31558E+07	159.194	144.759	106.207	106.207	77.6494
.63116E+07	162.001	147.681	109.515	109.515	81.4270
.94673E+07	163.567	149.354	111.522	111.522	83.7891
.12623E+08	164.644	150.525	112.974	112.974	85.5314
.15779E+08	165.448	151.413	114.114	114.114	86.9251
.18935E+08	166.062	152.106	115.037	115.037	88.0739
.22090E+08	166.553	152.670	115.817	115.817	89.0623
.25246E+08	166.949	153.135	116.485	116.485	89.9234
.28402E+08	167.269	153.522	117.067	117.067	90.6860
.31558E+08	167.539	153.856	117.588	117.588	91.3798
.63115E+08	168.642	155.468	120.666	120.666	95.7523
.94673E+08	168.412	155.645	122.003	122.003	98.0608
.12623E+09	167.799	155.372	122.690	122.690	99.5279
.15779E+09	167.169	155.018	123.111	123.111	100.570

.18935E+09	166.052	154.222	123.205	123.205	101.359
.22090E+09	165.193	153.611	123.287	123.287	101.979
.25246E+09	164.398	153.054	123.389	123.389	102.592
.28402E+09	163.184	152.052	122.974	122.974	102.612
.31558E+09	162.283	151.322	122.715	122.715	102.704
.63115E+09	152.455	143.206	119.256	119.256	102.649
.94673E+09	143.554	135.627	115.180	115.180	101.071
.12623E+10	135.337	128.437	110.680	110.680	98.4518
.15779E+10	128.271	122.236	106.733	106.733	96.0775
.18935E+10	122.460	117.121	103.425	103.425	94.0248
.22090E+10	117.579	112.813	100.602	100.602	92.2325
.25246E+10	113.174	108.879	97.8850	97.8850	90.3551
.28402E+10	109.717	105.800	95.7836	95.7836	88.9275
.31558E+10	106.682	103.100	93.9526	93.9526	87.6948
.63115E+10	92.2465	90.1431	84.8006	84.8006	81.1449
.94673E+10	86.7512	85.1245	80.9948	80.9948	78.1661
.12623E+11	83.6395	82.2814	78.8344	78.8344	76.4722
.15779E+11	81.4178	80.2392	77.2487	77.2487	75.1972
.18935E+11	79.3876	78.3510	75.7206	75.7206	73.9152
.22090E+11	77.6791	76.7506	74.3945	74.3945	72.7762
.25246E+11	76.1529	75.3179	73.1986	73.1986	71.7422
.28402E+11	74.8403	74.0802	72.1510	72.1510	70.8245
.31558E+11	73.7052	73.0071	71.2348	71.2348	70.0158

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:07:06 JUL 21, 1995 CP= 7.130
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2651 TEMP	2865 TEMP
	15090	0050090
.10000E-05	27.1528	26.1398
.20000E-05	58.0237	56.9686
31.558	58.0237	56.9686
.31558E+07	77.0278	75.9680
.63116E+07	80.8008	79.7394
.94673E+07	83.1613	82.1007
.12623E+08	84.9030	83.8445
.15779E+08	86.2971	85.2412
.18935E+08	87.4465	86.3936
.22090E+08	88.4361	87.3864
.25246E+08	89.2984	88.2520
.28402E+08	90.0624	89.0196
.31558E+08	90.7576	89.7183
.63115E+08	95.1474	94.1402
.94673E+08	97.4739	96.4964
.12623E+09	98.9570	98.0060
.15779E+09	100.013	99.0835
.18935E+09	100.818	99.9159
.22090E+09	101.450	100.570
.25246E+09	102.075	101.215
.28402E+09	102.106	101.265
.31558E+09	102.208	101.382
.63115E+09	102.242	101.562
.94673E+09	100.731	100.160
.12623E+10	98.1641	97.6776
.15779E+10	95.8318	95.4147
.18935E+10	93.8117	93.4489
.22090E+10	92.0460	91.7267
.25246E+10	90.1900	89.9061
.28402E+10	88.7792	88.5231
.31558E+10	87.5610	87.3291
.63115E+10	81.0714	80.9412
.94673E+10	78.1107	78.0116

.12623E+11	76.4266	76.3448
.15779E+11	75.1581	75.0874
.18935E+11	73.8809	73.8193
.22090E+11	72.7459	72.6909
.25246E+11	71.7151	71.6660
.28402E+11	70.8001	70.7555
.31558E+11	69.9934	69.9527

***** ROUTINE COMPLETED ***** CP = 7.140

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucfn12w.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 2
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

-----*
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|               REV. 5.0 A               |               HP 9000/7XX
|
| CP TIME      (sec) =      9.610      | TIME = 13:07:11
| ELAPSED TIME (sec) =     23.000      | DATE  = 07/21/95
|
|-----|
|-----*

```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf12j
 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 Hongyan Wang
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf12j.inp
7 /COM, * 12 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: c12j5a.parm
  
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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (High 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 = 12.317 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, 12 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,c12j5a,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=1.1977/2.0
66 OWALL=0.05000
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=TWALL/2.0
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=TWALL/2.0+PITCH
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=TWALL/2.0+PITCH+GWALL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 /COM,
117 /COM, MI45=MIRAD/SQRT(2.0)
118 /COM, MO45=(MIRAD+MWALL)/SQRT(2.0)
119 DI45=DCIRD/SQRT(2.0)
120 DM45=(DCRAD-OWALL)/SQRT(2.0)
121 DO45=DCRAD/SQRT(2.0)
122 /COM,
123 /COM,          Define Transient Time parameters based upon the following:
124 /COM,          Note: 1 year = 3.15576E7 seconds
125 /COM,          TM_START = start time (sec)
126 /COM,          TMI* = time increment for solution (sec)
127 /COM,          TME* = start and stop for time do-loops (sec)
128 /COM,          TMTMAX = time of maximum cladding temperature
129 /COM,
130 TM_START=(1.0E-6)*(3.15576E7)
131 TMI0=0.1*3.15576E7
132 TMI1=1.0*3.15576E7
133 TMI10=10.0*3.15576E7
134 TMI100=100.0*3.15576E7
135 TMI1000=1000.0*3.15576E7
136 TME0=0.9*3.15576E7+TM_START
137 TME1=TMI1+TM_START
138 TME9=9.0*3.15576E7+TM_START
139 TME10=TMI10+TM_START
140 TME50=50.0*3.15576E7+TM_START
141 TME90=90.0*3.15576E7+TM_START
142 TME100=TMI100+TM_START
143 TME1000=TMI1000+TM_START
144 /COM,
145 /COM,          *****
146 /COM,          Define different element types
147 /PREP7
148 ETYPE
149 ET, 1,55,
150 ET, 2,70,
151 ET, 7,32,
152 ET, 16,57,
153 ET, 17,32,
154 ET, 18,50,1,
155 ET, 19,31,
156 ET, 27,32,
157 /COM,          *****
158 /COM,          File props01.dat describes material properties

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159 /COM,          and thier reference numbers
160 MPREAD,props01,dat,
161 /COM,          Read in single assembly heat loads
162 /COM,          Calculate the volumetric heat generation
163 /COM,          (Assembly time is in years, FUEL is in seconds)
164 /INPUT,snf1048,dat
165 *VFACT,3.15576E7,
166 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
167 *VFACT,(PEAKF/FVOLUME),
168 *VFUN,FUEL(1),COPY,ASSY(1),
169 FUEL(0,1)=1.0
170 /COM,          *****
171 /COM,          Define new material 14 for SNF effective conductivity
172 /COM,          Density:      DENS      (kg/m^3)
173 /COM,          Conductivity:  KXX      (W/m/K)
174 /COM,          Specific Heat: C      (J/kg/K)
175 MPTEMP
176 MPTEMP, 1, .00000E+00,
177 MPDATA,DENS,14, 1, .396004E+04,
178 MPDATA, C,14, 1, .27400E+03,
179 /COM,          Store average effective conductivities
180 IINC=1
181 TBSKT=25.0
182 MPTEMP
183 MPTEMP,IINC,TBSKT,
184 IINC=IINC+1
185 *DO,TBSKT,50.0,400.0,50.0,
186     MPTEMP,IINC,TBSKT,
187     IINC=IINC+1
188 *ENDDO
189 IINC=1
190 TBSKT=25.0
191 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
192 IINC=IINC+1
193 *DO,TBSKT,50.0,400.0,50.0,
194     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
195     IINC=IINC+1
196 *ENDDO
197 /COM,          *****
198 /COM,          Define new material 15 for low thermal loading
199 /COM,          outer barrier of 70/30 Copper Nikel (c71500)
200 /COM,          Density:      DENS      (kg/m^3)
201 /COM,          Conductivity:  KXX      (W/m/K)
202 /COM,          Specific Heat: C      (J/kg/k)
203 MPTEMP
204 MPTEMP, 1, 0.000E+00
205 /COM,          Density (lb/F converted to J/kg/k)
206 MPDATA,DENS,15,1, (0.323*2.768E+04)
207 /COM,          Specific Heat (Btu/lb/F converted to J/kg/k)
208 MPDATA, C,15,1, (0.09/2.3886E-04)
209 /COM,          Conductivity (Btu/hr/ft/F converted to W/m/k)
210 MPTEMP
211 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
212 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
213 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
214 MPTEMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
215 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
216 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
217 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
218 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
219 /COM,          *****
220 /COM,          Construct geometry for Disposal Container
221 /COM,
222 /COM,          Define center and axis keypoints for waste package
223 /COM,          Also, create placeholder keypoints and lines
224 /COM,          (K's 1,2,3,4,5,6,7,8)
225 /COM,          (L's 1,2,3,4)
226 K,1,0.0,0.0,0.0,
227 K,2,0.0,0.0,1.0,
228 K,3,0.0,0.0,1.3,

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229 K,4,0.0,0.0,1.4,
230 K,5,0.0,0.0,1.5,
231 K,6,0.0,0.0,1.6,
232 K,7,0.0,0.0,1.7,
233 K,8,0.0,0.0,1.8,
234 L,3,4,
235 L,4,5,
236 L,5,6,
237 L,6,7,
238 /COM,          Define disposal container outer radius and material interface
239 /COM,          (K's 9,10,11,12,13,14)
240 /COM,          (L's 5,6,7,8,9,10,11)
241 /COM,          (A's 1,2)
242 K, 9,          0.0,          (0.0-DCRAD),0.0,
243 K,10,          DCRAD,          0.0,0.0,
244 K,11,          0.0,          DCRAD,0.0,
245 K,12,          0.0,          (OWALL-DCRAD),0.0,
246 K,13,          (DCRAD-OWALL), 0.0,0.0,
247 K,14,          0.0,          (DCRAD-OWALL),0.0,
248 L,10,13,
249 LARC,10, 9,1,          DCRAD,
250 LARC,11,10,1,          DCRAD,,
251 LARC,13,12,1,          (DCRAD-OWALL),
252 LARC,14,13,1,          (DCRAD-OWALL),
253 L,11,14,
254 L, 9,12,
255 AL, 5, 6,11, 8,
256 AL,10, 7, 5, 9,
257 /COM,          *****
258 /COM,          Define UCF shell inner edge and area
259 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,)
260 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
261 /COM,          (A's 3,4)
262 K,15, 0.0,          DCIRD,0.0,
263 K,16, GX22,          GY22,0.0,
264 K,17, GX23,          GY23,0.0,
265 K,18, GX24,          GY24,0.0,
266 K,19, GY24,          GX24,0.0,
267 K,20, GY23,          GX23,0.0,
268 K,21, GY22,          GX22,0.0,
269 K,22, DCIRD,          0.0,0.0,
270 K,23, GY22, (0.0-GX22),0.0,
271 K,24, GY23, (0.0-GX23),0.0,
272 K,25, GY24, (0.0-GX24),0.0,
273 K,26, GX24, (0.0-GY24),0.0,
274 K,27, GX23, (0.0-GY23),0.0,
275 K,28, GX22, (0.0-GY22),0.0,
276 K,29, 0.0,(0.0-DCIRD),0.0,
277 L,14,15,
278 LARC,16,15,1,DCIRD,
279 LARC,17,16,1,DCIRD,
280 LARC,18,17,1,DCIRD,
281 LARC,19,18,1,DCIRD,
282 LARC,20,19,1,DCIRD,
283 LARC,21,20,1,DCIRD,
284 LARC,22,21,1,DCIRD,
285 LARC,23,22,1,DCIRD,,
286 LARC,24,23,1,DCIRD,
287 LARC,25,24,1,DCIRD,
288 LARC,26,25,1,DCIRD,
289 LARC,27,26,1,DCIRD,
290 LARC,28,27,1,DCIRD,
291 LARC,29,28,1,DCIRD,
292 L,29,12,
293 L,22,13,
294 LSEL,S,LINE,,12,19,
295 LSEL,A,LINE,, 9,
296 LSEL,A,LINE,,28,
297 AL,ALL,
298 LSEL,S,LINE,,20,28,

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299 LSEL,A,LINE,, 8,
300 AL,ALL,
301 LSEL,ALL,
302
303
304
305 /COM, *****
306 /COM,      Define tube guides
307 /COM,      (K's 30,31,32,33)
308 /COM,      (L's 29,30,31,32,33,34,35,36,37,38)
309 /COM,      (A's 5,6,7,8,9,10)
310 /COM,
311 /COM,      top guide
312 K,31,      GX23,      GX23,0.0,
313 K,30,      GX24,      GX24,0.0,
314 L,30,19,
315 L,18,30
316 L,31,20
317 L,17,31
318 /COM,      bottom guide
319 K,33,      GX23, (0.0-GX23),0.0,
320 K,32,      GX24, (0.0-GX24),0.0,
321 L,25,32,
322 L,32,26,
323 L,24,33,
324 L,33,27,
325 L,30,31,
326 L,32,33,
327 /COM,      Guide gaps
328 AL,29,16,30,
329 AL,33,34,23,
330 /COM,      Guide steel
331 AL,35,38,33,22,
332 AL,36,24,34,38,
333 AL,37,31,17,29,
334 AL,15,32,37,30,
335 /COM, *****
336 /COM,      Define thermal shunts
337 /COM,      (K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)
338 /COM,      (L's 39,40,41,42,43,44,45,46,47,48,49)
339 /COM,      ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69
340 /COM,      (A's 11 - 22)
341 /COM,
342 /COM,      horizontal thermal shunt
343 K,34,      TWALL/2.0,      TWALL/2.0,0.0,
344 K,35,      TWALL/2.0,      (0.0-TWALL/2.0),0.0,
345 K,36,(TWALL/2.0+1.0*PITCH),      TWALL/2.0,0.0,
346 K,37,(TWALL/2.0+1.0*PITCH),      (0.0-TWALL/2.0),0.0,
347 K,38,(TWALL/2.0+2.0*PITCH),      TWALL/2.0,0.0,
348 K,39,(TWALL/2.0+2.0*PITCH),      (0.0-TWALL/2.0),0.0,
349 K,1000,(TWALL/2.0+1.0*PITCH),0.0,0.0,
350 K,1001,(TWALL/2.0+2.0*PITCH),0.0,0.0,
351 L,34,1,
352 L,1,1000,
353 L,1000,36,
354 L,36,34,
355 L,1,35,
356 L,35,37,
357 L,37,1000,
358 L,1000,1001,
359 L,1001,38,
360 L,38,36,
361 L,37,39,
362 L,39,1001
363 L,23,39,
364 L,38,21,
365 L,1001,22,
366 /COM,      vertical thermal shunt
367 K,40,TWALL/2.0,      (TWALL/2.0+1.0*PITCH),0.0,
368 K,41,      0.0,      (TWALL/2.0+1.0*PITCH),0.0,

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369 K,42,TWALL/2.0, (TWALL/2.0+2.0*PITCH),0.0,
370 K,43, 0.0, (TWALL/2.0+2.0*PITCH),0.0,
371 K,44,TWALL/2.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
372 K,45, 0.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
373 K,46,TWALL/2.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
374 K,47, 0.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
375 L,34,40,
376 L,40,41,
377 L,41,1,
378 L,40,42,
379 L,42,43,
380 L,43,41,
381 L,16,42,
382 L,15,43,
383 L,1,45,
384 L,45,44,
385 L,44,35,
386 L,45,47,
387 L,47,46,
388 L,46,44,
389 L,47,29,
390 L,46,28,
391 /COM, Define areas for thermal shunts
392 /COM, horizontal thermal shunts
393 AL,39,40,41,42,
394 AL,43,44,45,40,
395 AL,48,41,46,47,
396 AL,45,49,50,46,
397 AL,47,53,19,52,
398 AL,50,51,20,53,
399 /COM, vertical thermal shunts
400 AL,39,54,55,56,
401 AL,57,58,59,55,
402 AL,60,13,61,58,
403 AL,43,62,63,64,
404 AL,65,66,67,63,
405 AL,68,26,69,66,
406 /COM, *****
407 /COM, Define shell gaps at the exterior of the tube array
408 /COM, (L's 70 - 73)
409 /COM, (A's 23 - 26)
410 L,42,17,
411 L,20,38,
412 L,39,24,
413 L,27,46,
414 AL,60,70,14,
415 AL,18,71,52,
416 AL,51,72,21,
417 AL,69,25,73,
418 /COM, *****
419 /COM, Create mesh in tube guides, thermal shunts
420 /COM, Set mesh size for gaps.....
421 ESIZE,,2,
422 LSEL,S,LINE,,60,61,1,
423 LSEL,A,LINE,,68,69,1,
424 LSEL,A,LINE,,51,53,1,
425 LESIZE,ALL,,,4,
426 LSEL,S,LINE,,39,47,2,
427 LSEL,A,LINE,,19,20,1,
428 LSEL,A,LINE,,50,
429 LSEL,A,LINE,,13,
430 LSEL,A,LINE,,58,
431 LSEL,A,LINE,,55,
432 LSEL,A,LINE,,63,
433 LSEL,A,LINE,,66,
434 LSEL,A,LINE,,26,
435 LESIZE,ALL,,,1,
436 LSEL,S,LINE,,40,48,2,
437 LSEL,A,LINE,,54,56,2,
438 LSEL,A,LINE,,57,59,2,

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439 LSEL,A,LINE,,62,64,2,
440 LSEL,A,LINE,,65,67,2,
441 LSEL,A,LINE,,49,
442 LSEL,A,LINE,,33,34,1,
443 LSEL,A,LINE,,29,30,1,
444 LSEL,A,LINE,,70,73,1,
445 LESIZE,ALL,,,14,
446 /COM, Mesh thermal shunts
447 ESHAPE,2,
448 MAT,13,
449 TYPE,1,
450 AMESH,11,22,
451 /COM, Mesh corn guides
452 ESHAPE,2,
453 MAT,2,
454 TYPE,1,
455 AMESH,7,10,1,
456 /COM, *****
457 /COM, Define center tube
458 /COM, (K's 48-51)
459 /COM, (L's 74-83)
460 /COM, (A's 27-31)
461 K,48, (TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0,
462 K,49, (TWALL/2.0+SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
463 K,50, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
464 K,51, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+SWALL),0.0,
465 L,34,48,
466 L,48,49,
467 L,49,40,
468 L,49,50,
469 L,50,31,
470 L,31,40,
471 L,50,51,
472 L,51,36,
473 L,36,31,
474 L,51,48,
475 AL,76,79,78,77,
476 AL,54,74,75,76,
477 AL,74,42,81,83,
478 AL,81,82,78,80,
479 AL,75,83,80,77,
480 /COM, *****
481 /COM, Set element shapes and sizes for tubes
482 /COM, 14x14 mesh in fuel with 2
483 /COM, divisions per tube layer
484 ESHAPE,0,
485 ESIZE,,1,
486 LSEL,S,LINE,,74,83,1,
487 LSEL,U,LINE,,76,
488 LSEL,U,LINE,,78,
489 LSEL,U,LINE,,81,
490 LSEL,U,LINE,,74,
491 LESIZE,ALL,,,14,
492 LSEL,S,LINE,,76,
493 LSEL,A,LINE,,78,
494 LSEL,A,LINE,,81,
495 LSEL,A,LINE,,74,
496 LESIZE,ALL,,,2,
497 LSEL,ALL,
498 /COM,
499 /COM, Mesh areas
500 /COM, First fuel, then stainless tubes
501 MAT,14,
502 TYPE,1,
503 ASEL,ALL,
504 AMESH,31,
505 MAT,1,
506 TYPE,1,
507 AMESH,27,30,1,
508 /COM, *****

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509 /COM,          Copy tube mesh
510 /COM,
511 /COM,          Center tubes above
512 /COM,          (A's 32 - 36)
513 AGEN,2,27,31,1,0.0,PITCH,0.0,0.0,0,
514 /COM,          Center tubes below
515 /COM,          (A's 37 - 46)
516 ARSYM,Y,27,36,1,
517 /COM,          (A's 47 - 51)
518 AGEN,2,27,31,1,PITCH,0.0,0.0,0.0,0,
519 /COM,          (A's 52 - 56)
520 AGEN,2,47,51,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,0,
521 NUMMRG,NODE,
522 NUMMRG,KP,
523 /COM,          *****
524 /COM,          Create mesh in UCF inner shell
525 /COM,          (L's 105,108)
526 ESHAP,2,
527 LSEL,S,LINE,,14,18,2,
528 LSEL,A,LINE,,21,25,2,
529 LSIZE,ALL,,,20,
530 LSEL,ALL,
531 LSEL,S,LINE,,13,19,1,
532 LCCAT,ALL,
533 LSEL,S,LINE,,20,26,1,
534 LCCAT,ALL,
535 LSEL,ALL,
536 LESIZE,8,,,54,
537 LESIZE,9,,,54,
538 LESIZE,28,,,3,
539 LESIZE,12,,,3,
540 LESIZE,27,,,3,
541 LSEL,ALL,
542 MAT,2,
543 TYPE,1,
544 AMESH,3,4,1,
545 /COM,          Delete concatenated lines
546 /COM,          (L's freed up 105,108)
547 /COM,          LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
548 /COM,
549 LSEL,S,LINE,,6,7,1,
550 LESIZE,ALL,,,54,
551 LSEL,ALL,
552 LESIZE,5,,,4,
553 LESIZE,10,,,4,
554 LESIZE,11,,,4,
555 MAT,15,
556 TYPE,1,
557 AMESH,1,2,1,
558 NUMMRG,NODE,
559 NUMMRG,KP,
560 /COM,          *****
561 /COM,          Create mesh in empty basket spaces
562 ESIZE,0.1,
563 ESHAPE,0,
564 MAT,7,
565 TYPE,1,
566 AMESH,5,6,1,
567 ESIZE,0.1,
568 ESHAPE,0,
569 AMESH,23,26,1,
570 NUMMRG,NODE,
571 NUMMRG,KP,
572 /COM,          *****
573 /COM,          Create radiation surface elements
574 /COM,          Basket spaces
575 MAT,1,
576 TYPE,17,
577 LMESH,70,73,1,
578 LMESH,14,18,2,

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579 LMESH,21,25,2,
580 MAT,2,
581 TYPE,17,
582 LMESH,29,30,1,
583 LMESH,33,34,1,
584 MAT,13,
585 TYPE,17,
586 LMESH,60,
587 LMESH,69,
588 LMESH,51,52,1,
589 /COM,
590 FINISH
591 /COM, *****
592 /COM,          Create element mesh plots to illustrate model
593 /COM,          View mesh for entire model
594 /RESET
595 /TRIAD,OFF,
596 /NUM,1,
597 /PNUM,MAT,1,
598 /TYPE,HIDP,
599 /GLINE,,0,
600 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
601 /TITLE,12 PWR UCF/Waste Package - 1/2 FEM Model
602 /SHOW,meshfull,grph,1,8,
603 EPlot
604 ESEL,U,MAT,,7,
605 /SHOW,meshgap,grph,1,8,
606 EPlot
607 ESEL,ALL,
608 /COM,          View mesh for radiation substructure
609 /PNUM,MAT,0,
610 /PNUM,TYPE,1,
611 ESEL,S,TYPE,,17,
612 /TITLE,12 PWR UCF/Waste Package - Radiation Matrix
613 /SHOW,meshrad,grph,1,8,
614 EPlot
615 ESEL,ALL,
616 /TITLE,12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
617 /COM, *****
618 /COM,          Generate super-elements
619 /AUX12,
620 ESEL,S,TYPE,,17,
621 NSLE,S,
622 STEF,5.67E-8,
623 GEOM,1,0,
624 VTYPE,0,800,
625 WRITE,spaces,
626 ESEL,ALL,
627 NSEL,ALL,
628 FINISH
629 /PREP7,
630 TYPE,18,
631 SE,spaces,
632 /COM,          Delete radiation edge elements
633 LSEL,S,TYPE,,17,
634 LCLEAR,ALL,
635 LSEL,ALL,
636 FINISH
637
638
639
640
641
642
643
644 /COM, *****
645 /COM,          Set solution parameters and apply B.C.'s
646 /COM,
647 /COM,          Solve steady-state for initial conditions
648 /COM,          with WP surface equal to drift ambient

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649 /COM,          temperature from repository model.
650 /SOLU
651 ANTYPE,TRAN,NEW,
652 NROPT,AUTO,
653 TRNOPT,FULL,
654 TOFFST,273.15,
655 LSEL,S,LINE,,6,
656 LSEL,A,LINE,,7,
657 NSLL,S,1,
658 D,ALL,TEMP,DFAMBT,
659 LSEL,ALL,
660 NSEL,ALL,
661 ASEL,S,MAT,,14,
662 ESLA,S,
663 BFE,ALL,HGEN,,(FUEL(TM_START)),
664 ASEL,ALL,
665 ESEL,ALL,
666 TIMINT,OFF,
667 TIME,1e-6,
668 AUTOTS,ON,
669 KBC,0,
670 SOLVE
671 /COM,          Solve steady-state for initial conditions
672 /COM,          with WP surface temperatures from repository
673 /COM,          steady-state solution.
674 LSEL,S,LINE,,6,
675 LSEL,A,LINE,,7,
676 NSLL,S,1,
677 DDELE,ALL,TEMP,
678 LSEL,ALL,
679 NSEL,ALL,
680 DK,11,TEMP,(WPTOP(TM_START)),,1,
681 DK,10,TEMP,(WPSID(TM_START)),,1,
682 DK, 9,TEMP,(WPBOT(TM_START)),,1,
683 ASEL,S,MAT,,14,
684 ESLA,S,
685 BFE,ALL,HGEN,,(FUEL(TM_START)),
686 ASEL,ALL,
687 ESEL,ALL,
688 TIMINT,OFF,
689 TIME,2e-6,
690 AUTOTS,ON,
691 KBC,0,
692 SOLVE
693 /COM,          *****
694 /COM,          Set time integration parameters
695 TIMINT,ON,
696 AUTOTS,ON,
697 /COM,          Time substep ranges from 10 sec to 1/4 loadstep
698 NSUBST,10,40,5,ON
699 /COM,          Begin Transient
700 /COM,          Apply loads and solve for 0 to .9 years
701 *DO,TM,TM_START,TME0,TM10
702     TIME,TM,
703     ASEL,S,MAT,,14,
704     ESLA,S,
705     BFE,ALL,HGEN,,(FUEL(TM)),
706     ASEL,ALL
707     ESEL,ALL
708     DK,11,TEMP,(WPTOP(TM)),,1,
709     DK,10,TEMP,(WPSID(TM)),,1,
710     DK, 9,TEMP,(WPBOT(TM)),,1,
711     SOLVE
712 *ENDDO
713 /COM,          Apply loads and solve for 1 to 9 years
714 *DO,TM,TME1,TME9,TM11
715     TIME,TM,
716     ASEL,S,MAT,,14,
717     ESLA,S,
718     BFE,ALL,HGEN,,(FUEL(TM)),

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719      ASEL,ALL
720      ESEL,ALL
721      DK,11,TEMP,(WPTOP(TM)),,1,
722      DK,10,TEMP,(WPSID(TM)),,1,
723      DK, 9,TEMP,(WPBOT(TM)),,1,
724      SOLVE
725 *ENDDO
726 /COM,      Apply loads and solve for 10 to 90 years
727 *DO,TM,TME10,TME90,TM110
728      TIME,TM,
729      ASEL,S,MAT,,14,
730      ESLA,S,
731      BFE,ALL,HGEN,,(FUEL(TM)),
732      ASEL,ALL
733      ESEL,ALL
734      DK,11,TEMP,(WPTOP(TM)),,1,
735      DK,10,TEMP,(WPSID(TM)),,1,
736      DK, 9,TEMP,(WPBOT(TM)),,1,
737      SOLVE
738 *ENDDO
739 /COM,      Apply loads and solve for 100 to 1000 years
740 *DO,TM,TME100,TME1000,TM100
741      TIME,TM,
742      ASEL,S,MAT,,14,
743      ESLA,S,
744      BFE,ALL,HGEN,,(FUEL(TM)),
745      ASEL,ALL
746      ESEL,ALL
747      DK,11,TEMP,(WPTOP(TM)),,1,
748      DK,10,TEMP,(WPSID(TM)),,1,
749      DK, 9,TEMP,(WPBOT(TM)),,1,
750      SOLVE
751 *ENDDO
752 FINISH
753 SAVE,
754 /COM,      *****
755 /COM,      Create element contour plots of solution results
756 /COM,
757 /COM,      Sort through solution results for time of max temp.
758 /POST26,
759 NSOL,2,(NODE((SCCELL+TWALL/2.0),(-SCCELL-TWALL/2.0),0.0)),TEMP,,peakclad,
760 STORE,NEW,
761 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
762 FINISH
763 /POST1,
764 /COM,      Create temperature contour plots of WP at peak
765 /RESET
766 /TRIAD,OFF,
767 /NUM, 1,
768 /PNUM,MAT, 1,
769 /TYPE,HIDP,
770 /GLINE,,-1,
771 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
772 ESEL,U,MAT,,7,
773 SET,NEAR,,,TMTMAX,
774 /TITLE, 12 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
775 /SHOW,solupk,grph,0,8,
776 /CONTOUR,1,128,AUTO,
777 PLNSOL,TEMP,
778 /COM,      Create temperature contour plots at 10, 50, and 100 yrs
779 SET,NEAR,,,TME10,
780 /TITLE, 12 PWR UCF/WP at 10 years
781 /SHOW,solu10,grph,0,8,
782 /CONTOUR,1,128,USER,
783 PLNSOL,TEMP,
784 SET,NEAR,,,TME50,
785 /TITLE, 12 PWR UCF/WP at 50 years
786 /SHOW,solu50,grph,0,8,
787 /CONTOUR,1,128,USER,
788 PLNSOL,TEMP,

```

```

789 SET,NEAR,,,,TME100,
790 /TITLE, 12 PWR UCF/WP at 100 years
791 /SHOW,solu100,grph,0,8,
792 /CONTOUR,1,128,USER,
793 PLNSOL,TEMP,
794 ESEL,ALL,
795 FINISH
796 /COM, *****
797 /COM,      Print time/temperature output at specific locations
798 /COM,      Save profile from center to edge
799 /COM,
800 /COM,      Variable Legend: A01i000
801 /COM,      c = center of assembly
802 /COM,      h = halfway between center and tube
803 /COM,      s = inside structural stainless tube layer
804 /COM,      t = stainless tube cladding
805 /COM,      g = tube guide
806 /COM,      i = inner barrier of DC
807 /COM,      o = outer barrier of DC
808 /COM,      ## = ID number of assembly (01 is center)
809 /COM,      i = side of assembly toward center of WP
810 /COM,      o = side of assembly toward edge of WP
811 /COM,      000 = profile center down
812 /COM,      045 = profile 45 deg down
813 /COM,      090 = profile center side
814 /COM,      135 = profile 45 deg up
815 /COM,      180 = profile center up
816 /POST26,
817 NUMVAR,30,
818 /COM,
819 /COM,
820 /COM, *****
821 /COM, * Temperature Profile from center to lower right (45 deg.) *
822 /COM, *****
823 NSOL, 2,(NODE( 0.0, 0.0,0.0))
824 NSOL, 3,(NODE(TWALL/2.0, (0.0-TWALL/2.0),0.0))
825 NSOL, 4,(NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL),0.0))
826 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL), (-TWALL/2.0-SWALL-QCELL),0.0))
827 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0),0.0))
828 NSOL, 7,(NODE((TWALL/2.0+SWALL+3.0*QCELL), (-TWALL/2.0-SWALL-3.0*QCELL),0.0)),T
829 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL), (-PITCH-TWALL/2.0+SWALL),0.0))
830 NSOL, 9,(NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH),0.0))
831 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL), (-TWALL/2.0-PITCH-GWALL),0.0))
832 NSOL,11,(NODE( DI45, (-1.0*DI45),0.0))
833 NSOL,12,(NODE( DM45, (-1.0*DM45),0.0))
834 NSOL,13,(NODE( DO45, (-1.0*DO45),0.0))
835 /COM,      Add centers of assemblies 3 and 5
836 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH), -(SCCELL+TWALL/2.0),0.0))
837 NSOL,15,(NODE( (SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0-PITCH),0.0))
838 PRVAR, 2, 3, 4, 5, 6,
839 PRVAR, 7, 8, 9, 10,11,
840 PRVAR, 12,13,14,15,
841 /COM,
842 /COM,
843 /COM, *****
844 /COM, * Temperature Profile from center to upper right (135 deg.) *
845 /COM, *****
846 NSOL, 2,(NODE( 0.0, 0.0,0.0)),
847 NSOL, 3,(NODE(TWALL/2.0, TWALL/2.0,0.0)),
848 NSOL, 4,(NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0)),
849 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.0+SWALL+QCELL),0.0)),
850 NSOL, 6,(NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0),0.0)),
851 NSOL, 7,(NODE((TWALL/2.0+SWALL+3.0*QCELL), (TWALL/2.0+SWALL+3.0*QCELL),0.0)),
852 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL), (PITCH+TWALL/2.0-SWALL),0.0)),
853 NSOL, 9,(NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH),0.0)),
854 NSOL,10,(NODE((TWALL/2.0+PITCH+GWALL), (TWALL/2.0+PITCH+GWALL),0.0)),
855 NSOL,11,(NODE( DI45, DI45,0.0)),
856 NSOL,12,(NODE( DM45, DM45,0.0)),
857 NSOL,13,(NODE( DO45, DO45,0.0)),
858 /COM,      Add centers of assemblies 4 and 6

```

```

859 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH) , (SCCELL+TWALL/2.0),0.0)),
860 NSOL,15,(NODE( (SCCELL+TWALL/2.0) , (SCCELL+TWALL/2.0+PITCH),0.0)),
861 PRVAR, 2, 3, 4, 5, 6,
862 PRVAR, 7, 8, 9, 10,11,
863 PRVAR, 12,13,14,15;
864 FINISH
865 /COM, *****
866 /COM, End of batch input file
867 /COM, *****
868 /EXIT,
869 /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 Hongyan Wang

*
* File name: ucf12j.inp *
* 12 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: c12j5a.parm *
* 25 MTU/acre (6.18 kgU/m^2) AML (High Thermal Loading) *
* 5.0 m Diameter Drift with Concrete Invert *
* Drift spacing = 67.5 m *
* WP c/c spacing = 12.317 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=

12 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= 05:56:00
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= .850 TIME= 05:56:00
Restore ANSYS parameters from file= c12j5a.parm.

/INPUT FILE= c12j5a.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 = .5988500

PARAMETER OWALL = .5000000E-01

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .5288500

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 FVOLUME = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500
 ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .5000000E-02

PARAMETER GY22 = .5288264

PARAMETER GX23 = .2385000

PARAMETER GY23 = .4720170

PARAMETER GX24 = .2480000

PARAMETER GY24 = .4670956

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

PARAMETER DI45 = .3739534

PARAMETER DM45 = .3880956

PARAMETER DO45 = .4234509

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 05:56:01 JUN 24, 1995 CP= 1.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1.960000 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

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

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

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

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.050000
 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 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 85.00000 90.00000 95.00000
 100.0000 150.0000

PARAMETER ASSY(67,0) = 200.0000 250.0000 300.0000 350.0000
 400.0000 450.0000

PARAMETER ASSY(73,0) = 500.0000 550.0000 600.0000 650.0000
 700.0000 750.0000

PARAMETER ASSY(79,0) = 800.0000 850.0000 900.0000 950.0000
 1000.000 1500.000

PARAMETER ASSY(85,0) = 2000.000 2500.000 3000.000 3500.000
 4000.000 4500.000

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-Nikel (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/F converted to J/kg/k)

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	-.598850	.000000E+00	IN CSYS=	0
KEYPOINT	10	X,Y,Z=	.598850	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	11	X,Y,Z=	.000000E+00	.598850	.000000E+00	IN CSYS=	0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.548850	.000000E+00	IN CSYS=	0
KEYPOINT	13	X,Y,Z=	.548850	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	14	X,Y,Z=	.000000E+00	.548850	.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=		.59885			
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= .59885
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= .54885
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= .54885
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,)
(L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
(A's 3,4)

KEYPOINT 15 X,Y,Z= .000000E+00 .528850 .000000E+00 IN CSYS= 0
KEYPOINT 16 X,Y,Z= .500000E-02 .528826 .000000E+00 IN CSYS= 0
KEYPOINT 17 X,Y,Z= .238500 .472017 .000000E+00 IN CSYS= 0
KEYPOINT 18 X,Y,Z= .248000 .467096 .000000E+00 IN CSYS= 0
KEYPOINT 19 X,Y,Z= .467096 .248000 .000000E+00 IN CSYS= 0
KEYPOINT 20 X,Y,Z= .472017 .238500 .000000E+00 IN CSYS= 0
KEYPOINT 21 X,Y,Z= .528826 .500000E-02 .000000E+00 IN CSYS= 0
KEYPOINT 22 X,Y,Z= .528850 .000000E+00 .000000E+00 IN CSYS= 0
KEYPOINT 23 X,Y,Z= .528826 -.500000E-02 .000000E+00 IN CSYS= 0
KEYPOINT 24 X,Y,Z= .472017 -.238500 .000000E+00 IN CSYS= 0
KEYPOINT 25 X,Y,Z= .467096 -.248000 .000000E+00 IN CSYS= 0
KEYPOINT 26 X,Y,Z= .248000 -.467096 .000000E+00 IN CSYS= 0
KEYPOINT 27 X,Y,Z= .238500 -.472017 .000000E+00 IN CSYS= 0
KEYPOINT 28 X,Y,Z= .500000E-02 -.528826 .000000E+00 IN CSYS= 0

```

KEYPOINT 29 X,Y,Z= .000000E+00 -.528850 .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= .52885
 LINE NO.= 13 KP1= 16 TAN1= 1.0000 -.0095 .0000
 KP2= 15 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 17 AND 16 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 14 KP1= 17 TAN1= .8925 -.4510 .0000
 KP2= 16 TAN2= -1.0000 .0095 .0000

ARC BETWEEN KEYPOINTS 18 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 15 KP1= 18 TAN1= .8832 -.4689 .0000
 KP2= 17 TAN2= -.8925 .4510 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 16 KP1= 19 TAN1= .4689 -.8832 .0000
 KP2= 18 TAN2= -.8832 .4689 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 17 KP1= 20 TAN1= .4510 -.8925 .0000
 KP2= 19 TAN2= -.4689 .8832 .0000

ARC BETWEEN KEYPOINTS 21 AND 20 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 18 KP1= 21 TAN1= .0095 -1.0000 .0000
 KP2= 20 TAN2= -.4510 .8925 .0000

ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 19 KP1= 22 TAN1= .0000 -1.0000 .0000
 KP2= 21 TAN2= -.0095 1.0000 .0000

ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 20 KP1= 23 TAN1= -.0095 -1.0000 .0000
 KP2= 22 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 21 KP1= 24 TAN1= -.4510 -.8925 .0000
 KP2= 23 TAN2= .0095 1.0000 .0000

ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 22 KP1= 25 TAN1= -.4689 -.8832 .0000
 KP2= 24 TAN2= .4510 .8925 .0000

ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 23 KP1= 26 TAN1= -.8832 -.4689 .0000
 KP2= 25 TAN2= .4689 .8832 .0000

ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 24 KP1= 27 TAN1= -.8925 -.4510 .0000
 KP2= 26 TAN2= .8832 .4689 .0000

ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 25 KP1= 28 TAN1= -1.0000 -.0095 .0000
 KP2= 27 TAN2= .8925 .4510 .0000

ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1
 RADIUS= .52885
 LINE NO.= 26 KP1= 29 TAN1= -1.0000 .0000 .0000
 KP2= 28 TAN2= 1.0000 .0095 .0000

LINE CONNECTS KEYPOINTS 29 12
 LINE NO.= 27 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 22 13
 LINE NO.= 28 KP1= 22 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 19 STEP 1

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

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

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

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 28 TO 28 STEP 1

10 LINES (OF 28 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 20 TO 28 STEP 1

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

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

10 LINES (OF 28 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 28 STEP 1

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

Define tube guides
 (K's 30,31,32,33)
 (L's 29,30,31,32,33,34,35,36,37,38)
 (A's 5,6,7,8,9,10)

top guide

KEYPOINT 31 X,Y,Z= .238500 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 30 X,Y,Z= .248000 .248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 30 19
 LINE NO.= 29 KP1= 30 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 18 30
 LINE NO.= 30 KP1= 18 TAN1= .0000 1.0000 .0000
 KP2= 30 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 31 20
 LINE NO.= 31 KP1= 31 TAN1= -1.0000 .0000 .0000
 KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 17 31
 LINE NO.= 32 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 bottom guide

KEYPOINT 33 X,Y,Z= .238500 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 32 X,Y,Z= .248000 -.248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 25 32
 LINE NO.= 33 KP1= 25 TAN1= 1.0000 .0000 .0000
 KP2= 32 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 32 26
 LINE NO.= 34 KP1= 32 TAN1= .0000 1.0000 .0000
 KP2= 26 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 33
 LINE NO.= 35 KP1= 24 TAN1= 1.0000 .0000 .0000
 KP2= 33 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 27
 LINE NO.= 36 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 27 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 31
 LINE NO.= 37 KP1= 30 TAN1= .7071 .7071 .0000
 KP2= 31 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 32 33
 LINE NO.= 38 KP1= 32 TAN1= .7071 -.7071 .0000
 KP2= 33 TAN2= -.7071 .7071 .0000
 Guide gaps

DEFINE AREA BY LIST OF LINES
 LINE LIST = 29 16 30
 (TRAVERSED IN SAME DIRECTION AS LINE 29)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
 LINE LIST = 33 34 23
 (TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 6
 Guide steel

DEFINE AREA BY LIST OF LINES
 LINE LIST = 35 38 33 22
 (TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
 LINE LIST = 36 24 34 38
 (TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 37 31 17 29

(TRAVERSED IN SAME DIRECTION AS LINE 37)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 32 37 30

(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 10

Define thermal shunts

(K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)

(L's 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

(A's 11 - 22)

horizontal thermal shunt

KEYPOINT	34	X,Y,Z=	.500000E-02	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	35	X,Y,Z=	.500000E-02	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	36	X,Y,Z=	.238500	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	37	X,Y,Z=	.238500	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	38	X,Y,Z=	.472000	.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	39	X,Y,Z=	.472000	-.500000E-02	.000000E+00	IN CSYS=	0
KEYPOINT	1000	X,Y,Z=	.238500	.000000E+00	.000000E+00	IN CSYS=	0
KEYPOINT	1001	X,Y,Z=	.472000	.000000E+00	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	34	1			
LINE NO.=	39	KP1=	34	TAN1=	.7071 .7071 .0000
		KP2=	1	TAN2=	-.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	1	1000			
LINE NO.=	40	KP1=	1	TAN1=	-1.0000 .0000 .0000
		KP2=	1000	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1000	36			
LINE NO.=	41	KP1=	1000	TAN1=	.0000 -1.0000 .0000
		KP2=	36	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	36	34			
LINE NO.=	42	KP1=	36	TAN1=	1.0000 .0000 .0000
		KP2=	34	TAN2=	-1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1	35			
LINE NO.=	43	KP1=	1	TAN1=	-.7071 .7071 .0000
		KP2=	35	TAN2=	.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	35	37			
LINE NO.=	44	KP1=	35	TAN1=	-1.0000 .0000 .0000
		KP2=	37	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	37	1000			
LINE NO.=	45	KP1=	37	TAN1=	.0000 -1.0000 .0000
		KP2=	1000	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	1000	1001			
LINE NO.=	46	KP1=	1000	TAN1=	-1.0000 .0000 .0000
		KP2=	1001	TAN2=	1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	1001	38			
LINE NO.=	47	KP1=	1001	TAN1=	.0000 -1.0000 .0000
		KP2=	38	TAN2=	.0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 38 36
 LINE NO.= 48 KP1= 38 TAN1= 1.0000 .0000 .0000
 KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 37 39
 LINE NO.= 49 KP1= 37 TAN1= -1.0000 .0000 .0000
 KP2= 39 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 39 1001
 LINE NO.= 50 KP1= 39 TAN1= .0000 -1.0000 .0000
 KP2= 1001 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 23 39
 LINE NO.= 51 KP1= 23 TAN1= 1.0000 .0000 .0000
 KP2= 39 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 38 21
 LINE NO.= 52 KP1= 38 TAN1= -1.0000 .0000 .0000
 KP2= 21 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 22
 LINE NO.= 53 KP1= 1001 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

vertical thermal shunt

KEYPOINT 40 X,Y,Z= .500000E-02 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 41 X,Y,Z= .000000E+00 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 42 X,Y,Z= .500000E-02 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 43 X,Y,Z= .000000E+00 .472000 .000000E+00 IN CSYS= 0

KEYPOINT 44 X,Y,Z= .500000E-02 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 45 X,Y,Z= .000000E+00 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 46 X,Y,Z= .500000E-02 -.472000 .000000E+00 IN CSYS= 0

KEYPOINT 47 X,Y,Z= .000000E+00 -.472000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 40
 LINE NO.= 54 KP1= 34 TAN1= .0000 -1.0000 .0000
 KP2= 40 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 55 KP1= 40 TAN1= 1.0000 .0000 .0000
 KP2= 41 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 1
 LINE NO.= 56 KP1= 41 TAN1= .0000 1.0000 .0000
 KP2= 1 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 40 42
 LINE NO.= 57 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 42 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
 LINE NO.= 58 KP1= 42 TAN1= 1.0000 .0000 .0000
 KP2= 43 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 43 41
 LINE NO.= 59 KP1= 43 TAN1= .0000 1.0000 .0000
 KP2= 41 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 16 42
 LINE NO.= 60 KP1= 16 TAN1= .0000 1.0000 .0000
 KP2= 42 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 43

LINE NO.=	61	KP1=	15	TAN1=	.0000	1.0000	.0000
		KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 1 45							
LINE NO.=	62	KP1=	1	TAN1=	.0000	1.0000	.0000
		KP2=	45	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 45 44							
LINE NO.=	63	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	44	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 44 35							
LINE NO.=	64	KP1=	44	TAN1=	.0000	-1.0000	.0000
		KP2=	35	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS 45 47							
LINE NO.=	65	KP1=	45	TAN1=	.0000	1.0000	.0000
		KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 47 46							
LINE NO.=	66	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	46	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 46 44							
LINE NO.=	67	KP1=	46	TAN1=	.0000	-1.0000	.0000
		KP2=	44	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS 47 29							
LINE NO.=	68	KP1=	47	TAN1=	.0000	1.0000	.0000
		KP2=	29	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 46 28							
LINE NO.=	69	KP1=	46	TAN1=	.0000	1.0000	.0000
		KP2=	28	TAN2=	.0000	-1.0000	.0000

Define areas for thermal shunts
horizontal thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 40 41 42
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 44 45 40
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 41 46 47
(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 49 50 46
(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 53 19 52
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 51 20 53
(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 16
vertical thermal shunts

DEFINE AREA BY LIST OF LINES
LINE LIST = 39 54 55 56
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
LINE LIST = 57 58 59 55
(TRAVERSED IN SAME DIRECTION AS LINE 57)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 13 61 58
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
LINE LIST = 43 62 63 64
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES
LINE LIST = 65 66 67 63
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES
LINE LIST = 68 26 69 66
(TRAVERSED IN SAME DIRECTION AS LINE 68)

AREA NUMBER = 22

Define shell gaps at the exterior of the tube array
(L's 70 - 73)
(A's 23 - 26)

LINE CONNECTS KEYPOINTS	42	17			
LINE NO.= 70	KP1= 42	TAN1=	-1.0000	-.0001	.0000
	KP2= 17	TAN2=	1.0000	.0001	.0000

LINE CONNECTS KEYPOINTS	20	38			
LINE NO.= 71	KP1= 20	TAN1=	.0001	1.0000	.0000
	KP2= 38	TAN2=	-.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	39	24			
LINE NO.= 72	KP1= 39	TAN1=	-.0001	1.0000	.0000
	KP2= 24	TAN2=	.0001	-1.0000	.0000

LINE CONNECTS KEYPOINTS	27	46			
LINE NO.= 73	KP1= 27	TAN1=	1.0000	-.0001	.0000
	KP2= 46	TAN2=	-1.0000	.0001	.0000

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 70 14
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
LINE LIST = 18 71 52
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 51 72 21

(TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 69 25 73

(TRAVERSED IN SAME DIRECTION AS LINE 69)

AREA NUMBER = 26

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 60 TO 61 STEP 1

2 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 68 TO 69 STEP 1

4 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 51 TO 53 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 39 TO 47 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 19 TO 20 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 50 TO 50 STEP 1

8 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 13 TO 13 STEP 1

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 58 TO 58 STEP 1

10 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 55 TO 55 STEP 1

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 63 TO 63 STEP 1

12 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 26 TO 26 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 1, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 40 TO 48 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 56 STEP 2

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 57 TO 59 STEP 2

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 62 TO 64 STEP 2

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 65 TO 67 STEP 2

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 49 TO 49 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 34 STEP 1

16 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 30 STEP 1

18 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 70 TO 73 STEP 1

22 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

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

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 22 IN STEPS OF 1

NUMBER OF AREAS MESHED = 12
MAXIMUM NODE NUMBER = 227
MAXIMUM ELEMENT NUMBER = 128
Mesh corn guides

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

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 = 401
MAXIMUM ELEMENT NUMBER = 240

Define center tube
(K's 48-51)
(L's 74-83)
(A's 27-31)

KEYPOINT 48 X,Y,Z= .100000E-01 .100000E-01 .000000E+00 IN CSYS= 0
KEYPOINT 49 X,Y,Z= .100000E-01 .233500 .000000E+00 IN CSYS= 0
KEYPOINT 50 X,Y,Z= .233500 .233500 .000000E+00 IN CSYS= 0
KEYPOINT 51 X,Y,Z= .233500 .100000E-01 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 48
LINE NO.= 74 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 48 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 48 49
LINE NO.= 75 KP1= 48 TAN1= .0000 -1.0000 .0000
KP2= 49 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 49 40
LINE NO.= 76 KP1= 49 TAN1= .7071 -.7071 .0000
KP2= 40 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 49 50
LINE NO.= 77 KP1= 49 TAN1= -1.0000 .0000 .0000
KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 31
LINE NO.= 78 KP1= 50 TAN1= -.7071 -.7071 .0000
KP2= 31 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 31 40
LINE NO.= 79 KP1= 31 TAN1= 1.0000 .0000 .0000
KP2= 40 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 51
LINE NO.= 80 KP1= 50 TAN1= .0000 1.0000 .0000
KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 51 36
LINE NO.= 81 KP1= 51 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 36 31
LINE NO.= 82 KP1= 36 TAN1= .0000 -1.0000 .0000

KP2= 31 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 51 48
 LINE NO.= 83 KP1= 51 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 76 79 78 77
 (TRAVERSED IN SAME DIRECTION AS LINE 76)
 AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES
 LINE LIST = 54 74 75 76
 (TRAVERSED IN SAME DIRECTION AS LINE 54)
 AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 74 42 81 83
 (TRAVERSED IN SAME DIRECTION AS LINE 74)
 AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 81 82 78 80
 (TRAVERSED IN SAME DIRECTION AS LINE 81)
 AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 75 83 80 77
 (TRAVERSED IN SAME DIRECTION AS LINE 75)
 AREA NUMBER = 31

 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 MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 74 TO 83 STEP 1
 10 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 76 TO 76 STEP 1
 9 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 78 TO 78 STEP 1
 8 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 81 TO 81 STEP 1
 7 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 74 TO 74 STEP 1
 6 LINES (OF 83 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 76 TO 76 STEP 1

1 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

3 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

4 LINES (OF 83 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 83 STEP 1

83 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
First fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 31 STEP 1

31 AREAS (OF 31 DEFINED) SELECTED BY ASEL COMMAND.

GENERATE NODES AND ELEMENTS
IN AREAS 31 TO 31 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 626
MAXIMUM ELEMENT NUMBER = 436

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 27 TO 30 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 708
MAXIMUM ELEMENT NUMBER = 548

Copy tube mesh

Center tubes above
(A's 32 - 36)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .000E+00 .234 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1045
 MAXIMUM ELEMENT NUMBER = 856
 Center tubes below
 (A's 37 - 46)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 27 TO 36 IN STEPS OF 1

MAXIMUM NODE NUMBER = 1719
 MAXIMUM ELEMENT NUMBER = 1472
 (A's 47 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 27 TO 31 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2056
 MAXIMUM ELEMENT NUMBER = 1780
 (A's 52 - 56)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 47 TO 51 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2393
 MAXIMUM ELEMENT NUMBER = 2088

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 140	USED FOR NODES	766
NODE 217	USED FOR NODES	1431
NODE 141	USED FOR NODES	767
NODE 216	USED FOR NODES	1432
NODE 215	USED FOR NODES	1433
NODE 214	USED FOR NODES	1434
NODE 213	USED FOR NODES	1435
NODE 212	USED FOR NODES	1436
NODE 211	USED FOR NODES	1437
NODE 210	USED FOR NODES	1438
NODE 209	USED FOR NODES	1439
NODE 208	USED FOR NODES	1440
NODE 207	USED FOR NODES	1441
NODE 177	USED FOR NODES	1092
NODE 139	USED FOR NODES	765
NODE 206	USED FOR NODES	1384
NODE 128	USED FOR NODES	710
NODE 31	USED FOR NODES	1091
NODE 176	USED FOR NODES	1093
NODE 175	USED FOR NODES	1094
NODE 174	USED FOR NODES	1095
NODE 173	USED FOR NODES	1096
NODE 172	USED FOR NODES	1097
NODE 171	USED FOR NODES	1098
NODE 170	USED FOR NODES	1099
NODE 169	USED FOR NODES	1100
NODE 168	USED FOR NODES	1101
NODE 167	USED FOR NODES	1102
NODE 166	USED FOR NODES	1103
NODE 218	USED FOR NODES	1430
NODE 219	USED FOR NODES	1429
NODE 165	USED FOR NODES	1104
NODE 164	USED FOR NODES	1047 1428
NODE 114	USED FOR NODES	754
NODE 129	USED FOR NODES	755
NODE 130	USED FOR NODES	756
NODE 131	USED FOR NODES	757
NODE 132	USED FOR NODES	758
NODE 133	USED FOR NODES	759
NODE 134	USED FOR NODES	760
NODE 135	USED FOR NODES	761

NODE	136	USED FOR NODES	762	
NODE	137	USED FOR NODES	763	
NODE	138	USED FOR NODES	764	
NODE	640	USED FOR NODES	824	
NODE	1062	USED FOR NODES	1498	
NODE	33	USED FOR NODES	1161	
NODE	34	USED FOR NODES	1160	
NODE	639	USED FOR NODES	823	
NODE	1061	USED FOR NODES	1497	
NODE	1060	USED FOR NODES	1496	
NODE	638	USED FOR NODES	822	
NODE	35	USED FOR NODES	1159	
NODE	1059	USED FOR NODES	1495	
NODE	36	USED FOR NODES	1158	
NODE	637	USED FOR NODES	821	
NODE	37	USED FOR NODES	1157	
NODE	636	USED FOR NODES	820	
NODE	1058	USED FOR NODES	1494	
NODE	38	USED FOR NODES	1156	
NODE	635	USED FOR NODES	819	
NODE	1057	USED FOR NODES	1493	
NODE	39	USED FOR NODES	1155	
NODE	634	USED FOR NODES	818	
NODE	1056	USED FOR NODES	1492	
NODE	40	USED FOR NODES	1154	
NODE	633	USED FOR NODES	817	
NODE	1055	USED FOR NODES	1491	
NODE	632	USED FOR NODES	816	
NODE	1054	USED FOR NODES	1490	
NODE	41	USED FOR NODES	1153	
NODE	42	USED FOR NODES	1152	
NODE	631	USED FOR NODES	815	
NODE	1053	USED FOR NODES	1489	
NODE	43	USED FOR NODES	1151	
NODE	630	USED FOR NODES	814	
NODE	1052	USED FOR NODES	1488	
NODE	44	USED FOR NODES	1150	
NODE	629	USED FOR NODES	813	
NODE	1051	USED FOR NODES	1487	
NODE	45	USED FOR NODES	1149	
NODE	628	USED FOR NODES	812	
NODE	1050	USED FOR NODES	1486	
NODE	683	USED FOR NODES	1766	
NODE	370	USED FOR NODES	843	
NODE	369	USED FOR NODES	844	
NODE	684	USED FOR NODES	1767	
NODE	368	USED FOR NODES	845	
NODE	688	USED FOR NODES	1771	
NODE	316	USED FOR NODES	810	1721
NODE	367	USED FOR NODES	846	
NODE	685	USED FOR NODES	1768	
NODE	366	USED FOR NODES	847	
NODE	229	USED FOR NODES	1049	1484 2102
NODE	365	USED FOR NODES	848	
NODE	1187	USED FOR NODES	2103	
NODE	364	USED FOR NODES	849	
NODE	363	USED FOR NODES	850	
NODE	692	USED FOR NODES	1775	
NODE	1186	USED FOR NODES	2104	
NODE	1185	USED FOR NODES	2105	
NODE	1184	USED FOR NODES	2106	
NODE	1183	USED FOR NODES	2107	
NODE	1182	USED FOR NODES	2108	
NODE	1181	USED FOR NODES	2109	
NODE	1180	USED FOR NODES	2110	
NODE	1179	USED FOR NODES	2111	
NODE	1178	USED FOR NODES	2112	
NODE	1177	USED FOR NODES	2113	
NODE	375	USED FOR NODES	838	
NODE	1176	USED FOR NODES	2114	

NODE	689	USED FOR NODES	1772
NODE	690	USED FOR NODES	1773
NODE	687	USED FOR NODES	1770
NODE	691	USED FOR NODES	1774
NODE	1175	USED FOR NODES	2115
NODE	693	USED FOR NODES	1776
NODE	694	USED FOR NODES	1777
NODE	686	USED FOR NODES	1769
NODE	273	USED FOR NODES	1386
NODE	695	USED FOR NODES	1778
NODE	274	USED FOR NODES	1512
NODE	275	USED FOR NODES	1513
NODE	276	USED FOR NODES	1514
NODE	32	USED FOR NODES	1147
NODE	17	USED FOR NODES	1765
NODE	277	USED FOR NODES	1515
NODE	278	USED FOR NODES	1516
NODE	279	USED FOR NODES	1517
NODE	280	USED FOR NODES	1518
NODE	361	USED FOR NODES	712
NODE	281	USED FOR NODES	1519
NODE	282	USED FOR NODES	1520
NODE	283	USED FOR NODES	1521
NODE	284	USED FOR NODES	1522
NODE	285	USED FOR NODES	1523
NODE	286	USED FOR NODES	1524
NODE	371	USED FOR NODES	842
NODE	374	USED FOR NODES	839
NODE	372	USED FOR NODES	841
NODE	373	USED FOR NODES	840
NODE	75	USED FOR NODES	2073
NODE	59	USED FOR NODES	1835
NODE	319	USED FOR NODES	1736
NODE	242	USED FOR NODES	2172
NODE	320	USED FOR NODES	1735
NODE	58	USED FOR NODES	1834
NODE	76	USED FOR NODES	2072
NODE	241	USED FOR NODES	2171
NODE	321	USED FOR NODES	1734
NODE	57	USED FOR NODES	1833
NODE	77	USED FOR NODES	2071
NODE	240	USED FOR NODES	2170
NODE	322	USED FOR NODES	1733
NODE	56	USED FOR NODES	1832
NODE	78	USED FOR NODES	2070
NODE	239	USED FOR NODES	2169
NODE	79	USED FOR NODES	2069
NODE	238	USED FOR NODES	2168
NODE	323	USED FOR NODES	1732
NODE	55	USED FOR NODES	1831
NODE	80	USED FOR NODES	2068
NODE	54	USED FOR NODES	1830
NODE	237	USED FOR NODES	2167
NODE	324	USED FOR NODES	1731
NODE	81	USED FOR NODES	2067
NODE	53	USED FOR NODES	1829
NODE	236	USED FOR NODES	2166
NODE	325	USED FOR NODES	1730
NODE	52	USED FOR NODES	1828
NODE	235	USED FOR NODES	2165
NODE	82	USED FOR NODES	2066
NODE	326	USED FOR NODES	1729
NODE	83	USED FOR NODES	2065
NODE	51	USED FOR NODES	1827
NODE	327	USED FOR NODES	1728
NODE	234	USED FOR NODES	2164
NODE	84	USED FOR NODES	2064
NODE	50	USED FOR NODES	1826
NODE	233	USED FOR NODES	2163
NODE	328	USED FOR NODES	1727

2058

NODE 85 USED FOR NODES 2063
 NODE 49 USED FOR NODES 1825
 NODE 329 USED FOR NODES 1726
 NODE 232 USED FOR NODES 2162
 NODE 86 USED FOR NODES 2062
 NODE 330 USED FOR NODES 1725
 NODE 48 USED FOR NODES 1824
 NODE 231 USED FOR NODES 2161
 NODE 87 USED FOR NODES 2061
 NODE 47 USED FOR NODES 1823
 NODE 230 USED FOR NODES 2160
 NODE 331 USED FOR NODES 1724
 NODE 46 USED FOR NODES 1821
 NODE 228 USED FOR NODES 2158
 NODE 74 USED FOR NODES 2060
 NODE 318 USED FOR NODES 1723

*** WARNING *** CP= 9.870 TIME= 05:56:10
 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= 10.190 TIME= 05:56:10
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.200 TIME= 05:56:10
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.200 TIME= 05:56:10
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 10.200 TIME= 05:56:10
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

KEYPOINT 31 USED FOR KEYPOINT(S) 59 77
 KEYPOINT 33 USED FOR KEYPOINT(S) 62 75 88
 KEYPOINT 35 USED FOR KEYPOINT(S) 64
 KEYPOINT 36 USED FOR KEYPOINT(S) 80
 KEYPOINT 37 USED FOR KEYPOINT(S) 67 85
 KEYPOINT 38 USED FOR KEYPOINT(S) 83
 KEYPOINT 39 USED FOR KEYPOINT(S) 86
 KEYPOINT 40 USED FOR KEYPOINT(S) 56
 KEYPOINT 42 USED FOR KEYPOINT(S) 53
 KEYPOINT 44 USED FOR KEYPOINT(S) 61 72
 KEYPOINT 46 USED FOR KEYPOINT(S) 69

LINE 44 USED FOR LINE(S) 105
 LINE 48 USED FOR LINE(S) 129
 LINE 49 USED FOR LINE(S) 133
 LINE 57 USED FOR LINE(S) 88
 LINE 64 USED FOR LINE(S) 100
 LINE 67 USED FOR LINE(S) 112
 LINE 79 USED FOR LINE(S) 93
 LINE 82 USED FOR LINE(S) 124
 LINE 97 USED FOR LINE(S) 117
 LINE 106 USED FOR LINE(S) 136

 Create mesh in UCF inner shell

(L's 105,108)

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

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 18 STEP 2

3 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 25 STEP 2

6 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

*** WARNING *** CP= 10.350 TIME= 05:56:11
LSIZE is not a recognized PREP7 command, abbreviation, or macro.
This command will be ignored.

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

133 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 19 STEP 1

7 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 88 KP1= 15 KP2= 22

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 20 TO 26 STEP 1

7 LINES (OF 134 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 93 KP1= 22 KP2= 29

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 2810
MAXIMUM ELEMENT NUMBER = 2412
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 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 54, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 4, 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 = 3246
MAXIMUM ELEMENT NUMBER = 2844

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 14.490 TIME= 05:56:15
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 14.510 TIME= 05:56:15
Keypoints 27 and 70 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 14.510 TIME= 05:56:15
Keypoints 17 and 54 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 14.510 TIME= 05:56:15
Keypoints 24 and 91 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (1.702564632E-05) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 14.520 TIME= 05:56:15

Keypoints 20 and 78 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (1.702564632E-05) 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
** AREA	5 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **	
** AREA	6 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **	

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 3470
 MAXIMUM ELEMENT NUMBER = 3116

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.)

GENERATE NODES AND ELEMENTS

IN AREAS	23 TO	26	IN STEPS OF	1
** AREA	23 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **	
** AREA	24 MESHED WITH	40 QUADRILATERALS,	7 TRIANGLES **	
** AREA	25 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **	
** AREA	26 MESHED WITH	41 QUADRILATERALS,	7 TRIANGLES **	

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3305

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 725	USED FOR NODES	3471
NODE 1399	USED FOR NODES	3604
NODE 724	USED FOR NODES	3472
NODE 1398	USED FOR NODES	3603
NODE 723	USED FOR NODES	3473
NODE 1397	USED FOR NODES	3602
NODE 722	USED FOR NODES	3474
NODE 1396	USED FOR NODES	3601
NODE 721	USED FOR NODES	3475
NODE 1395	USED FOR NODES	3600
NODE 720	USED FOR NODES	3476
NODE 1394	USED FOR NODES	3599
NODE 719	USED FOR NODES	3477
NODE 1393	USED FOR NODES	3598
NODE 718	USED FOR NODES	3478
NODE 1392	USED FOR NODES	3597
NODE 717	USED FOR NODES	3479
NODE 1391	USED FOR NODES	3596
NODE 716	USED FOR NODES	3480
NODE 1390	USED FOR NODES	3595
NODE 715	USED FOR NODES	3481
NODE 1389	USED FOR NODES	3594
NODE 714	USED FOR NODES	3482

NODE 1388	USED FOR NODES	3593
NODE 713	USED FOR NODES	3483
NODE 1387	USED FOR NODES	3592
NODE 1853	USED FOR NODES	3519
NODE 2190	USED FOR NODES	3560
NODE 1854	USED FOR NODES	3518
NODE 2192	USED FOR NODES	3558
NODE 2186	USED FOR NODES	3564
NODE 2193	USED FOR NODES	3557
NODE 1861	USED FOR NODES	3511
NODE 1849	USED FOR NODES	3523
NODE 1856	USED FOR NODES	3516
NODE 2191	USED FOR NODES	3559
NODE 1851	USED FOR NODES	3521
NODE 1852	USED FOR NODES	3520
NODE 2198	USED FOR NODES	3552
NODE 1858	USED FOR NODES	3514
NODE 1855	USED FOR NODES	3517
NODE 2195	USED FOR NODES	3555
NODE 2189	USED FOR NODES	3561
NODE 2197	USED FOR NODES	3553
NODE 1860	USED FOR NODES	3512
NODE 2188	USED FOR NODES	3562
NODE 1850	USED FOR NODES	3522
NODE 1859	USED FOR NODES	3513
NODE 2187	USED FOR NODES	3563
NODE 1857	USED FOR NODES	3515
NODE 2196	USED FOR NODES	3554
NODE 2194	USED FOR NODES	3556

*** WARNING *** CP= 17.640 TIME= 05:56:18
 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= 17.860 TIME= 05:56:18
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.870 TIME= 05:56:18
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.870 TIME= 05:56:18
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 17.880 TIME= 05:56:18
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 70 TO 73 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3361

GENERATE NODES AND ELEMENTS
 ON LINES 14 TO 18 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3409

GENERATE NODES AND ELEMENTS
 ON LINES 21 TO 25 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3457

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 29 TO 30 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3485

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3513

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 60 TO 60 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3517

GENERATE NODES AND ELEMENTS
 ON LINES 69 TO 69 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3521

GENERATE NODES AND ELEMENTS
 ON LINES 51 TO 52 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3529

***** ROUTINE COMPLETED ***** CP = 18.070

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 .76525E-01 .00000E+00 .00000E+00

TITLE=

12 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

3068 ELEMENTS (OF 3529 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.
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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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=
12 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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 05:56:22 JUN 24, 1995 CP= 21.640
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

224 NODES (OF 3379 DEFINED) SELECTED FROM
224 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= 21.800 TIME= 05:56:22

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= 224 NUMBER OF NODES= 224

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=

IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 31.380

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 05:56:32 JUN 24, 1995 CP= 31.390
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 3530 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 3530

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 3530
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

18 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 31.420 TIME= 05:56:32
Nodes cannot be cleared from line 14 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.420 TIME= 05:56:32
Nodes cannot be cleared from line 16 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.430 TIME= 05:56:32
Nodes cannot be cleared from line 18 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.440 TIME= 05:56:32
Nodes cannot be cleared from line 21 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.440 TIME= 05:56:32
Nodes cannot be cleared from line 23 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.450 TIME= 05:56:32
Nodes cannot be cleared from line 25 because area 26 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.460 TIME= 05:56:32
Nodes cannot be cleared from line 29 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.460 TIME= 05:56:32
Nodes cannot be cleared from line 30 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.470 TIME= 05:56:32
Nodes cannot be cleared from line 33 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.470 TIME= 05:56:32
Nodes cannot be cleared from line 34 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.480 TIME= 05:56:32
Nodes cannot be cleared from line 51 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.480 TIME= 05:56:32
Nodes cannot be cleared from line 52 because area 15 is meshed. Only

elements are deleted.

*** NOTE *** CP= 31.480 TIME= 05:56:32
Nodes cannot be cleared from line 60 because area 19 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.490 TIME= 05:56:32
Nodes cannot be cleared from line 69 because area 22 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.490 TIME= 05:56:32
Nodes cannot be cleared from line 70 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.490 TIME= 05:56:32
Nodes cannot be cleared from line 71 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.500 TIME= 05:56:32
Nodes cannot be cleared from line 72 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 31.510 TIME= 05:56:32
Nodes cannot be cleared from line 73 because area 26 is meshed. Only
elements are deleted.

CLEARED 18 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 31.520

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= 31.520 TIME= 05:56:32
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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 3633 BY 1
REAL= 26.1406456 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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= 32.440 TIME= 05:56:33
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 05:56:33 JUN 24, 1995 CP= 32.450
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 33.130 TIME= 05:56:34
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 33.430 TIME= 05:56:34
 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 = 2585.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .26857	IXX = 260.8	IXX = 260.8
YC = -.36772E-11	IYY = 260.8	IYY = 74.23
ZC = .00000E+00	IZZ = 521.5	IZZ = 335.0
	IXY = -.1208E-08	IXY = -.3762E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
 1 2585.95

Range of element maximum matrix coefficients in global coordinates
 Maximum= 329.296048 at element 97.
 Minimum= 4.296058466E-09 at element 3530.

*** WARNING *** CP= 45.730 TIME= 05:56:47
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	8.180	.002
18	1	MATRIX50	.070	.070

Time at end of element matrix formulation CP= 45.74.
 HT FLOW CONVERGENCE VALUE= .1100E+05 CRITERION= 11.00

Estimated number of active DOF= 3270.
Maximum wavefront= 271.

Time at end of matrix triangularization CP= 57.35.
Equation solver maximum pivot= 614.24291 at node 4 TEMP.
Equation solver minimum pivot= 0.317532065 at node 3348 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 170.3
HT FLOW CONVERGENCE VALUE= 45.66 CRITERION= .2164
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -26.81
HT FLOW CONVERGENCE VALUE= 3.212 CRITERION= .2110
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.402
HT FLOW CONVERGENCE VALUE= .1712 CRITERION= .2102 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	4.690	.001
18	1	MATRIX50	.100	.100

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	.630	.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 = 3270
R.M.S. WAVEFRONT SIZE = 127.9

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
1.563 MB WRITTEN ON ELEMENT MATRIX FILE: ucf12j.emat
1.484 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf12j.esav
3.188 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf12j.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf12j.dsub
1.813 MB WRITTEN ON RESULTS FILE: ucf12j.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 135 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 3633 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 109

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.220 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.211 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.198 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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 = 109

*** WARNING *** CP= 122.910 TIME= 05:58:07
This load step will be a static (steady-state) step.

*** NOTE *** CP= 123.220 TIME= 05:58:07
The step data was checked and warning messages were found.
Please review output or errors file (ucf12j.err) for these warning
messages.

*** NOTE *** CP= 123.220 TIME= 05:58:07
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 05:58:07 JUN 24, 1995 CP= 123.220

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .1307E+05 CRITERION= 13.07
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 31.19
 HT FLOW CONVERGENCE VALUE= 16.74 CRITERION= .2081
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.560
 HT FLOW CONVERGENCE VALUE= 1.051 CRITERION= .2066
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6716
 HT FLOW CONVERGENCE VALUE= .5323E-01 CRITERION= .2064 <<< 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11.

LOAD LABELS = TEMP
VALUES = 57.220 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 57.211 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 57.198 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 200.200 TIME= 05:59:26
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 05:59:26 JUN 24, 1995 CP= 200.200
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .5323E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1103E-03
HT FLOW CONVERGENCE VALUE= .2081E-05 CRITERION= .2064 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1442 OSCILLATION LIMIT = .1137
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED
HT FLOW CONVERGENCE VALUE= .1027 CRITERION= .2064

```

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1288E-03
HT FLOW CONVERGENCE VALUE= .3069E-05 CRITERION= .2064 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .7178E-01 OSCILLATION LIMIT = .5663E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .9916E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2437E-03
HT FLOW CONVERGENCE VALUE= .5886E-05 CRITERION= .2064 <<< 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 = .1519E-01 OSCILLATION LIMIT = .3594E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .9657E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2249E-03
HT FLOW CONVERGENCE VALUE= .1235E-04 CRITERION= .2064 <<< 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 = .2485E-02 OSCILLATION LIMIT = .1568E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9539E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7418E-04
HT FLOW CONVERGENCE VALUE= .1115E-04 CRITERION= .2064 <<< 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 = .1123E-02 OSCILLATION LIMIT = .7086E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9479E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7403E-04
HT FLOW CONVERGENCE VALUE= .1058E-04 CRITERION= .2064 <<< 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 = .9500E-03 OSCILLATION LIMIT = .5996E-02
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9425E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7388E-04
HT FLOW CONVERGENCE VALUE= .1025E-04 CRITERION= .2064 <<< 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 = .8861E-03 OSCILLATION LIMIT = .5593E-02
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .9375E-01 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2766E-04
HT FLOW CONVERGENCE VALUE= .3765E-05 CRITERION= .2064 <<< 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 = .8655E-03 OSCILLATION LIMIT = .2048E-02

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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 06:04:43 JUN 24, 1995 CP= 513.200
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 220.5 CRITERION= .3021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5604
 HT FLOW CONVERGENCE VALUE= .2368 CRITERION= .2055
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5793E-01
 HT FLOW CONVERGENCE VALUE= .1020E-01 CRITERION= .2055 <<< 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 = .7832E-05 OSCILLATION LIMIT = .6179
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 220.7 CRITERION= .3015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5788
 HT FLOW CONVERGENCE VALUE= .2784 CRITERION= .2059
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7867E-01
 HT FLOW CONVERGENCE VALUE= .1144E-01 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4165E-06 OSCILLATION LIMIT = .3286E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 661.6 CRITERION= .6929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.681
 HT FLOW CONVERGENCE VALUE= .8014 CRITERION= .2053
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2681
 HT FLOW CONVERGENCE VALUE= .4300E-01 CRITERION= .2053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .1225E-05 OSCILLATION LIMIT = .2899
 *** AUTO TIME STEP: NEXT TIME INC = .40827E+06 INCREASED (FACTOR = 1.7250)

HT FLOW CONVERGENCE VALUE= 1141. CRITERION= 1.159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
 HT FLOW CONVERGENCE VALUE= 1.378 CRITERION= .2053
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5016
 HT FLOW CONVERGENCE VALUE= .8037E-01 CRITERION= .2053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = 802768. TIME INC = 408267.
 *** RESPONSE EIGENVALUE = .9089E-06 OSCILLATION LIMIT = .3711
 *** AUTO STEP TIME: NEXT TIME INC = .40827E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1141. CRITERION= 1.159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
 HT FLOW CONVERGENCE VALUE= 1.393 CRITERION= .2045
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4925
 HT FLOW CONVERGENCE VALUE= .7856E-01 CRITERION= .2044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .121104E+07 TIME INC = 408267.
 *** RESPONSE EIGENVALUE = .1011E-05 OSCILLATION LIMIT = .4127
 *** AUTO STEP TIME: NEXT TIME INC = .40827E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1141. CRITERION= 1.159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
 HT FLOW CONVERGENCE VALUE= 1.449 CRITERION= .2044
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4927
 HT FLOW CONVERGENCE VALUE= .7873E-01 CRITERION= .2044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .161930E+07 TIME INC = 408267.
 *** RESPONSE EIGENVALUE = .8664E-06 OSCILLATION LIMIT = .3537
 *** AUTO STEP TIME: NEXT TIME INC = .40827E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1140. CRITERION= 1.159

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
HT FLOW CONVERGENCE VALUE= 1.399 CRITERION= .2036
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4848
HT FLOW CONVERGENCE VALUE= .7855E-01 CRITERION= .2035 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
*** TIME = .202757E+07 TIME INC = 408267.
*** RESPONSE EIGENVALUE = .9745E-06 OSCILLATION LIMIT = .3979
*** AUTO STEP TIME: NEXT TIME INC = .40827E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1140. CRITERION= 1.158
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
HT FLOW CONVERGENCE VALUE= 1.378 CRITERION= .2035
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4847
HT FLOW CONVERGENCE VALUE= .7856E-01 CRITERION= .2035 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
*** TIME = .243584E+07 TIME INC = 408267.
*** RESPONSE EIGENVALUE = .8638E-06 OSCILLATION LIMIT = .3527
*** AUTO STEP TIME: NEXT TIME INC = .40827E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1140. CRITERION= 1.158
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.900
HT FLOW CONVERGENCE VALUE= 1.300 CRITERION= .2027
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4785
HT FLOW CONVERGENCE VALUE= .7768E-01 CRITERION= .2026 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 32
*** TIME = .284410E+07 TIME INC = 408267.
*** RESPONSE EIGENVALUE = .9487E-06 OSCILLATION LIMIT = .3873
*** AUTO TIME STEP: NEXT TIME INC = .31169E+06 DECREASED (FACTOR = .7634)

HT FLOW CONVERGENCE VALUE= 870.3 CRITERION= .8935
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.214
HT FLOW CONVERGENCE VALUE= .9326 CRITERION= .2027
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3560
HT FLOW CONVERGENCE VALUE= .5711E-01 CRITERION= .2027 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 34
*** TIME = .315579E+07 TIME INC = 311689.
*** RESPONSE EIGENVALUE = .8330E-06 OSCILLATION LIMIT = .2596

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:14:21 JUN 24, 1995 CP= 1085.180
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 223.2 CRITERION= .3015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6628
HT FLOW CONVERGENCE VALUE= .2662 CRITERION= .2029
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1084
HT FLOW CONVERGENCE VALUE= .1590E-01 CRITERION= .2029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
*** TIME = .346748E+07 TIME INC = 311689.
*** RESPONSE EIGENVALUE = .4496E-06 OSCILLATION LIMIT = .1401
*** AUTO STEP TIME: NEXT TIME INC = .31169E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 223.3 CRITERION= .3016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5344
HT FLOW CONVERGENCE VALUE= .2220 CRITERION= .2025
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7211E-01
HT FLOW CONVERGENCE VALUE= .1349E-01 CRITERION= .2025 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 38

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*** TIME = .377917E+07    TIME INC = 311689.
*** RESPONSE EIGENVALUE = .5125E-05    OSCILLATION LIMIT = 1.597
*** AUTO TIME STEP: NEXT TIME INC = .10390E+06    DECREASED (FACTOR = .3333)

    HT FLOW CONVERGENCE VALUE= 74.40    CRITERION= .2157
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
    HT FLOW CONVERGENCE VALUE= .9638E-01    CRITERION= .2025    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 39
*** TIME = .388307E+07    TIME INC = 103896.
*** RESPONSE EIGENVALUE = .1736E-05    OSCILLATION LIMIT = .1803
*** AUTO STEP TIME: NEXT TIME INC = .10390E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 74.45    CRITERION= .2158
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1788
    HT FLOW CONVERGENCE VALUE= .7234E-01    CRITERION= .2025    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 40
*** TIME = .398696E+07    TIME INC = 103896.
*** RESPONSE EIGENVALUE = .4614E-05    OSCILLATION LIMIT = .4794
*** AUTO STEP TIME: NEXT TIME INC = .10390E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 74.40    CRITERION= .2157
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1782
    HT FLOW CONVERGENCE VALUE= .8108E-01    CRITERION= .2024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 41
*** TIME = .409086E+07    TIME INC = 103896.
*** RESPONSE EIGENVALUE = .1699E-05    OSCILLATION LIMIT = .1765
*** AUTO TIME STEP: NEXT TIME INC = .29424E+06    INCREASED (FACTOR = 2.8321)

    HT FLOW CONVERGENCE VALUE= 210.7    CRITERION= .2922
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5053
    HT FLOW CONVERGENCE VALUE= .2230    CRITERION= .2023
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7767E-01
    HT FLOW CONVERGENCE VALUE= .1336E-01    CRITERION= .2023    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 43
*** TIME = .438510E+07    TIME INC = 294241.
*** RESPONSE EIGENVALUE = .2035E-05    OSCILLATION LIMIT = .5988
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 210.7    CRITERION= .2921
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5044
    HT FLOW CONVERGENCE VALUE= .2295    CRITERION= .2021
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8013E-01
    HT FLOW CONVERGENCE VALUE= .1368E-01    CRITERION= .2021    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 45
*** TIME = .467934E+07    TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1544E-05    OSCILLATION LIMIT = .4544
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 210.7    CRITERION= .2920
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5047
    HT FLOW CONVERGENCE VALUE= .2331    CRITERION= .2020
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8119E-01
    HT FLOW CONVERGENCE VALUE= .1359E-01    CRITERION= .2020    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 47
*** TIME = .497358E+07    TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1267E-05    OSCILLATION LIMIT = .3727
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 210.7    CRITERION= .2919
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5044
    HT FLOW CONVERGENCE VALUE= .2391    CRITERION= .2018
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8063E-01
    HT FLOW CONVERGENCE VALUE= .1378E-01    CRITERION= .2018    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 49
*** TIME = .526782E+07 TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1519E-05 OSCILLATION LIMIT = .4468
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 210.7 CRITERION= .2918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5046
HT FLOW CONVERGENCE VALUE= .2425 CRITERION= .2017
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8147E-01
HT FLOW CONVERGENCE VALUE= .1371E-01 CRITERION= .2017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 51
*** TIME = .556206E+07 TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1289E-05 OSCILLATION LIMIT = .3791
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 210.7 CRITERION= .2917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5044
HT FLOW CONVERGENCE VALUE= .2446 CRITERION= .2015
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8077E-01
HT FLOW CONVERGENCE VALUE= .1382E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 53
*** TIME = .585631E+07 TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1497E-05 OSCILLATION LIMIT = .4404
*** AUTO STEP TIME: NEXT TIME INC = .29424E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 210.7 CRITERION= .2916
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5046
HT FLOW CONVERGENCE VALUE= .2426 CRITERION= .2015
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8126E-01
HT FLOW CONVERGENCE VALUE= .1377E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 55
*** TIME = .615055E+07 TIME INC = 294241.
*** RESPONSE EIGENVALUE = .1292E-05 OSCILLATION LIMIT = .3802
*** AUTO STEP TIME: NEXT TIME INC = .16100E+06 DECREASED (FACTOR = .5472)

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .2321
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2760
HT FLOW CONVERGENCE VALUE= .1356 CRITERION= .2013 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 56
*** TIME = .631155E+07 TIME INC = 161005.
*** RESPONSE EIGENVALUE = .4381E-06 OSCILLATION LIMIT = .7054E-01

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:25:38 JUN 24, 1995 CP= 1754.490
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 75.06 CRITERION= .2149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1822
HT FLOW CONVERGENCE VALUE= .8609E-01 CRITERION= .2014 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 57
*** TIME = .647256E+07 TIME INC = 161005.
*** RESPONSE EIGENVALUE = .1148E-05 OSCILLATION LIMIT = .1848
*** AUTO STEP TIME: NEXT TIME INC = .16100E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 75.00 CRITERION= .2149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1795
HT FLOW CONVERGENCE VALUE= .8144E-01 CRITERION= .2012 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 58

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*** TIME = .663356E+07 TIME INC = 161005.
 *** RESPONSE EIGENVALUE = .4867E-05 OSCILLATION LIMIT = .7836
 *** AUTO TIME STEP: NEXT TIME INC = .10273E+06 DECREASED (FACTOR = .6381)

HT FLOW CONVERGENCE VALUE= 47.91 CRITERION= .2068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1163
 HT FLOW CONVERGENCE VALUE= .5402E-01 CRITERION= .2013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 59
 *** TIME = .673629E+07 TIME INC = 102731.
 *** RESPONSE EIGENVALUE = .1904E-05 OSCILLATION LIMIT = .1957
 *** AUTO STEP TIME: NEXT TIME INC = .10273E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.85 CRITERION= .2069
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1145
 HT FLOW CONVERGENCE VALUE= .5300E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 60
 *** TIME = .683902E+07 TIME INC = 102731.
 *** RESPONSE EIGENVALUE = .4318E-05 OSCILLATION LIMIT = .4436
 *** AUTO STEP TIME: NEXT TIME INC = .10273E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.91 CRITERION= .2068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1159
 HT FLOW CONVERGENCE VALUE= .5381E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 61
 *** TIME = .694175E+07 TIME INC = 102731.
 *** RESPONSE EIGENVALUE = .1878E-05 OSCILLATION LIMIT = .1929
 *** AUTO TIME STEP: NEXT TIME INC = .26622E+06 INCREASED (FACTOR = 2.5915)

HT FLOW CONVERGENCE VALUE= 124.0 CRITERION= .2364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2968
 HT FLOW CONVERGENCE VALUE= .1420 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 62
 *** TIME = .720798E+07 TIME INC = 266225.
 *** RESPONSE EIGENVALUE = .1084E-05 OSCILLATION LIMIT = .2886
 *** AUTO TIME STEP: NEXT TIME INC = .46125E+06 INCREASED (FACTOR = 1.7325)

HT FLOW CONVERGENCE VALUE= 214.9 CRITERION= .2943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5163
 HT FLOW CONVERGENCE VALUE= .2448 CRITERION= .2009
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8002E-01
 HT FLOW CONVERGENCE VALUE= .1442E-01 CRITERION= .2009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 64
 *** TIME = .766923E+07 TIME INC = 461247.
 *** RESPONSE EIGENVALUE = .2740E-05 OSCILLATION LIMIT = 1.264
 *** AUTO TIME STEP: NEXT TIME INC = .18246E+06 DECREASED (FACTOR = .3956)

HT FLOW CONVERGENCE VALUE= 84.99 CRITERION= .2182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2034
 HT FLOW CONVERGENCE VALUE= .9794E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 65
 *** TIME = .785169E+07 TIME INC = 182462.
 *** RESPONSE EIGENVALUE = .9770E-06 OSCILLATION LIMIT = .1783
 *** AUTO STEP TIME: NEXT TIME INC = .18246E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.05 CRITERION= .2180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2054
 HT FLOW CONVERGENCE VALUE= .9796E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 66
 *** TIME = .803415E+07 TIME INC = 182462.
 *** RESPONSE EIGENVALUE = .1046E-05 OSCILLATION LIMIT = .1908
 *** AUTO TIME STEP: NEXT TIME INC = .47808E+06 INCREASED (FACTOR = 2.6201)

HT FLOW CONVERGENCE VALUE= 222.7 CRITERION= .2998

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5329
HT FLOW CONVERGENCE VALUE= .2522 CRITERION= .2005
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8215E-01
HT FLOW CONVERGENCE VALUE= .1508E-01 CRITERION= .2005 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 68
*** TIME = .851223E+07 TIME INC = 478078.
*** RESPONSE EIGENVALUE = .3039E-05 OSCILLATION LIMIT = 1.453
*** AUTO TIME STEP: NEXT TIME INC = .16451E+06 DECREASED (FACTOR = .3441)

HT FLOW CONVERGENCE VALUE= 76.68 CRITERION= .2146
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1842
HT FLOW CONVERGENCE VALUE= .9016E-01 CRITERION= .2005 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 69
*** TIME = .867673E+07 TIME INC = 164506.
*** RESPONSE EIGENVALUE = .6417E-06 OSCILLATION LIMIT = .1056
*** AUTO STEP TIME: NEXT TIME INC = .16451E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.62 CRITERION= .2146
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1834
HT FLOW CONVERGENCE VALUE= .8818E-01 CRITERION= .2003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 70
*** TIME = .884124E+07 TIME INC = 164506.
*** RESPONSE EIGENVALUE = .1920E-05 OSCILLATION LIMIT = .3158
*** AUTO STEP TIME: NEXT TIME INC = .16451E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.68 CRITERION= .2145
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1848
HT FLOW CONVERGENCE VALUE= .8591E-01 CRITERION= .2004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 71
*** TIME = .900575E+07 TIME INC = 164506.
*** RESPONSE EIGENVALUE = .2038E-05 OSCILLATION LIMIT = .3353
*** AUTO STEP TIME: NEXT TIME INC = .16451E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.61 CRITERION= .2145
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1834
HT FLOW CONVERGENCE VALUE= .8734E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 72
*** TIME = .917025E+07 TIME INC = 164506.
*** RESPONSE EIGENVALUE = .1870E-05 OSCILLATION LIMIT = .3076
*** AUTO STEP TIME: NEXT TIME INC = .16451E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.68 CRITERION= .2144
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1848
HT FLOW CONVERGENCE VALUE= .8644E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 73
*** TIME = .933476E+07 TIME INC = 164506.
*** RESPONSE EIGENVALUE = .1854E-05 OSCILLATION LIMIT = .3051
*** AUTO TIME STEP: NEXT TIME INC = .13255E+06 DECREASED (FACTOR = .8058)

HT FLOW CONVERGENCE VALUE= 61.73 CRITERION= .2095
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1478
HT FLOW CONVERGENCE VALUE= .6976E-01 CRITERION= .2001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 74
*** TIME = .946731E+07 TIME INC = 132554.
*** RESPONSE EIGENVALUE = .2472E-05 OSCILLATION LIMIT = .3277

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:36:42 JUN 24, 1995 CP= 2412.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 47.23 CRITERION= .2056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1146
 HT FLOW CONVERGENCE VALUE= .5334E-01 CRITERION= .2002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 75
 *** TIME = .959987E+07 TIME INC = 132554.
 *** RESPONSE EIGENVALUE = .2175E-05 OSCILLATION LIMIT = .2883
 *** AUTO STEP TIME: NEXT TIME INC = .13255E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.16 CRITERION= .2057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1130
 HT FLOW CONVERGENCE VALUE= .5225E-01 CRITERION= .2000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 76
 *** TIME = .973242E+07 TIME INC = 132554.
 *** RESPONSE EIGENVALUE = .3392E-05 OSCILLATION LIMIT = .4496
 *** AUTO STEP TIME: NEXT TIME INC = .13255E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.23 CRITERION= .2055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1144
 HT FLOW CONVERGENCE VALUE= .5325E-01 CRITERION= .2001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 77
 *** TIME = .986497E+07 TIME INC = 132554.
 *** RESPONSE EIGENVALUE = .2003E-05 OSCILLATION LIMIT = .2655
 *** AUTO TIME STEP: NEXT TIME INC = .24964E+06 INCREASED (FACTOR = 1.8833)

HT FLOW CONVERGENCE VALUE= 88.84 CRITERION= .2189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
 HT FLOW CONVERGENCE VALUE= .1005 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 78
 *** TIME = .101146E+08 TIME INC = 249644.
 *** RESPONSE EIGENVALUE = .1569E-05 OSCILLATION LIMIT = .3916
 *** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.91 CRITERION= .2187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2144
 HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 79
 *** TIME = .103643E+08 TIME INC = 249644.
 *** RESPONSE EIGENVALUE = .1890E-05 OSCILLATION LIMIT = .4719
 *** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.84 CRITERION= .2187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
 HT FLOW CONVERGENCE VALUE= .9964E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 80
 *** TIME = .106139E+08 TIME INC = 249644.
 *** RESPONSE EIGENVALUE = .2481E-05 OSCILLATION LIMIT = .6194
 *** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.91 CRITERION= .2186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2143
 HT FLOW CONVERGENCE VALUE= .1005 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 81
 *** TIME = .108636E+08 TIME INC = 249644.
 *** RESPONSE EIGENVALUE = .1947E-05 OSCILLATION LIMIT = .4861
 *** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.84 CRITERION= .2186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
 HT FLOW CONVERGENCE VALUE= .9963E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 82
*** TIME = .111132E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2355E-05 OSCILLATION LIMIT = .5880
*** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.91 CRITERION= .2184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2143
HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .1995 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 83
*** TIME = .113628E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = .5029
*** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.84 CRITERION= .2184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
HT FLOW CONVERGENCE VALUE= .9960E-01 CRITERION= .1993 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 84
*** TIME = .116125E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2283E-05 OSCILLATION LIMIT = .5699
*** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.90 CRITERION= .2182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2143
HT FLOW CONVERGENCE VALUE= .9977E-01 CRITERION= .1993 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 85
*** TIME = .118621E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2050E-05 OSCILLATION LIMIT = .5117
*** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.83 CRITERION= .2182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
HT FLOW CONVERGENCE VALUE= .9930E-01 CRITERION= .1991 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 86
*** TIME = .121118E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2239E-05 OSCILLATION LIMIT = .5591
*** AUTO STEP TIME: NEXT TIME INC = .24964E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.90 CRITERION= .2181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2142
HT FLOW CONVERGENCE VALUE= .9951E-01 CRITERION= .1992 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 87
*** TIME = .123614E+08 TIME INC = 249644.
*** RESPONSE EIGENVALUE = .2066E-05 OSCILLATION LIMIT = .5158
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 DECREASED (FACTOR = .5241)

HT FLOW CONVERGENCE VALUE= 46.54 CRITERION= .2045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1115
HT FLOW CONVERGENCE VALUE= .5081E-01 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 88
*** TIME = .124922E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .4487E-05 OSCILLATION LIMIT = .5870
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.61 CRITERION= .2044
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1126
HT FLOW CONVERGENCE VALUE= .5168E-01 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 89
*** TIME = .126231E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2758E-05 OSCILLATION LIMIT = .3608

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:46:32 JUN 24, 1995 CP= 2995.180
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 37.61 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 90
 *** TIME = .127539E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2219E-05 OSCILLATION LIMIT = .2902
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9108E-01
 HT FLOW CONVERGENCE VALUE= .4126E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 91
 *** TIME = .128847E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .3782E-05 OSCILLATION LIMIT = .4948
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4191E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 92
 *** TIME = .130156E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2421E-05 OSCILLATION LIMIT = .3168
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9115E-01
 HT FLOW CONVERGENCE VALUE= .4160E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 93
 *** TIME = .131464E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .3030E-05 OSCILLATION LIMIT = .3965
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4162E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 94
 *** TIME = .132772E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2746E-05 OSCILLATION LIMIT = .3592
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9116E-01
 HT FLOW CONVERGENCE VALUE= .4164E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 95
 *** TIME = .134080E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2820E-05 OSCILLATION LIMIT = .3689
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4148E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 96
 *** TIME = .135389E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2811E-05 OSCILLATION LIMIT = .3677
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9116E-01
 HT FLOW CONVERGENCE VALUE= .4168E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 97
 *** TIME = .136697E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2755E-05 OSCILLATION LIMIT = .3604
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4143E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 98
 *** TIME = .138005E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2806E-05 OSCILLATION LIMIT = .3671
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9115E-01
 HT FLOW CONVERGENCE VALUE= .4165E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 99
 *** TIME = .139313E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2726E-05 OSCILLATION LIMIT = .3566
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4135E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 100
 *** TIME = .140622E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2785E-05 OSCILLATION LIMIT = .3644
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.67 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9114E-01
 HT FLOW CONVERGENCE VALUE= .4161E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 101
 *** TIME = .141930E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2710E-05 OSCILLATION LIMIT = .3545
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4129E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 102
 *** TIME = .143238E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2762E-05 OSCILLATION LIMIT = .3614
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9112E-01
 HT FLOW CONVERGENCE VALUE= .4150E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 103
 *** TIME = .144547E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2696E-05 OSCILLATION LIMIT = .3527
 *** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
 HT FLOW CONVERGENCE VALUE= .4104E-01 CRITERION= .1983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 104
 *** TIME = .145855E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2740E-05 OSCILLATION LIMIT = .3584


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*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9111E-01
HT FLOW CONVERGENCE VALUE= .4111E-01 CRITERION= .1983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 105
*** TIME = .147163E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2685E-05 OSCILLATION LIMIT = .3513
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
HT FLOW CONVERGENCE VALUE= .4067E-01 CRITERION= .1982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 106
*** TIME = .148471E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2719E-05 OSCILLATION LIMIT = .3557
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9110E-01
HT FLOW CONVERGENCE VALUE= .4100E-01 CRITERION= .1982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 107
*** TIME = .149780E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2675E-05 OSCILLATION LIMIT = .3499
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
HT FLOW CONVERGENCE VALUE= .4055E-01 CRITERION= .1981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 108
*** TIME = .151088E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2701E-05 OSCILLATION LIMIT = .3534
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9109E-01
HT FLOW CONVERGENCE VALUE= .4077E-01 CRITERION= .1981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 20 COMPLETED. CUM ITER = 109
*** TIME = .152396E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2666E-05 OSCILLATION LIMIT = .3488
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
HT FLOW CONVERGENCE VALUE= .4039E-01 CRITERION= .1980 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 21 COMPLETED. CUM ITER = 110
*** TIME = .153704E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2684E-05 OSCILLATION LIMIT = .3512
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9108E-01
HT FLOW CONVERGENCE VALUE= .4070E-01 CRITERION= .1981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 22 COMPLETED. CUM ITER = 111
*** TIME = .155013E+08 TIME INC = 130827.
*** RESPONSE EIGENVALUE = .2657E-05 OSCILLATION LIMIT = .3477
*** AUTO STEP TIME: NEXT TIME INC = .13083E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.60 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9018E-01
HT FLOW CONVERGENCE VALUE= .4036E-01 CRITERION= .1979 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 23 COMPLETED. CUM ITER = 112

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*** TIME = .156321E+08 TIME INC = 130827.
 *** RESPONSE EIGENVALUE = .2668E-05 OSCILLATION LIMIT = .3491
 *** AUTO TIME STEP: NEXT TIME INC = 73369. DECREASED (FACTOR = .5608)

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5156E-01
 HT FLOW CONVERGENCE VALUE= .2260E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 24 COMPLETED. CUM ITER = 113
 *** TIME = .157055E+08 TIME INC = 73368.8
 *** RESPONSE EIGENVALUE = .4554E-05 OSCILLATION LIMIT = .3341
 *** AUTO STEP TIME: NEXT TIME INC = 73369. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.08 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5057E-01
 HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 25 COMPLETED. CUM ITER = 114
 *** TIME = .157788E+08 TIME INC = 73368.8
 *** RESPONSE EIGENVALUE = .3793E-05 OSCILLATION LIMIT = .2783

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:02:52 JUN 24, 1995 CP= 3965.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 19.18 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2107E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 115
 *** TIME = .158577E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2631E-05 OSCILLATION LIMIT = .2076
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.11 CRITERION= .1989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .1999E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 116
 *** TIME = .159366E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4423E-05 OSCILLATION LIMIT = .3490
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.18 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4670E-01
 HT FLOW CONVERGENCE VALUE= .2064E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 117
 *** TIME = .160155E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .3402E-05 OSCILLATION LIMIT = .2684
 *** AUTO STEP TIME: NEXT TIME INC = .14696E+06 INCREASED (FACTOR = 1.8627)

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
 HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 118
 *** TIME = .161625E+08 TIME INC = 146958.
 *** RESPONSE EIGENVALUE = .2319E-05 OSCILLATION LIMIT = .3408
 *** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.69 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8627E-01
 HT FLOW CONVERGENCE VALUE= .3804E-01 CRITERION= .1978 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 119
*** TIME = .163094E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .2809E-05 OSCILLATION LIMIT = .4128
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3715E-01 CRITERION= .1977 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 120
*** TIME = .164564E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3351E-05 OSCILLATION LIMIT = .4924
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.69 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8621E-01
HT FLOW CONVERGENCE VALUE= .3773E-01 CRITERION= .1977 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 121
*** TIME = .166033E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .2944E-05 OSCILLATION LIMIT = .4327
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2009
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3719E-01 CRITERION= .1976 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 122
*** TIME = .167503E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3172E-05 OSCILLATION LIMIT = .4662
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.69 CRITERION= .2007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8617E-01
HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .1976 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 123
*** TIME = .168973E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3028E-05 OSCILLATION LIMIT = .4449
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3721E-01 CRITERION= .1975 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 124
*** TIME = .170442E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3106E-05 OSCILLATION LIMIT = .4564
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.69 CRITERION= .2007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8614E-01
HT FLOW CONVERGENCE VALUE= .3765E-01 CRITERION= .1975 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 125
*** TIME = .171912E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3050E-05 OSCILLATION LIMIT = .4483
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3720E-01 CRITERION= .1974 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 126
*** TIME = .173381E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3077E-05 OSCILLATION LIMIT = .4522
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.68 CRITERION= .2006

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8612E-01
HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .1974 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 127
*** TIME = .174851E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3054E-05 OSCILLATION LIMIT = .4488
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3722E-01 CRITERION= .1973 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 128
*** TIME = .176320E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3060E-05 OSCILLATION LIMIT = .4497
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.68 CRITERION= .2005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8609E-01
HT FLOW CONVERGENCE VALUE= .3764E-01 CRITERION= .1973 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 129
*** TIME = .177790E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3052E-05 OSCILLATION LIMIT = .4485
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3722E-01 CRITERION= .1972 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 130
*** TIME = .179260E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3048E-05 OSCILLATION LIMIT = .4479
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.68 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8608E-01
HT FLOW CONVERGENCE VALUE= .3760E-01 CRITERION= .1972 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 131
*** TIME = .180729E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3047E-05 OSCILLATION LIMIT = .4478
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3722E-01 CRITERION= .1971 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 132
*** TIME = .182199E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3036E-05 OSCILLATION LIMIT = .4461
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.68 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8607E-01
HT FLOW CONVERGENCE VALUE= .3762E-01 CRITERION= .1971 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 133
*** TIME = .183668E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3040E-05 OSCILLATION LIMIT = .4468
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
HT FLOW CONVERGENCE VALUE= .3694E-01 CRITERION= .1970 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 134
*** TIME = .185138E+08 TIME INC = 146958.
*** RESPONSE EIGENVALUE = .3025E-05 OSCILLATION LIMIT = .4446
*** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 35.68 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8606E-01
 HT FLOW CONVERGENCE VALUE= .3784E-01 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 135
 *** TIME = .186608E+08 TIME INC = 146958.
 *** RESPONSE EIGENVALUE = .3035E-05 OSCILLATION LIMIT = .4460
 *** AUTO STEP TIME: NEXT TIME INC = .14696E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.62 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8543E-01
 HT FLOW CONVERGENCE VALUE= .3741E-01 CRITERION= .1969 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 136
 *** TIME = .188077E+08 TIME INC = 146958.
 *** RESPONSE EIGENVALUE = .3019E-05 OSCILLATION LIMIT = .4437
 *** AUTO TIME STEP: NEXT TIME INC = .12688E+06 DECREASED (FACTOR = .8634)

HT FLOW CONVERGENCE VALUE= 30.81 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7441E-01
 HT FLOW CONVERGENCE VALUE= .3257E-01 CRITERION= .1969 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 137
 *** TIME = .189346E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3403E-05 OSCILLATION LIMIT = .4317

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:17:56 JUN 24, 1995 CP= 4859.940
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2770E-01 CRITERION= .1968 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 138
 *** TIME = .190615E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3420E-05 OSCILLATION LIMIT = .4339
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6404E-01
 HT FLOW CONVERGENCE VALUE= .2776E-01 CRITERION= .1968 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 139
 *** TIME = .191884E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .4082E-05 OSCILLATION LIMIT = .5180
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2768E-01 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 140
 *** TIME = .193152E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3348E-05 OSCILLATION LIMIT = .4248
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6405E-01
 HT FLOW CONVERGENCE VALUE= .2788E-01 CRITERION= .1968 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 141
 *** TIME = .194421E+08 TIME INC = 126881.

*** RESPONSE EIGENVALUE = .3742E-05 OSCILLATION LIMIT = .4748
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2761E-01 CRITERION= .1966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 142
 *** TIME = .195690E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3524E-05 OSCILLATION LIMIT = .4471
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6405E-01
 HT FLOW CONVERGENCE VALUE= .2790E-01 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 143
 *** TIME = .196959E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3634E-05 OSCILLATION LIMIT = .4611
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2758E-01 CRITERION= .1966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 144
 *** TIME = .198228E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3563E-05 OSCILLATION LIMIT = .4521
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6404E-01
 HT FLOW CONVERGENCE VALUE= .2789E-01 CRITERION= .1966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 145
 *** TIME = .199496E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3600E-05 OSCILLATION LIMIT = .4568
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2757E-01 CRITERION= .1965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 146
 *** TIME = .200765E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3566E-05 OSCILLATION LIMIT = .4525
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6403E-01
 HT FLOW CONVERGENCE VALUE= .2788E-01 CRITERION= .1965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 147
 *** TIME = .202034E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3584E-05 OSCILLATION LIMIT = .4547
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2756E-01 CRITERION= .1964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 148
 *** TIME = .203303E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3560E-05 OSCILLATION LIMIT = .4517
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6402E-01
 HT FLOW CONVERGENCE VALUE= .2801E-01 CRITERION= .1964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 149
 *** TIME = .204572E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3572E-05 OSCILLATION LIMIT = .4532
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2819E-01 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 150
 *** TIME = .205840E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3552E-05 OSCILLATION LIMIT = .4507
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6401E-01
 HT FLOW CONVERGENCE VALUE= .2851E-01 CRITERION= .1964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 151
 *** TIME = .207109E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3564E-05 OSCILLATION LIMIT = .4522
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2818E-01 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 152
 *** TIME = .208378E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3545E-05 OSCILLATION LIMIT = .4498
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6400E-01
 HT FLOW CONVERGENCE VALUE= .2850E-01 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 153
 *** TIME = .209647E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3555E-05 OSCILLATION LIMIT = .4510
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2818E-01 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 154
 *** TIME = .210916E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3536E-05 OSCILLATION LIMIT = .4486
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6399E-01
 HT FLOW CONVERGENCE VALUE= .2849E-01 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 155
 *** TIME = .212184E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3546E-05 OSCILLATION LIMIT = .4499
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2817E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 156
 *** TIME = .213453E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3526E-05 OSCILLATION LIMIT = .4474
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6398E-01

HT FLOW CONVERGENCE VALUE= .2848E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 157
 *** TIME = .214722E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3537E-05 OSCILLATION LIMIT = .4488
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2816E-01 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 158
 *** TIME = .215991E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3518E-05 OSCILLATION LIMIT = .4463
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6397E-01
 HT FLOW CONVERGENCE VALUE= .2846E-01 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 159
 *** TIME = .217260E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3529E-05 OSCILLATION LIMIT = .4477
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.47 CRITERION= .1978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6354E-01
 HT FLOW CONVERGENCE VALUE= .2815E-01 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 160
 *** TIME = .218528E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3509E-05 OSCILLATION LIMIT = .4452
 *** AUTO STEP TIME: NEXT TIME INC = .12688E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.53 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6396E-01
 HT FLOW CONVERGENCE VALUE= .2845E-01 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 161
 *** TIME = .219797E+08 TIME INC = 126881.
 *** RESPONSE EIGENVALUE = .3520E-05 OSCILLATION LIMIT = .4467
 *** AUTO TIME STEP: NEXT TIME INC = .11063E+06 DECREASED (FACTOR = .8719)

HT FLOW CONVERGENCE VALUE= 23.08 CRITERION= .1973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5540E-01
 HT FLOW CONVERGENCE VALUE= .2445E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 162
 *** TIME = .220904E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .3850E-05 OSCILLATION LIMIT = .4259

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:34:19 JUN 24, 1995 CP= 5832.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4950E-01
 HT FLOW CONVERGENCE VALUE= .2135E-01 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 163
 *** TIME = .222010E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .3912E-05 OSCILLATION LIMIT = .4328
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 164
 *** TIME = .223116E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4524E-05 OSCILLATION LIMIT = .5004
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4946E-01
 HT FLOW CONVERGENCE VALUE= .2208E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 165
 *** TIME = .224222E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .3909E-05 OSCILLATION LIMIT = .4325
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2167E-01 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 166
 *** TIME = .225329E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4197E-05 OSCILLATION LIMIT = .4643
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4944E-01
 HT FLOW CONVERGENCE VALUE= .2203E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 167
 *** TIME = .226435E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4052E-05 OSCILLATION LIMIT = .4483
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2168E-01 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 168
 *** TIME = .227541E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4107E-05 OSCILLATION LIMIT = .4543
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4943E-01
 HT FLOW CONVERGENCE VALUE= .2204E-01 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 169
 *** TIME = .228647E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4074E-05 OSCILLATION LIMIT = .4507
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 170
 *** TIME = .229754E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4079E-05 OSCILLATION LIMIT = .4512
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4942E-01
 HT FLOW CONVERGENCE VALUE= .2214E-01 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 171
 *** TIME = .230860E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4070E-05 OSCILLATION LIMIT = .4503

*** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .1955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 172
 *** TIME = .231966E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4063E-05 OSCILLATION LIMIT = .4495
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4941E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .1955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 173
 *** TIME = .233072E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4061E-05 OSCILLATION LIMIT = .4493
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 174
 *** TIME = .234179E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4051E-05 OSCILLATION LIMIT = .4482
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4940E-01
 HT FLOW CONVERGENCE VALUE= .2217E-01 CRITERION= .1955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 175
 *** TIME = .235285E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4052E-05 OSCILLATION LIMIT = .4483
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 176
 *** TIME = .236391E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4039E-05 OSCILLATION LIMIT = .4469
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4939E-01
 HT FLOW CONVERGENCE VALUE= .2216E-01 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 177
 *** TIME = .237498E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4042E-05 OSCILLATION LIMIT = .4472
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
 HT FLOW CONVERGENCE VALUE= .2180E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 178
 *** TIME = .238604E+08 TIME INC = 110627.
 *** RESPONSE EIGENVALUE = .4028E-05 OSCILLATION LIMIT = .4456
 *** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4938E-01
 HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 179

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*** TIME = .239710E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4034E-05    OSCILLATION LIMIT = .4462
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.42    CRITERION= .1964
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
    HT FLOW CONVERGENCE VALUE= .2195E-01    CRITERION= .1952    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 180
*** TIME = .240816E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4021E-05    OSCILLATION LIMIT = .4448
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.48    CRITERION= .1963
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4937E-01
    HT FLOW CONVERGENCE VALUE= .2233E-01    CRITERION= .1953    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 181
*** TIME = .241923E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4024E-05    OSCILLATION LIMIT = .4452
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.42    CRITERION= .1963
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
    HT FLOW CONVERGENCE VALUE= .2240E-01    CRITERION= .1952    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 182
*** TIME = .243029E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4010E-05    OSCILLATION LIMIT = .4436
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.48    CRITERION= .1962
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4936E-01
    HT FLOW CONVERGENCE VALUE= .2311E-01    CRITERION= .1952    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 183
*** TIME = .244135E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4016E-05    OSCILLATION LIMIT = .4442
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.42    CRITERION= .1963
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
    HT FLOW CONVERGENCE VALUE= .2281E-01    CRITERION= .1951    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 184
*** TIME = .245241E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4004E-05    OSCILLATION LIMIT = .4429
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.47    CRITERION= .1962
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4935E-01
    HT FLOW CONVERGENCE VALUE= .2310E-01    CRITERION= .1951    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 185
*** TIME = .246348E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4009E-05    OSCILLATION LIMIT = .4435
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.42    CRITERION= .1962
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
    HT FLOW CONVERGENCE VALUE= .2280E-01    CRITERION= .1950    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 186
*** TIME = .247454E+08    TIME INC = 110627.
*** RESPONSE EIGENVALUE = .3995E-05    OSCILLATION LIMIT = .4419
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.47    CRITERION= .1961
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4934E-01
    HT FLOW CONVERGENCE VALUE= .2315E-01    CRITERION= .1951    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 187
*** TIME = .248560E+08 TIME INC = 110627.
*** RESPONSE EIGENVALUE = .4000E-05 OSCILLATION LIMIT = .4425
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.42 CRITERION= .1961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4901E-01
HT FLOW CONVERGENCE VALUE= .2288E-01 CRITERION= .1950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 188
*** TIME = .249667E+08 TIME INC = 110627.
*** RESPONSE EIGENVALUE = .3987E-05 OSCILLATION LIMIT = .4411
*** AUTO STEP TIME: NEXT TIME INC = .11063E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.47 CRITERION= .1960
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4934E-01
HT FLOW CONVERGENCE VALUE= .2316E-01 CRITERION= .1950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 189
*** TIME = .250773E+08 TIME INC = 110627.
*** RESPONSE EIGENVALUE = .3992E-05 OSCILLATION LIMIT = .4416
*** AUTO TIME STEP: NEXT TIME INC = 84416. DECREASED (FACTOR = .7631)

HT FLOW CONVERGENCE VALUE= 15.58 CRITERION= .1956
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3740E-01
HT FLOW CONVERGENCE VALUE= .1733E-01 CRITERION= .1949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 190
*** TIME = .251617E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4756E-05 OSCILLATION LIMIT = .4015
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.63 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3773E-01
HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .1950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 191
*** TIME = .252461E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4417E-05 OSCILLATION LIMIT = .3729

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:53:20 JUN 24, 1995 CP= 6962.920
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .1949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 192
*** TIME = .253305E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4005E-05 OSCILLATION LIMIT = .3381
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3342E-01
HT FLOW CONVERGENCE VALUE= .1534E-01 CRITERION= .1949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 193
*** TIME = .254149E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .5381E-05 OSCILLATION LIMIT = .4543
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1954

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1524E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 194
*** TIME = .254994E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4501E-05 OSCILLATION LIMIT = .3800
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3342E-01
HT FLOW CONVERGENCE VALUE= .1542E-01 CRITERION= .1949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 195
*** TIME = .255838E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4816E-05 OSCILLATION LIMIT = .4065
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1521E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 196
*** TIME = .256682E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4695E-05 OSCILLATION LIMIT = .3963
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3342E-01
HT FLOW CONVERGENCE VALUE= .1543E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 197
*** TIME = .257526E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4727E-05 OSCILLATION LIMIT = .3990
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1521E-01 CRITERION= .1947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 198
*** TIME = .258370E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4705E-05 OSCILLATION LIMIT = .3972
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3341E-01
HT FLOW CONVERGENCE VALUE= .1542E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 199
*** TIME = .259214E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4701E-05 OSCILLATION LIMIT = .3968
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1533E-01 CRITERION= .1947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 200
*** TIME = .260059E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4696E-05 OSCILLATION LIMIT = .3964
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3340E-01
HT FLOW CONVERGENCE VALUE= .1573E-01 CRITERION= .1947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 201
*** TIME = .260903E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4684E-05 OSCILLATION LIMIT = .3954
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
 HT FLOW CONVERGENCE VALUE= .1509E-01 CRITERION= .1946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 202
 *** TIME = .261747E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4689E-05 OSCILLATION LIMIT = .3958
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3339E-01
 HT FLOW CONVERGENCE VALUE= .1538E-01 CRITERION= .1947 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 203
 *** TIME = .262591E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4671E-05 OSCILLATION LIMIT = .3943
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
 HT FLOW CONVERGENCE VALUE= .1518E-01 CRITERION= .1946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 204
 *** TIME = .263435E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4682E-05 OSCILLATION LIMIT = .3952
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3339E-01
 HT FLOW CONVERGENCE VALUE= .1537E-01 CRITERION= .1946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 205
 *** TIME = .264279E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4659E-05 OSCILLATION LIMIT = .3933
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
 HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1945 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 206
 *** TIME = .265123E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4669E-05 OSCILLATION LIMIT = .3942
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3338E-01
 HT FLOW CONVERGENCE VALUE= .1537E-01 CRITERION= .1946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 207
 *** TIME = .265968E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4646E-05 OSCILLATION LIMIT = .3922
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
 HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1945 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 208
 *** TIME = .266812E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4657E-05 OSCILLATION LIMIT = .3931
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3337E-01
 HT FLOW CONVERGENCE VALUE= .1544E-01 CRITERION= .1945 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 209
 *** TIME = .267656E+08 TIME INC = 84415.7

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*** RESPONSE EIGENVALUE = .4634E-05 OSCILLATION LIMIT = .3912
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1524E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 210
*** TIME = .268500E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4646E-05 OSCILLATION LIMIT = .3922
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3337E-01
HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 211
*** TIME = .269344E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4623E-05 OSCILLATION LIMIT = .3903
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1535E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 212
*** TIME = .270188E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4636E-05 OSCILLATION LIMIT = .3913
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3336E-01
HT FLOW CONVERGENCE VALUE= .1553E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 213
*** TIME = .271033E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4613E-05 OSCILLATION LIMIT = .3894
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1531E-01 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 214
*** TIME = .271877E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4625E-05 OSCILLATION LIMIT = .3904
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3335E-01
HT FLOW CONVERGENCE VALUE= .1555E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 215
*** TIME = .272721E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4603E-05 OSCILLATION LIMIT = .3886
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1535E-01 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 216
*** TIME = .273565E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4616E-05 OSCILLATION LIMIT = .3897
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3335E-01
HT FLOW CONVERGENCE VALUE= .1559E-01 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 217
*** TIME = .274409E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4595E-05 OSCILLATION LIMIT = .3879
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1543E-01 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 218
*** TIME = .275253E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4608E-05 OSCILLATION LIMIT = .3890
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3334E-01
HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 219
*** TIME = .276098E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4586E-05 OSCILLATION LIMIT = .3872
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 220
*** TIME = .276942E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4598E-05 OSCILLATION LIMIT = .3882
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3333E-01
HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 221
*** TIME = .277786E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4577E-05 OSCILLATION LIMIT = .3864
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .1941 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 222
*** TIME = .278630E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4589E-05 OSCILLATION LIMIT = .3874
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3333E-01
HT FLOW CONVERGENCE VALUE= .1567E-01 CRITERION= .1941 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 223
*** TIME = .279474E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4568E-05 OSCILLATION LIMIT = .3856
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .1533E-01 CRITERION= .1941 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 224
*** TIME = .280318E+08 TIME INC = 84415.7
*** RESPONSE EIGENVALUE = .4580E-05 OSCILLATION LIMIT = .3866
*** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3332E-01

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HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .1941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 225
 *** TIME = .281162E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4561E-05 OSCILLATION LIMIT = .3850
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.79 CRITERION= .1946
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
 HT FLOW CONVERGENCE VALUE= .1537E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 226
 *** TIME = .282007E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4574E-05 OSCILLATION LIMIT = .3861
 *** AUTO STEP TIME: NEXT TIME INC = 84416. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.84 CRITERION= .1945
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3332E-01
 HT FLOW CONVERGENCE VALUE= .1553E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 227
 *** TIME = .282851E+08 TIME INC = 84415.7
 *** RESPONSE EIGENVALUE = .4554E-05 OSCILLATION LIMIT = .3844
 *** AUTO STEP TIME: NEXT TIME INC = 58398. DECREASED (FACTOR = .6918)

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .1943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2292E-01
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 228
 *** TIME = .283435E+08 TIME INC = 58397.7
 *** RESPONSE EIGENVALUE = .5663E-05 OSCILLATION LIMIT = .3307
 *** AUTO STEP TIME: NEXT TIME INC = 58398. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.583 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2311E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 229
 *** TIME = .284019E+08 TIME INC = 58397.7
 *** RESPONSE EIGENVALUE = .5283E-05 OSCILLATION LIMIT = .3085
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 98.188 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 98.935 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 100.50 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 8442.990 TIME= 08:18:16
 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 08:18:16 JUN 24, 1995 CP= 8442.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 11.74 CRITERION= .1944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1319E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 230
 *** TIME = .284808E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .3921E-05 OSCILLATION LIMIT = .3093
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2836E-01
 HT FLOW CONVERGENCE VALUE= .1312E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 231
 *** TIME = .285597E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5263E-05 OSCILLATION LIMIT = .4152
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 232
 *** TIME = .286386E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5108E-05 OSCILLATION LIMIT = .4030
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2836E-01
 HT FLOW CONVERGENCE VALUE= .1302E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 233
 *** TIME = .287174E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5098E-05 OSCILLATION LIMIT = .4022
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1293E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 234
 *** TIME = .287963E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5115E-05 OSCILLATION LIMIT = .4035
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2835E-01
 HT FLOW CONVERGENCE VALUE= .1292E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 235
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5089E-05 OSCILLATION LIMIT = .4015
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1282E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 236
 *** TIME = .289541E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5111E-05 OSCILLATION LIMIT = .4032
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2835E-01
 HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 237
 *** TIME = .290330E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5079E-05 OSCILLATION LIMIT = .4007
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1292E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 238
 *** TIME = .291119E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5106E-05 OSCILLATION LIMIT = .4028
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2834E-01
 HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 239
 *** TIME = .291908E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5071E-05 OSCILLATION LIMIT = .4001
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1288E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 240
 *** TIME = .292697E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5101E-05 OSCILLATION LIMIT = .4025
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2834E-01
 HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 241
 *** TIME = .293486E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5064E-05 OSCILLATION LIMIT = .3995
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 242
 *** TIME = .294275E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5096E-05 OSCILLATION LIMIT = .4020
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2834E-01
 HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 243
 *** TIME = .295064E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5057E-05 OSCILLATION LIMIT = .3989
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .1936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 244
 *** TIME = .295853E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5088E-05 OSCILLATION LIMIT = .4014
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2833E-01
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 245
 *** TIME = .296642E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5049E-05 OSCILLATION LIMIT = .3984
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .1936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 246
 *** TIME = .297431E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5082E-05 OSCILLATION LIMIT = .4009
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2833E-01
 HT FLOW CONVERGENCE VALUE= .1276E-01 CRITERION= .1936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 247
 *** TIME = .298220E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5044E-05 OSCILLATION LIMIT = .3979
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 248
 *** TIME = .299009E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5078E-05 OSCILLATION LIMIT = .4006
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2833E-01
 HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .1936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 249
 *** TIME = .299798E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5038E-05 OSCILLATION LIMIT = .3975
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1266E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 250
 *** TIME = .300586E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5072E-05 OSCILLATION LIMIT = .4002
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2832E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 251
 *** TIME = .301375E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5033E-05 OSCILLATION LIMIT = .3970
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1266E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 252
 *** TIME = .302164E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5067E-05 OSCILLATION LIMIT = .3998
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2832E-01
 HT FLOW CONVERGENCE VALUE= .1274E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 253
 *** TIME = .302953E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5027E-05 OSCILLATION LIMIT = .3966
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1264E-01 CRITERION= .1934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 254
 *** TIME = .303742E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5063E-05 OSCILLATION LIMIT = .3994
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2832E-01

HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .1934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 255
 *** TIME = .304531E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5023E-05 OSCILLATION LIMIT = .3963
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .1934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 256
 *** TIME = .305320E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5059E-05 OSCILLATION LIMIT = .3991
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2831E-01
 HT FLOW CONVERGENCE VALUE= .1282E-01 CRITERION= .1934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 257
 *** TIME = .306109E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5019E-05 OSCILLATION LIMIT = .3960
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .1933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 258
 *** TIME = .306898E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5054E-05 OSCILLATION LIMIT = .3987
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2831E-01
 HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .1933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 259
 *** TIME = .307687E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5014E-05 OSCILLATION LIMIT = .3956
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1270E-01 CRITERION= .1933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 260
 *** TIME = .308476E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5049E-05 OSCILLATION LIMIT = .3983
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2831E-01
 HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .1933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 261
 *** TIME = .309265E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5009E-05 OSCILLATION LIMIT = .3952
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .1932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 262
 *** TIME = .310054E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5046E-05 OSCILLATION LIMIT = .3981
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2830E-01
 HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .1932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 263
 *** TIME = .310843E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5006E-05 OSCILLATION LIMIT = .3949
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .1932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 264
 *** TIME = .311632E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5043E-05 OSCILLATION LIMIT = .3979
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2830E-01
 HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .1932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 265
 *** TIME = .312421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5002E-05 OSCILLATION LIMIT = .3946
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .1931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 266
 *** TIME = .313209E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5039E-05 OSCILLATION LIMIT = .3975
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2830E-01
 HT FLOW CONVERGENCE VALUE= .1290E-01 CRITERION= .1932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 267
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4998E-05 OSCILLATION LIMIT = .3943
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.74 CRITERION= .1935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2821E-01
 HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .1931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 268
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5035E-05 OSCILLATION LIMIT = .3972
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .1935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2830E-01
 HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 269
 *** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4995E-05 OSCILLATION LIMIT = .3940

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:44:29 JUN 24, 1995 CP= 10000.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 76.79 CRITERION= .2078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .8338E-01 CRITERION= .1929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 270
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4159E-05 OSCILLATION LIMIT = 3.281
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.85 CRITERION= .2076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .8167E-01 CRITERION= .1928 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 271
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7864E-05 OSCILLATION LIMIT = 6.204
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.82 CRITERION= .2075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .8091E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 272
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6931E-05 OSCILLATION LIMIT = 5.468
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.86 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7596E-01 CRITERION= .1924 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 273
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7547E-05 OSCILLATION LIMIT = 5.954
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.83 CRITERION= .2072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7535E-01 CRITERION= .1922 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 274
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7001E-05 OSCILLATION LIMIT = 5.523
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.88 CRITERION= .2070
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7460E-01 CRITERION= .1920 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 275
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7496E-05 OSCILLATION LIMIT = 5.914
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.85 CRITERION= .2068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7353E-01 CRITERION= .1918 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 276
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7043E-05 OSCILLATION LIMIT = 5.556
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.91 CRITERION= .2067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6984E-01 CRITERION= .1917 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 277
*** TIME = .378692E+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= 76.89 CRITERION= .2065
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6801E-01 CRITERION= .1915 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 278
*** TIME = .386581E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7078E-05 OSCILLATION LIMIT = 5.584
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.94 CRITERION= .2063
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6762E-01 CRITERION= .1913 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 279
*** TIME = .394470E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7398E-05 OSCILLATION LIMIT = 5.837
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.92 CRITERION= .2062
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6776E-01 CRITERION= .1911 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 280
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7097E-05 OSCILLATION LIMIT = 5.599
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.99 CRITERION= .2060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6752E-01 CRITERION= .1909 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 281
*** TIME = .410249E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7352E-05 OSCILLATION LIMIT = 5.800
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.97 CRITERION= .2059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6762E-01 CRITERION= .1907 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 282
*** TIME = .418139E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7106E-05 OSCILLATION LIMIT = 5.606
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.04 CRITERION= .2057
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6741E-01 CRITERION= .1906 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 283
*** TIME = .426028E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7310E-05 OSCILLATION LIMIT = 5.767
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.02 CRITERION= .2055
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6749E-01 CRITERION= .1904 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 284
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7110E-05 OSCILLATION LIMIT = 5.609
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.08 CRITERION= .2054

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6731E-01 CRITERION= .1902 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 285
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7274E-05 OSCILLATION LIMIT = 5.739
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.06 CRITERION= .2052
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6771E-01 CRITERION= .1900 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 286
*** TIME = .449696E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7111E-05 OSCILLATION LIMIT = 5.610
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.13 CRITERION= .2050
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6853E-01 CRITERION= .1898 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 287
*** TIME = .457586E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7243E-05 OSCILLATION LIMIT = 5.714
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.11 CRITERION= .2049
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6856E-01 CRITERION= .1896 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 288
*** TIME = .465475E+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= 77.18 CRITERION= .2047
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6840E-01 CRITERION= .1894 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 289
*** TIME = .473364E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7219E-05 OSCILLATION LIMIT = 5.695
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.16 CRITERION= .2045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6842E-01 CRITERION= .1892 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 290
*** TIME = .481254E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7111E-05 OSCILLATION LIMIT = 5.610
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.22 CRITERION= .2044
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6813E-01 CRITERION= .1891 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 291
*** TIME = .489143E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7192E-05 OSCILLATION LIMIT = 5.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.20 CRITERION= .2042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
HT FLOW CONVERGENCE VALUE= .6831E-01 CRITERION= .1889 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 292
*** TIME = .497033E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7102E-05 OSCILLATION LIMIT = 5.603
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 77.27 CRITERION= .2040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6819E-01 CRITERION= .1887 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 293
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7165E-05 OSCILLATION LIMIT = 5.652
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.25 CRITERION= .2039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6810E-01 CRITERION= .1885 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 294
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7094E-05 OSCILLATION LIMIT = 5.597
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.32 CRITERION= .2037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6810E-01 CRITERION= .1883 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 295
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7140E-05 OSCILLATION LIMIT = 5.633
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.30 CRITERION= .2036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6810E-01 CRITERION= .1881 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 296
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7082E-05 OSCILLATION LIMIT = 5.587
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.36 CRITERION= .2034
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6799E-01 CRITERION= .1880 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 297
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7117E-05 OSCILLATION LIMIT = 5.615
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.34 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6799E-01 CRITERION= .1877 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 298
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7071E-05 OSCILLATION LIMIT = 5.579
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.41 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6788E-01 CRITERION= .1876 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 299
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7097E-05 OSCILLATION LIMIT = 5.599
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.39 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6788E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 300
 *** TIME = .560148E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7060E-05 OSCILLATION LIMIT = 5.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.46 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .6782E-01 CRITERION= .1872 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 301
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7078E-05 OSCILLATION LIMIT = 5.584
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.44 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7071E-01 CRITERION= .1870 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 302
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7048E-05 OSCILLATION LIMIT = 5.560
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.50 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7060E-01 CRITERION= .1868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 303
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7068E-05 OSCILLATION LIMIT = 5.576
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.48 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7057E-01 CRITERION= .1866 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 304
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7044E-05 OSCILLATION LIMIT = 5.558
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.55 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7082E-01 CRITERION= .1865 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 305
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7049E-05 OSCILLATION LIMIT = 5.561
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.53 CRITERION= .2019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7163E-01 CRITERION= .1863 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 306
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7032E-05 OSCILLATION LIMIT = 5.548
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.60 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7151E-01 CRITERION= .1861 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 307
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7035E-05 OSCILLATION LIMIT = 5.550
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.58 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7147E-01 CRITERION= .1859 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 308
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7021E-05 OSCILLATION LIMIT = 5.539
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.64 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1845
 HT FLOW CONVERGENCE VALUE= .7136E-01 CRITERION= .1857 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 309
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7017E-05 OSCILLATION LIMIT = 5.536

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:10:44 JUN 24, 1995 CP= 11559.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 42.71 CRITERION= .1906
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3690E-01 CRITERION= .1855 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 310
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1915E-04 OSCILLATION LIMIT = 15.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.75 CRITERION= .1904
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .1854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 311
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1724E-04 OSCILLATION LIMIT = 13.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.72 CRITERION= .1902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3760E-01 CRITERION= .1852 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 312
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1360E-04 OSCILLATION LIMIT = 10.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.77 CRITERION= .1901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .1851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 313
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1719E-04 OSCILLATION LIMIT = 13.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.74 CRITERION= .1899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3754E-01 CRITERION= .1849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 314
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.78 CRITERION= .1898
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017

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HT FLOW CONVERGENCE VALUE= .3697E-01 CRITERION= .1848 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 315
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1684E-04 OSCILLATION LIMIT = 13.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.75 CRITERION= .1896
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3743E-01 CRITERION= .1846 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 316
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1413E-04 OSCILLATION LIMIT = 11.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.80 CRITERION= .1895
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3693E-01 CRITERION= .1845 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 317
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1656E-04 OSCILLATION LIMIT = 13.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.77 CRITERION= .1893
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3734E-01 CRITERION= .1843 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 318
*** TIME = .702157E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1433E-04 OSCILLATION LIMIT = 11.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.81 CRITERION= .1892
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3692E-01 CRITERION= .1841 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 319
*** TIME = .710046E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1632E-04 OSCILLATION LIMIT = 12.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.78 CRITERION= .1890
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3725E-01 CRITERION= .1840 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 320
*** TIME = .717936E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1450E-04 OSCILLATION LIMIT = 11.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.82 CRITERION= .1889
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3689E-01 CRITERION= .1838 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 321
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1613E-04 OSCILLATION LIMIT = 12.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.79 CRITERION= .1887
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .1837 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 322
*** TIME = .733715E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1463E-04 OSCILLATION LIMIT = 11.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 42.84    CRITERION= .1886
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3685E-01 CRITERION= .1835    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 323
*** TIME = .741604E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1596E-04    OSCILLATION LIMIT = 12.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.81    CRITERION= .1884
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3709E-01 CRITERION= .1834    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 324
*** TIME = .749493E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1473E-04    OSCILLATION LIMIT = 11.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.85    CRITERION= .1883
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3682E-01 CRITERION= .1832    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 325
*** TIME = .757383E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1583E-04    OSCILLATION LIMIT = 12.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.82    CRITERION= .1881
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3702E-01 CRITERION= .1830    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 326
*** TIME = .765272E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1482E-04    OSCILLATION LIMIT = 11.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.87    CRITERION= .1880
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3677E-01 CRITERION= .1829    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 327
*** TIME = .773162E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1572E-04    OSCILLATION LIMIT = 12.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.84    CRITERION= .1878
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3712E-01 CRITERION= .1827    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 328
*** TIME = .781051E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1488E-04    OSCILLATION LIMIT = 11.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.88    CRITERION= .1877
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3779E-01 CRITERION= .1826    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 329
*** TIME = .788940E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1562E-04    OSCILLATION LIMIT = 12.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.85    CRITERION= .1876
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3795E-01 CRITERION= .1824    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 330
*** TIME = .796830E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1494E-04    OSCILLATION LIMIT = 11.79

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.89 CRITERION= .1874
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3775E-01 CRITERION= .1823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 331
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1555E-04 OSCILLATION LIMIT = 12.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.86 CRITERION= .1873
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3789E-01 CRITERION= .1821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 332
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1498E-04 OSCILLATION LIMIT = 11.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.91 CRITERION= .1871
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3762E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 333
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1548E-04 OSCILLATION LIMIT = 12.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.88 CRITERION= .1870
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3777E-01 CRITERION= .1818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 334
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1502E-04 OSCILLATION LIMIT = 11.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.92 CRITERION= .1868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3759E-01 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 335
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1543E-04 OSCILLATION LIMIT = 12.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.89 CRITERION= .1867
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3769E-01 CRITERION= .1815 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 336
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1504E-04 OSCILLATION LIMIT = 11.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.94 CRITERION= .1865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3753E-01 CRITERION= .1814 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 337
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1538E-04 OSCILLATION LIMIT = 12.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.91 CRITERION= .1864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .3763E-01 CRITERION= .1812 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 338


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*** TIME = .859945E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1505E-04    OSCILLATION LIMIT = 11.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.95    CRITERION= .1862
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3748E-01    CRITERION= .1810    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 339
*** TIME = .867834E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1533E-04    OSCILLATION LIMIT = 12.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.92    CRITERION= .1861
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3757E-01    CRITERION= .1809    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 340
*** TIME = .875724E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1506E-04    OSCILLATION LIMIT = 11.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.97    CRITERION= .1859
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3742E-01    CRITERION= .1807    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 341
*** TIME = .883613E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1529E-04    OSCILLATION LIMIT = 12.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.93    CRITERION= .1858
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3750E-01    CRITERION= .1806    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 342
*** TIME = .891503E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1506E-04    OSCILLATION LIMIT = 11.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.98    CRITERION= .1856
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3736E-01    CRITERION= .1804    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 343
*** TIME = .899392E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1525E-04    OSCILLATION LIMIT = 12.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.95    CRITERION= .1855
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3743E-01    CRITERION= .1803    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 344
*** TIME = .907281E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1506E-04    OSCILLATION LIMIT = 11.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.99    CRITERION= .1853
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3730E-01    CRITERION= .1801    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 345
*** TIME = .915171E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1521E-04    OSCILLATION LIMIT = 12.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.96    CRITERION= .1852
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
    HT FLOW CONVERGENCE VALUE= .3736E-01    CRITERION= .1799    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 346
*** TIME = .923060E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1506E-04 OSCILLATION LIMIT = 11.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .1850
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3724E-01 CRITERION= .1798 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 347
*** TIME = .930950E+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= 42.98 CRITERION= .1849
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3730E-01 CRITERION= .1796 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 348
*** TIME = .938839E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1505E-04 OSCILLATION LIMIT = 11.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.02 CRITERION= .1847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
HT FLOW CONVERGENCE VALUE= .3718E-01 CRITERION= .1795 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 349
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1515E-04 OSCILLATION LIMIT = 11.95

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:36:57 JUN 24, 1995 CP= 13118.640
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .1816
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
HT FLOW CONVERGENCE VALUE= .2269E-01 CRITERION= .1793 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 350
*** TIME = .954618E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2981E-04 OSCILLATION LIMIT = 23.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.40 CRITERION= .1814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
HT FLOW CONVERGENCE VALUE= .2265E-01 CRITERION= .1792 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 351
*** TIME = .962507E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2845E-04 OSCILLATION LIMIT = 22.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .1813
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
HT FLOW CONVERGENCE VALUE= .2290E-01 CRITERION= .1791 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 352
*** TIME = .970397E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2522E-04 OSCILLATION LIMIT = 19.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.40 CRITERION= .1812

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2263E-01 CRITERION= .1790 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 353
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2840E-04 OSCILLATION LIMIT = 22.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.37 CRITERION= .1810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .1788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 354
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2548E-04 OSCILLATION LIMIT = 20.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.41 CRITERION= .1809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .1787 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 355
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2812E-04 OSCILLATION LIMIT = 22.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.38 CRITERION= .1808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2397E-01 CRITERION= .1786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 356
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2572E-04 OSCILLATION LIMIT = 20.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.41 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .1784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 357
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2790E-04 OSCILLATION LIMIT = 22.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.38 CRITERION= .1805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2393E-01 CRITERION= .1783 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 358
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2590E-04 OSCILLATION LIMIT = 20.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.42 CRITERION= .1804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2372E-01 CRITERION= .1782 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 359
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2769E-04 OSCILLATION LIMIT = 21.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.39 CRITERION= .1803
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2383E-01 CRITERION= .1780 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 360
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2604E-04 OSCILLATION LIMIT = 20.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.43 CRITERION= .1801
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2365E-01 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 361
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2753E-04 OSCILLATION LIMIT = 21.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.39 CRITERION= .1800
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2380E-01 CRITERION= .1778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 362
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2616E-04 OSCILLATION LIMIT = 20.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.43 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2362E-01 CRITERION= .1777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 363
 *** TIME = .105718E+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= 27.40 CRITERION= .1797
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2375E-01 CRITERION= .1775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 364
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2625E-04 OSCILLATION LIMIT = 20.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.44 CRITERION= .1796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2380E-01 CRITERION= .1774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 365
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2728E-04 OSCILLATION LIMIT = 21.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.40 CRITERION= .1795
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .1772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 366
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2633E-04 OSCILLATION LIMIT = 20.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.44 CRITERION= .1794
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .1771 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 367
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2719E-04 OSCILLATION LIMIT = 21.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.41 CRITERION= .1792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2425E-01 CRITERION= .1770 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 368
 *** TIME = .109663E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2639E-04 OSCILLATION LIMIT = 20.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.45 CRITERION= .1791
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2410E-01 CRITERION= .1769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 369
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2710E-04 OSCILLATION LIMIT = 21.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.42 CRITERION= .1790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2420E-01 CRITERION= .1767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 370
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2643E-04 OSCILLATION LIMIT = 20.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.45 CRITERION= .1788
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2403E-01 CRITERION= .1766 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 371
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2703E-04 OSCILLATION LIMIT = 21.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.42 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2414E-01 CRITERION= .1765 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 372
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2647E-04 OSCILLATION LIMIT = 20.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.46 CRITERION= .1786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2401E-01 CRITERION= .1763 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 373
 *** TIME = .113607E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2697E-04 OSCILLATION LIMIT = 21.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.43 CRITERION= .1785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2410E-01 CRITERION= .1762 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 374
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2649E-04 OSCILLATION LIMIT = 20.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.47 CRITERION= .1783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2397E-01 CRITERION= .1761 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 375
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2691E-04 OSCILLATION LIMIT = 21.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.43 CRITERION= .1782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2407E-01 CRITERION= .1759 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 376
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2651E-04 OSCILLATION LIMIT = 20.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.47 CRITERION= .1781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .1758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 377
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2686E-04 OSCILLATION LIMIT = 21.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.44 CRITERION= .1779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2406E-01 CRITERION= .1757 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 378
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2652E-04 OSCILLATION LIMIT = 20.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.48 CRITERION= .1778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2395E-01 CRITERION= .1756 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 379
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2682E-04 OSCILLATION LIMIT = 21.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.44 CRITERION= .1777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2403E-01 CRITERION= .1754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 380
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2653E-04 OSCILLATION LIMIT = 20.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.48 CRITERION= .1775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2391E-01 CRITERION= .1753 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 381
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2678E-04 OSCILLATION LIMIT = 21.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.45 CRITERION= .1774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2399E-01 CRITERION= .1752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 382
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2653E-04 OSCILLATION LIMIT = 20.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.49 CRITERION= .1773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2388E-01 CRITERION= .1750 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 383
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2674E-04 OSCILLATION LIMIT = 21.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.46 CRITERION= .1772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01

HT FLOW CONVERGENCE VALUE= .2396E-01 CRITERION= .1749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 384
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2653E-04 OSCILLATION LIMIT = 20.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.49 CRITERION= .1770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2384E-01 CRITERION= .1748 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 385
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2671E-04 OSCILLATION LIMIT = 21.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.46 CRITERION= .1769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2392E-01 CRITERION= .1746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 386
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2653E-04 OSCILLATION LIMIT = 20.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.50 CRITERION= .1768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2381E-01 CRITERION= .1745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 387
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2668E-04 OSCILLATION LIMIT = 21.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.47 CRITERION= .1767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2389E-01 CRITERION= .1744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 388
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2652E-04 OSCILLATION LIMIT = 20.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.51 CRITERION= .1765
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6483E-01
 HT FLOW CONVERGENCE VALUE= .2379E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 389
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2665E-04 OSCILLATION LIMIT = 21.03

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:03:12 JUN 24, 1995 CP= 14677.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .1753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 390
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4016E-04 OSCILLATION LIMIT = 31.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 18.78    CRITERION= .1751
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1567E-01 CRITERION= .1740    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 391
*** TIME = .127808E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3885E-04 OSCILLATION LIMIT = 30.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74    CRITERION= .1750
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .1739    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 392
*** TIME = .128597E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3650E-04 OSCILLATION LIMIT = 28.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78    CRITERION= .1749
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .1738    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 393
*** TIME = .129386E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3885E-04 OSCILLATION LIMIT = 30.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.75    CRITERION= .1748
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .1737    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 394
*** TIME = .130175E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3668E-04 OSCILLATION LIMIT = 28.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78    CRITERION= .1747
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .1736    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 395
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3864E-04 OSCILLATION LIMIT = 30.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.75    CRITERION= .1746
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1577E-01 CRITERION= .1735    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 396
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3683E-04 OSCILLATION LIMIT = 29.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78    CRITERION= .1745
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .1734    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 397
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3847E-04 OSCILLATION LIMIT = 30.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.75    CRITERION= .1744
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .1733    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 398
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3695E-04 OSCILLATION LIMIT = 29.16

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .1732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 399
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3833E-04 OSCILLATION LIMIT = 30.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.75 CRITERION= .1742
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .1731 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 400
 *** TIME = .134909E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3705E-04 OSCILLATION LIMIT = 29.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1741
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 401
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3821E-04 OSCILLATION LIMIT = 30.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .1740
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 402
 *** TIME = .136487E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3713E-04 OSCILLATION LIMIT = 29.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1739
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1558E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 403
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3811E-04 OSCILLATION LIMIT = 30.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .1738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1569E-01 CRITERION= .1726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 404
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3720E-04 OSCILLATION LIMIT = 29.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.80 CRITERION= .1736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1557E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 405
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3802E-04 OSCILLATION LIMIT = 30.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .1736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
 HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 406

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*** TIME = .139642E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3725E-04    OSCILLATION LIMIT = 29.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.80    CRITERION= .1734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1555E-01    CRITERION= .1723    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 407
*** TIME = .140431E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3795E-04    OSCILLATION LIMIT = 29.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76    CRITERION= .1733
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1564E-01    CRITERION= .1722    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 408
*** TIME = .141220E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3729E-04    OSCILLATION LIMIT = 29.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.80    CRITERION= .1732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1554E-01    CRITERION= .1721    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 409
*** TIME = .142009E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3788E-04    OSCILLATION LIMIT = 29.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.77    CRITERION= .1731
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1563E-01    CRITERION= .1720    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 410
*** TIME = .142798E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3732E-04    OSCILLATION LIMIT = 29.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.80    CRITERION= .1730
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1553E-01    CRITERION= .1719    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 411
*** TIME = .143587E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3783E-04    OSCILLATION LIMIT = 29.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.77    CRITERION= .1729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1561E-01    CRITERION= .1718    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 412
*** TIME = .144376E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3734E-04    OSCILLATION LIMIT = 29.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.81    CRITERION= .1728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1551E-01    CRITERION= .1717    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 413
*** TIME = .145165E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3778E-04    OSCILLATION LIMIT = 29.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.77    CRITERION= .1727
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1559E-01    CRITERION= .1716    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 414
*** TIME = .145954E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3736E-04 OSCILLATION LIMIT = 29.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.81 CRITERION= .1726
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .1715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 415
*** TIME = .146743E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3774E-04 OSCILLATION LIMIT = 29.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.77 CRITERION= .1725
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1557E-01 CRITERION= .1714 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 416
*** TIME = .147532E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3737E-04 OSCILLATION LIMIT = 29.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.81 CRITERION= .1724
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .1713 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 417
*** TIME = .148321E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3770E-04 OSCILLATION LIMIT = 29.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78 CRITERION= .1723
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1555E-01 CRITERION= .1711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 418
*** TIME = .149110E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3737E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.81 CRITERION= .1722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1545E-01 CRITERION= .1711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 419
*** TIME = .149899E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3767E-04 OSCILLATION LIMIT = 29.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78 CRITERION= .1721
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .1709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 420
*** TIME = .150688E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3738E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.82 CRITERION= .1720
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .1708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 421
*** TIME = .151477E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3764E-04 OSCILLATION LIMIT = 29.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78 CRITERION= .1719

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1556E-01 CRITERION= .1707 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 422
*** TIME = .152265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3738E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.82 CRITERION= .1717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .1706 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 423
*** TIME = .153054E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3762E-04 OSCILLATION LIMIT = 29.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .1705 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 424
*** TIME = .153843E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3738E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.82 CRITERION= .1715
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1545E-01 CRITERION= .1704 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 425
*** TIME = .154632E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3759E-04 OSCILLATION LIMIT = 29.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1714
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .1703 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 426
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3738E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.82 CRITERION= .1713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1543E-01 CRITERION= .1702 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 427
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3757E-04 OSCILLATION LIMIT = 29.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .1701 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 428
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3737E-04 OSCILLATION LIMIT = 29.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.83 CRITERION= .1711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .1541E-01 CRITERION= .1700 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 429
*** TIME = .157788E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3754E-04 OSCILLATION LIMIT = 29.62

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:29:27 JUN 24, 1995 CP= 16236.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .1705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3287E-01
 HT FLOW CONVERGENCE VALUE= .1090E-01 CRITERION= .1698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 430
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8064E-04 OSCILLATION LIMIT = 63.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3234E-01
 HT FLOW CONVERGENCE VALUE= .1083E-01 CRITERION= .1697 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 431
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8075E-04 OSCILLATION LIMIT = 63.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1082E-01 CRITERION= .1696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 432
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7768E-04 OSCILLATION LIMIT = 61.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3231E-01
 HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .1695 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 433
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8065E-04 OSCILLATION LIMIT = 63.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .1700
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .1694 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 434
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7792E-04 OSCILLATION LIMIT = 61.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1699
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3211E-01
 HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .1692 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 435
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8044E-04 OSCILLATION LIMIT = 63.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .1698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1077E-01 CRITERION= .1691 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 436
 *** TIME = .163311E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7813E-04 OSCILLATION LIMIT = 61.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1696
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3194E-01
 HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 437
 *** TIME = .164100E+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= 13.36 CRITERION= .1695
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .1689 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 438
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7829E-04 OSCILLATION LIMIT = 61.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3181E-01
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .1687 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 439
 *** TIME = .165677E+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= 13.36 CRITERION= .1693
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1054E-01 CRITERION= .1686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 440
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7843E-04 OSCILLATION LIMIT = 61.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1691
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3171E-01
 HT FLOW CONVERGENCE VALUE= .1050E-01 CRITERION= .1685 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 441
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7999E-04 OSCILLATION LIMIT = 63.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .1690
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1052E-01 CRITERION= .1684 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 442
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7854E-04 OSCILLATION LIMIT = 61.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.39 CRITERION= .1689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162E-01
 HT FLOW CONVERGENCE VALUE= .1048E-01 CRITERION= .1682 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 443
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7989E-04 OSCILLATION LIMIT = 63.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .1688
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 444
 *** TIME = .169622E+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= 13.40 CRITERION= .1686
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1680 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 445
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7980E-04 OSCILLATION LIMIT = 62.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .1685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1050E-01 CRITERION= .1679 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 446
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7870E-04 OSCILLATION LIMIT = 62.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1684
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1044E-01 CRITERION= .1677 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 447
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7972E-04 OSCILLATION LIMIT = 62.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .1683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1048E-01 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 448
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7876E-04 OSCILLATION LIMIT = 62.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1681
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .1675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 449
 *** TIME = .173567E+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= 13.36 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1047E-01 CRITERION= .1674 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 450
 *** TIME = .174356E+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= 13.40 CRITERION= .1679
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1041E-01 CRITERION= .1672 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 451
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7961E-04 OSCILLATION LIMIT = 62.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01

HT FLOW CONVERGENCE VALUE= .1045E-01 CRITERION= .1671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 452
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7884E-04 OSCILLATION LIMIT = 62.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1039E-01 CRITERION= .1670 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 453
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7956E-04 OSCILLATION LIMIT = 62.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1044E-01 CRITERION= .1669 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 454
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7887E-04 OSCILLATION LIMIT = 62.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1674
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1038E-01 CRITERION= .1668 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 455
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7952E-04 OSCILLATION LIMIT = 62.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1673
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1042E-01 CRITERION= .1666 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 456
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7890E-04 OSCILLATION LIMIT = 62.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1036E-01 CRITERION= .1665 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 457
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7949E-04 OSCILLATION LIMIT = 62.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1041E-01 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 458
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7892E-04 OSCILLATION LIMIT = 62.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.40 CRITERION= .1669
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .1663 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 459
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7946E-04 OSCILLATION LIMIT = 62.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1039E-01 CRITERION= .1661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 460
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7893E-04 OSCILLATION LIMIT = 62.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.41 CRITERION= .1666
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1033E-01 CRITERION= .1660 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 461
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7943E-04 OSCILLATION LIMIT = 62.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .1659 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 462
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7895E-04 OSCILLATION LIMIT = 62.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.41 CRITERION= .1664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .1658 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 463
 *** TIME = .184612E+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= 13.37 CRITERION= .1663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1028E-01 CRITERION= .1656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 464
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7896E-04 OSCILLATION LIMIT = 62.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.41 CRITERION= .1662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .1655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 465
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7939E-04 OSCILLATION LIMIT = 62.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1660
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .1654 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 466
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7897E-04 OSCILLATION LIMIT = 62.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.41 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1020E-01 CRITERION= .1653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 467
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7937E-04 OSCILLATION LIMIT = 62.62

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .1658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .1651 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 468
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7897E-04 OSCILLATION LIMIT = 62.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.41 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3159E-01
 HT FLOW CONVERGENCE VALUE= .1018E-01 CRITERION= .1650 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 469
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7935E-04 OSCILLATION LIMIT = 62.60

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:55:41 JUN 24, 1995 CP= 17796.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 9.719 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2596E-01
 HT FLOW CONVERGENCE VALUE= .7554E-02 CRITERION= .1649 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 470
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8407E-04 OSCILLATION LIMIT = 66.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.754 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2544E-01
 HT FLOW CONVERGENCE VALUE= .7473E-02 CRITERION= .1648 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 471
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8368E-04 OSCILLATION LIMIT = 66.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.720 CRITERION= .1651
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2578E-01
 HT FLOW CONVERGENCE VALUE= .7529E-02 CRITERION= .1647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 472
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8325E-04 OSCILLATION LIMIT = 65.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.755 CRITERION= .1650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2550E-01
 HT FLOW CONVERGENCE VALUE= .7467E-02 CRITERION= .1646 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 473
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8373E-04 OSCILLATION LIMIT = 66.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.721 CRITERION= .1649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2577E-01
 HT FLOW CONVERGENCE VALUE= .7520E-02 CRITERION= .1645 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 474

*** TIME = .193290E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8325E-04 OSCILLATION LIMIT = 65.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.755 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2551E-01
 HT FLOW CONVERGENCE VALUE= .7458E-02 CRITERION= .1644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 475
 *** TIME = .194079E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8373E-04 OSCILLATION LIMIT = 66.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.722 CRITERION= .1647
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2576E-01
 HT FLOW CONVERGENCE VALUE= .7511E-02 CRITERION= .1643 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 476
 *** TIME = .194868E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8325E-04 OSCILLATION LIMIT = 65.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.756 CRITERION= .1646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2552E-01
 HT FLOW CONVERGENCE VALUE= .7449E-02 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 477
 *** TIME = .195657E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8372E-04 OSCILLATION LIMIT = 66.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.722 CRITERION= .1645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2575E-01
 HT FLOW CONVERGENCE VALUE= .7502E-02 CRITERION= .1641 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 478
 *** TIME = .196446E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8325E-04 OSCILLATION LIMIT = 65.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.757 CRITERION= .1644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2553E-01
 HT FLOW CONVERGENCE VALUE= .7441E-02 CRITERION= .1640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 479
 *** TIME = .197235E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8372E-04 OSCILLATION LIMIT = 66.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.723 CRITERION= .1643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2574E-01
 HT FLOW CONVERGENCE VALUE= .7493E-02 CRITERION= .1639 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 480
 *** TIME = .198024E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.757 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2554E-01
 HT FLOW CONVERGENCE VALUE= .7432E-02 CRITERION= .1639 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 481
 *** TIME = .198813E+09 TIME INC = .788940.
 *** RESPONSE EIGENVALUE = .8371E-04 OSCILLATION LIMIT = 66.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.724 CRITERION= .1641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2574E-01
 HT FLOW CONVERGENCE VALUE= .7483E-02 CRITERION= .1637 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 482
*** TIME = .199602E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.758 CRITERION= .1640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2555E-01
HT FLOW CONVERGENCE VALUE= .7424E-02 CRITERION= .1637 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 483
*** TIME = .200391E+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= 9.724 CRITERION= .1639
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2573E-01
HT FLOW CONVERGENCE VALUE= .7475E-02 CRITERION= .1636 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 484
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.759 CRITERION= .1638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2555E-01
HT FLOW CONVERGENCE VALUE= .7415E-02 CRITERION= .1635 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 485
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8370E-04 OSCILLATION LIMIT = 66.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.725 CRITERION= .1637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2573E-01
HT FLOW CONVERGENCE VALUE= .7466E-02 CRITERION= .1634 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 486
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.760 CRITERION= .1636
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2556E-01
HT FLOW CONVERGENCE VALUE= .7406E-02 CRITERION= .1633 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 487
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8369E-04 OSCILLATION LIMIT = 66.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.726 CRITERION= .1636
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2572E-01
HT FLOW CONVERGENCE VALUE= .7457E-02 CRITERION= .1632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 488
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.760 CRITERION= .1635
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2557E-01
HT FLOW CONVERGENCE VALUE= .7398E-02 CRITERION= .1631 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 489
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8368E-04 OSCILLATION LIMIT = 66.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.727 CRITERION= .1634

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2572E-01
 HT FLOW CONVERGENCE VALUE= .7448E-02 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 490
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.761 CRITERION= .1633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2557E-01
 HT FLOW CONVERGENCE VALUE= .7390E-02 CRITERION= .1629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 491
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8368E-04 OSCILLATION LIMIT = 66.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.727 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2571E-01
 HT FLOW CONVERGENCE VALUE= .7439E-02 CRITERION= .1628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 492
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.762 CRITERION= .1631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2558E-01
 HT FLOW CONVERGENCE VALUE= .7381E-02 CRITERION= .1627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 493
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8367E-04 OSCILLATION LIMIT = 66.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.728 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2571E-01
 HT FLOW CONVERGENCE VALUE= .7431E-02 CRITERION= .1626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 494
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.762 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2558E-01
 HT FLOW CONVERGENCE VALUE= .7372E-02 CRITERION= .1625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 495
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8366E-04 OSCILLATION LIMIT = 66.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.729 CRITERION= .1628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2571E-01
 HT FLOW CONVERGENCE VALUE= .7421E-02 CRITERION= .1624 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 496
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.763 CRITERION= .1627
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2559E-01
 HT FLOW CONVERGENCE VALUE= .7365E-02 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 497
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8365E-04 OSCILLATION LIMIT = 66.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.729 CRITERION= .1626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570E-01
 HT FLOW CONVERGENCE VALUE= .7414E-02 CRITERION= .1622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 498
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.764 CRITERION= .1625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2559E-01
 HT FLOW CONVERGENCE VALUE= .7357E-02 CRITERION= .1621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 499
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8365E-04 OSCILLATION LIMIT = 65.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.730 CRITERION= .1624
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570E-01
 HT FLOW CONVERGENCE VALUE= .7405E-02 CRITERION= .1620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 500
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.765 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2560E-01
 HT FLOW CONVERGENCE VALUE= .7348E-02 CRITERION= .1619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 501
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8364E-04 OSCILLATION LIMIT = 65.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.731 CRITERION= .1622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570E-01
 HT FLOW CONVERGENCE VALUE= .7373E-02 CRITERION= .1618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 502
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.765 CRITERION= .1621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2560E-01
 HT FLOW CONVERGENCE VALUE= .7314E-02 CRITERION= .1617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 503
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8364E-04 OSCILLATION LIMIT = 65.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.732 CRITERION= .1620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570E-01
 HT FLOW CONVERGENCE VALUE= .7354E-02 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 504
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.766 CRITERION= .1619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2561E-01
 HT FLOW CONVERGENCE VALUE= .7287E-02 CRITERION= .1615 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 505
 *** TIME = .217747E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8363E-04 OSCILLATION LIMIT = 65.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.732 CRITERION= .1618
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2570E-01
HT FLOW CONVERGENCE VALUE= .7335E-02 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 506
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.767 CRITERION= .1617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2561E-01
HT FLOW CONVERGENCE VALUE= .7279E-02 CRITERION= .1613 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 507
*** TIME = .219325E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8363E-04 OSCILLATION LIMIT = 65.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.733 CRITERION= .1616
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2569E-01
HT FLOW CONVERGENCE VALUE= .7326E-02 CRITERION= .1612 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 508
*** TIME = .220114E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8324E-04 OSCILLATION LIMIT = 65.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.767 CRITERION= .1615
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2561E-01
HT FLOW CONVERGENCE VALUE= .7270E-02 CRITERION= .1612 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 509
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8362E-04 OSCILLATION LIMIT = 65.97

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:21:54 JUN 24, 1995 CP= 19354.950
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 8.169 CRITERION= .1614
EQUIL ITER 1 COMPLETE. NEW TRIANG MATRIX. MAX DOF INC= -.2659E-01
HT FLOW CONVERGENCE VALUE= .6376E-02 CRITERION= .1610 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 510
*** TIME = .221692E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8924E-04 OSCILLATION LIMIT = 70.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.203 CRITERION= .1613
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638E-01
HT FLOW CONVERGENCE VALUE= .6319E-02 CRITERION= .1610 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 511
*** TIME = .222481E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8950E-04 OSCILLATION LIMIT = 70.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.169 CRITERION= .1612
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2627E-01
HT FLOW CONVERGENCE VALUE= .6349E-02 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 512
*** TIME = .223270E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8888E-04 OSCILLATION LIMIT = 70.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.203 CRITERION= .1611
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2640E-01
HT FLOW CONVERGENCE VALUE= .6311E-02 CRITERION= .1608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 513
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8950E-04 OSCILLATION LIMIT = 70.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.170 CRITERION= .1610
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2629E-01
HT FLOW CONVERGENCE VALUE= .6343E-02 CRITERION= .1607 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 514
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8889E-04 OSCILLATION LIMIT = 70.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.204 CRITERION= .1609
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638E-01
HT FLOW CONVERGENCE VALUE= .6303E-02 CRITERION= .1606 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 515
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8948E-04 OSCILLATION LIMIT = 70.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.170 CRITERION= .1608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2630E-01
HT FLOW CONVERGENCE VALUE= .6337E-02 CRITERION= .1605 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 516
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8891E-04 OSCILLATION LIMIT = 70.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.204 CRITERION= .1607
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
HT FLOW CONVERGENCE VALUE= .6296E-02 CRITERION= .1604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 517
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8947E-04 OSCILLATION LIMIT = 70.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.171 CRITERION= .1606
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2632E-01
HT FLOW CONVERGENCE VALUE= .6330E-02 CRITERION= .1603 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 518
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8892E-04 OSCILLATION LIMIT = 70.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.205 CRITERION= .1605
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2636E-01
HT FLOW CONVERGENCE VALUE= .6288E-02 CRITERION= .1602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 519
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8945E-04 OSCILLATION LIMIT = 70.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.171 CRITERION= .1604
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2633E-01

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HT FLOW CONVERGENCE VALUE= .6324E-02 CRITERION= .1601 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 520
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8893E-04 OSCILLATION LIMIT = 70.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.205 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6280E-02 CRITERION= .1601 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 521
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8944E-04 OSCILLATION LIMIT = 70.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.172 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6317E-02 CRITERION= .1600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 522
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8893E-04 OSCILLATION LIMIT = 70.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.206 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6272E-02 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 523
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8943E-04 OSCILLATION LIMIT = 70.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.172 CRITERION= .1601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6310E-02 CRITERION= .1598 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 524
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8894E-04 OSCILLATION LIMIT = 70.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.206 CRITERION= .1600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6265E-02 CRITERION= .1597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 525
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8942E-04 OSCILLATION LIMIT = 70.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.173 CRITERION= .1599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6303E-02 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 526
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8895E-04 OSCILLATION LIMIT = 70.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.207 CRITERION= .1598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6257E-02 CRITERION= .1595 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 527
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8941E-04 OSCILLATION LIMIT = 70.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.173 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2636E-01
 HT FLOW CONVERGENCE VALUE= .6296E-02 CRITERION= .1594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 528
 *** TIME = .235893E+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= 8.207 CRITERION= .1596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6251E-02 CRITERION= .1593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 529
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8941E-04 OSCILLATION LIMIT = 70.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.174 CRITERION= .1595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2636E-01
 HT FLOW CONVERGENCE VALUE= .6290E-02 CRITERION= .1592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 530
 *** TIME = .237471E+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= 8.208 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6244E-02 CRITERION= .1591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 531
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8940E-04 OSCILLATION LIMIT = 70.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.174 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2636E-01
 HT FLOW CONVERGENCE VALUE= .6283E-02 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 532
 *** TIME = .239049E+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= 8.208 CRITERION= .1593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6239E-02 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 533
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8939E-04 OSCILLATION LIMIT = 70.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.175 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
 HT FLOW CONVERGENCE VALUE= .6281E-02 CRITERION= .1589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 534
 *** TIME = .240627E+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= 8.209 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
 HT FLOW CONVERGENCE VALUE= .6234E-02 CRITERION= .1588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 535
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8939E-04 OSCILLATION LIMIT = 70.52

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.175 CRITERION= .1590
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
HT FLOW CONVERGENCE VALUE= .6274E-02 CRITERION= .1587 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 536
*** TIME = .242205E+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= 8.209 CRITERION= .1589
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
HT FLOW CONVERGENCE VALUE= .6220E-02 CRITERION= .1586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 537
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8938E-04 OSCILLATION LIMIT = 70.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.176 CRITERION= .1588
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
HT FLOW CONVERGENCE VALUE= .6251E-02 CRITERION= .1585 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 538
*** TIME = .243782E+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= 8.210 CRITERION= .1587
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
HT FLOW CONVERGENCE VALUE= .6205E-02 CRITERION= .1584 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 539
*** TIME = .244571E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8938E-04 OSCILLATION LIMIT = 70.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.176 CRITERION= .1586
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
HT FLOW CONVERGENCE VALUE= .6246E-02 CRITERION= .1583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 540
*** TIME = .245360E+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= 8.210 CRITERION= .1585
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634E-01
HT FLOW CONVERGENCE VALUE= .6199E-02 CRITERION= .1582 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 541
*** TIME = .246149E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8937E-04 OSCILLATION LIMIT = 70.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.177 CRITERION= .1584
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
HT FLOW CONVERGENCE VALUE= .6239E-02 CRITERION= .1581 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 542
*** TIME = .246938E+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= 8.211 CRITERION= .1583
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
HT FLOW CONVERGENCE VALUE= .6192E-02 CRITERION= .1581 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 543

*** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8937E-04 OSCILLATION LIMIT = 70.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.177 CRITERION= .1583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637E-01
 HT FLOW CONVERGENCE VALUE= .6233E-02 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 544
 *** TIME = .248516E+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= 8.211 CRITERION= .1582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6188E-02 CRITERION= .1579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 545
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8936E-04 OSCILLATION LIMIT = 70.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.178 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638E-01
 HT FLOW CONVERGENCE VALUE= .6228E-02 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 546
 *** TIME = .250094E+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= 8.212 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6181E-02 CRITERION= .1577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 547
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8936E-04 OSCILLATION LIMIT = 70.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.178 CRITERION= .1579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638E-01
 HT FLOW CONVERGENCE VALUE= .6221E-02 CRITERION= .1576 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 548
 *** TIME = .251672E+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= 8.212 CRITERION= .1578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635E-01
 HT FLOW CONVERGENCE VALUE= .6174E-02 CRITERION= .1575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 549
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8936E-04 OSCILLATION LIMIT = 70.50

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:48:08 JUN 24, 1995 CP= 20913.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3900E-01
 HT FLOW CONVERGENCE VALUE= .5853E-02 CRITERION= .1574 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 550
*** TIME = .253250E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5442E-04 OSCILLATION LIMIT = 42.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1574
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3854E-01
HT FLOW CONVERGENCE VALUE= .5827E-02 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 551
*** TIME = .254039E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5440E-04 OSCILLATION LIMIT = 42.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1573
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691E-01
HT FLOW CONVERGENCE VALUE= .5524E-02 CRITERION= .1572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 552
*** TIME = .254828E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5482E-04 OSCILLATION LIMIT = 43.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3854E-01
HT FLOW CONVERGENCE VALUE= .5807E-02 CRITERION= .1572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 553
*** TIME = .255617E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5445E-04 OSCILLATION LIMIT = 42.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3708E-01
HT FLOW CONVERGENCE VALUE= .5543E-02 CRITERION= .1571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 554
*** TIME = .256406E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5477E-04 OSCILLATION LIMIT = 43.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1571
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3839E-01
HT FLOW CONVERGENCE VALUE= .5781E-02 CRITERION= .1570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 555
*** TIME = .257194E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5449E-04 OSCILLATION LIMIT = 42.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1570
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3722E-01
HT FLOW CONVERGENCE VALUE= .5558E-02 CRITERION= .1569 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 556
*** TIME = .257983E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5473E-04 OSCILLATION LIMIT = 43.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1569
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3827E-01
HT FLOW CONVERGENCE VALUE= .5758E-02 CRITERION= .1568 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 557
*** TIME = .258772E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5452E-04 OSCILLATION LIMIT = 43.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1568

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3734E-01
HT FLOW CONVERGENCE VALUE= .5569E-02 CRITERION= .1567 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 558
*** TIME = .259561E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5470E-04 OSCILLATION LIMIT = 43.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1567
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3818E-01
HT FLOW CONVERGENCE VALUE= .5738E-02 CRITERION= .1567 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 559
*** TIME = .260350E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5454E-04 OSCILLATION LIMIT = 43.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1567
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3744E-01
HT FLOW CONVERGENCE VALUE= .5577E-02 CRITERION= .1566 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 560
*** TIME = .261139E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5468E-04 OSCILLATION LIMIT = 43.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1566
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3810E-01
HT FLOW CONVERGENCE VALUE= .5721E-02 CRITERION= .1565 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 561
*** TIME = .261928E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5456E-04 OSCILLATION LIMIT = 43.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1565
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3752E-01
HT FLOW CONVERGENCE VALUE= .5583E-02 CRITERION= .1564 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 562
*** TIME = .262717E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5465E-04 OSCILLATION LIMIT = 43.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1564
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3804E-01
HT FLOW CONVERGENCE VALUE= .5706E-02 CRITERION= .1563 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 563
*** TIME = .263506E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5457E-04 OSCILLATION LIMIT = 43.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1563
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3759E-01
HT FLOW CONVERGENCE VALUE= .5587E-02 CRITERION= .1562 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 564
*** TIME = .264295E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5464E-04 OSCILLATION LIMIT = 43.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1562
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3799E-01
HT FLOW CONVERGENCE VALUE= .5693E-02 CRITERION= .1562 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 565
*** TIME = .265084E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5458E-04 OSCILLATION LIMIT = 43.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3764E-01
 HT FLOW CONVERGENCE VALUE= .5591E-02 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 566
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5462E-04 OSCILLATION LIMIT = 43.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3795E-01
 HT FLOW CONVERGENCE VALUE= .5682E-02 CRITERION= .1560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 567
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5459E-04 OSCILLATION LIMIT = 43.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3769E-01
 HT FLOW CONVERGENCE VALUE= .5592E-02 CRITERION= .1559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 568
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3792E-01
 HT FLOW CONVERGENCE VALUE= .5671E-02 CRITERION= .1558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 569
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5460E-04 OSCILLATION LIMIT = 43.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3773E-01
 HT FLOW CONVERGENCE VALUE= .5593E-02 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 570
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5459E-04 OSCILLATION LIMIT = 43.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3790E-01
 HT FLOW CONVERGENCE VALUE= .5662E-02 CRITERION= .1556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 571
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5460E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3776E-01
 HT FLOW CONVERGENCE VALUE= .5592E-02 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 572
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5458E-04 OSCILLATION LIMIT = 43.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3788E-01
 HT FLOW CONVERGENCE VALUE= .5653E-02 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 573
 *** TIME = .271395E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3778E-01
 HT FLOW CONVERGENCE VALUE= .5591E-02 CRITERION= .1554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 574
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5458E-04 OSCILLATION LIMIT = 43.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3787E-01
 HT FLOW CONVERGENCE VALUE= .5644E-02 CRITERION= .1553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 575
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3781E-01
 HT FLOW CONVERGENCE VALUE= .5587E-02 CRITERION= .1552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 576
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5457E-04 OSCILLATION LIMIT = 43.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3786E-01
 HT FLOW CONVERGENCE VALUE= .5636E-02 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 577
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
 HT FLOW CONVERGENCE VALUE= .5585E-02 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 578
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5456E-04 OSCILLATION LIMIT = 43.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3786E-01
 HT FLOW CONVERGENCE VALUE= .5629E-02 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 579
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3784E-01
 HT FLOW CONVERGENCE VALUE= .5582E-02 CRITERION= .1549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 580
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5455E-04 OSCILLATION LIMIT = 43.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785E-01
 HT FLOW CONVERGENCE VALUE= .5622E-02 CRITERION= .1548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 581
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785E-01
 HT FLOW CONVERGENCE VALUE= .5579E-02 CRITERION= .1547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 582
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5455E-04 OSCILLATION LIMIT = 43.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785E-01
 HT FLOW CONVERGENCE VALUE= .5615E-02 CRITERION= .1546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 583
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3787E-01
 HT FLOW CONVERGENCE VALUE= .5574E-02 CRITERION= .1545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 584
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5454E-04 OSCILLATION LIMIT = 43.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785E-01
 HT FLOW CONVERGENCE VALUE= .5607E-02 CRITERION= .1545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 585
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3788E-01
 HT FLOW CONVERGENCE VALUE= .5570E-02 CRITERION= .1544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 586
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5454E-04 OSCILLATION LIMIT = 43.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3786E-01
 HT FLOW CONVERGENCE VALUE= .5601E-02 CRITERION= .1543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 587
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.039 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3789E-01
 HT FLOW CONVERGENCE VALUE= .5566E-02 CRITERION= .1542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 588
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5453E-04 OSCILLATION LIMIT = 43.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .1542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3786E-01

HT FLOW CONVERGENCE VALUE= .5595E-02 CRITERION= .1541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 589
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5461E-04 OSCILLATION LIMIT = 43.08
 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
 6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 117.13 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 117.73 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 119.02 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 22474.600 TIME= 12:14:22
 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 12:14:22 JUN 24, 1995 CP= 22474.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

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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= .3781 CRITERION= .1541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3086E-01
HT FLOW CONVERGENCE VALUE= .4665E-02 CRITERION= .1540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 590
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4958E-04 OSCILLATION LIMIT = 39.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3065E-01
HT FLOW CONVERGENCE VALUE= .4616E-02 CRITERION= .1540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 591
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4992E-04 OSCILLATION LIMIT = 39.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .3781 CRITERION= .1540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3128E-01
HT FLOW CONVERGENCE VALUE= .4660E-02 CRITERION= .1539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 592
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3069E-01
HT FLOW CONVERGENCE VALUE= .4620E-02 CRITERION= .1539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 593
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4990E-04 OSCILLATION LIMIT = 39.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .3781 CRITERION= .1538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3124E-01
HT FLOW CONVERGENCE VALUE= .4650E-02 CRITERION= .1538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 594
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3074E-01
HT FLOW CONVERGENCE VALUE= .4622E-02 CRITERION= .1537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 595
*** TIME = .288752E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4989E-04 OSCILLATION LIMIT = 39.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= .3781    CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3120E-01
HT FLOW CONVERGENCE VALUE= .4642E-02 CRITERION= .1536    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 596
*** TIME = .289541E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097    CRITERION= .1536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3079E-01
HT FLOW CONVERGENCE VALUE= .4623E-02 CRITERION= .1536    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 597
*** TIME = .290330E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4989E-04 OSCILLATION LIMIT = 39.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3781    CRITERION= .1536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3117E-01
HT FLOW CONVERGENCE VALUE= .4635E-02 CRITERION= .1535    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 598
*** TIME = .291119E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4976E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097    CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3082E-01
HT FLOW CONVERGENCE VALUE= .4624E-02 CRITERION= .1534    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 599
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4988E-04 OSCILLATION LIMIT = 39.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3781    CRITERION= .1534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3114E-01
HT FLOW CONVERGENCE VALUE= .4628E-02 CRITERION= .1534    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 600
*** TIME = .292697E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4976E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097    CRITERION= .1534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3085E-01
HT FLOW CONVERGENCE VALUE= .4623E-02 CRITERION= .1533    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 601
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4987E-04 OSCILLATION LIMIT = 39.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3781    CRITERION= .1533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3112E-01
HT FLOW CONVERGENCE VALUE= .4622E-02 CRITERION= .1532    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 602
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4976E-04 OSCILLATION LIMIT = 39.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097    CRITERION= .1532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3088E-01
HT FLOW CONVERGENCE VALUE= .4623E-02 CRITERION= .1532    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 603
*** TIME = .295064E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4987E-04 OSCILLATION LIMIT = 39.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3781 CRITERION= .1532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3111E-01
 HT FLOW CONVERGENCE VALUE= .4618E-02 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 604
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4976E-04 OSCILLATION LIMIT = 39.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3090E-01
 HT FLOW CONVERGENCE VALUE= .4622E-02 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 605
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4987E-04 OSCILLATION LIMIT = 39.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3110E-01
 HT FLOW CONVERGENCE VALUE= .4613E-02 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 606
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4976E-04 OSCILLATION LIMIT = 39.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3092E-01
 HT FLOW CONVERGENCE VALUE= .4620E-02 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 607
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4986E-04 OSCILLATION LIMIT = 39.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3109E-01
 HT FLOW CONVERGENCE VALUE= .4608E-02 CRITERION= .1528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 608
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3094E-01
 HT FLOW CONVERGENCE VALUE= .4619E-02 CRITERION= .1528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 609
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4986E-04 OSCILLATION LIMIT = 39.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3108E-01
 HT FLOW CONVERGENCE VALUE= .4605E-02 CRITERION= .1527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 610
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3095E-01
 HT FLOW CONVERGENCE VALUE= .4617E-02 CRITERION= .1526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 611
*** TIME = .301375E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4985E-04 OSCILLATION LIMIT = 39.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3107E-01
HT FLOW CONVERGENCE VALUE= .4601E-02 CRITERION= .1526 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 612
*** TIME = .302164E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3096E-01
HT FLOW CONVERGENCE VALUE= .4615E-02 CRITERION= .1525 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 613
*** TIME = .302953E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4985E-04 OSCILLATION LIMIT = 39.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3107E-01
HT FLOW CONVERGENCE VALUE= .4597E-02 CRITERION= .1524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 614
*** TIME = .303742E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3098E-01
HT FLOW CONVERGENCE VALUE= .4612E-02 CRITERION= .1524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 615
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4985E-04 OSCILLATION LIMIT = 39.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3107E-01
HT FLOW CONVERGENCE VALUE= .4593E-02 CRITERION= .1523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 616
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3099E-01
HT FLOW CONVERGENCE VALUE= .4609E-02 CRITERION= .1522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 617
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4985E-04 OSCILLATION LIMIT = 39.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106E-01
HT FLOW CONVERGENCE VALUE= .4589E-02 CRITERION= .1522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 618
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4975E-04 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3099E-01

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HT FLOW CONVERGENCE VALUE= .4605E-02 CRITERION= .1521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 619
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106E-01
 HT FLOW CONVERGENCE VALUE= .4585E-02 CRITERION= .1520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 620
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4974E-04 OSCILLATION LIMIT = 39.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3100E-01
 HT FLOW CONVERGENCE VALUE= .4602E-02 CRITERION= .1520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 621
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106E-01
 HT FLOW CONVERGENCE VALUE= .4581E-02 CRITERION= .1519 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 622
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4974E-04 OSCILLATION LIMIT = 39.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3101E-01
 HT FLOW CONVERGENCE VALUE= .4599E-02 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 623
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106E-01
 HT FLOW CONVERGENCE VALUE= .4578E-02 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 624
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4974E-04 OSCILLATION LIMIT = 39.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3102E-01
 HT FLOW CONVERGENCE VALUE= .4597E-02 CRITERION= .1517 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 625
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106E-01
 HT FLOW CONVERGENCE VALUE= .4576E-02 CRITERION= .1516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 626
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4974E-04 OSCILLATION LIMIT = 39.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3103E-01
 HT FLOW CONVERGENCE VALUE= .4592E-02 CRITERION= .1516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 627
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3782 CRITERION= .1516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3107E-01
 HT FLOW CONVERGENCE VALUE= .4572E-02 CRITERION= .1515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 628
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4973E-04 OSCILLATION LIMIT = 39.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .4097 CRITERION= .1515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3103E-01
 HT FLOW CONVERGENCE VALUE= .4589E-02 CRITERION= .1514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 629
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4984E-04 OSCILLATION LIMIT = 39.32

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:40:37 JUN 24, 1995 CP= 24035.910
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 16.15 CRITERION= .1523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3695
 HT FLOW CONVERGENCE VALUE= .5771E-01 CRITERION= .1508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 630
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3383E-04 OSCILLATION LIMIT = 266.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3422
 HT FLOW CONVERGENCE VALUE= .5588E-01 CRITERION= .1501 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 631
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.15 CRITERION= .1509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3430
 HT FLOW CONVERGENCE VALUE= .5556E-01 CRITERION= .1495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 632
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3441
 HT FLOW CONVERGENCE VALUE= .5547E-01 CRITERION= .1488 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 633


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*** TIME = .347134E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3272E-04    OSCILLATION LIMIT = 258.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.15    CRITERION= .1496
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3435
    HT FLOW CONVERGENCE VALUE= .5514E-01    CRITERION= .1481    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 634
*** TIME = .355023E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3269E-04    OSCILLATION LIMIT = 257.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.12    CRITERION= .1490
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3445
    HT FLOW CONVERGENCE VALUE= .5518E-01    CRITERION= .1475    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 635
*** TIME = .362912E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3272E-04    OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.15    CRITERION= .1483
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3440
    HT FLOW CONVERGENCE VALUE= .5487E-01    CRITERION= .1468    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 636
*** TIME = .370802E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3269E-04    OSCILLATION LIMIT = 257.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.12    CRITERION= .1477
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3450
    HT FLOW CONVERGENCE VALUE= .5485E-01    CRITERION= .1462    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 637
*** TIME = .378691E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3272E-04    OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.15    CRITERION= .1470
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3445
    HT FLOW CONVERGENCE VALUE= .5453E-01    CRITERION= .1455    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 638
*** TIME = .386581E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3269E-04    OSCILLATION LIMIT = 257.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1464
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3455
    HT FLOW CONVERGENCE VALUE= .5450E-01    CRITERION= .1449    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 639
*** TIME = .394470E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3272E-04    OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.15    CRITERION= .1457
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3450
    HT FLOW CONVERGENCE VALUE= .5415E-01    CRITERION= .1442    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 640
*** TIME = .402359E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3269E-04    OSCILLATION LIMIT = 257.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.11    CRITERION= .1451
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3460
    HT FLOW CONVERGENCE VALUE= .5407E-01    CRITERION= .1436    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 641
*** TIME = .410249E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.14 CRITERION= .1444
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3455
HT FLOW CONVERGENCE VALUE= .5372E-01 CRITERION= .1429 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 642
*** TIME = .418138E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1438
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3465
HT FLOW CONVERGENCE VALUE= .5358E-01 CRITERION= .1422 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 643
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.14 CRITERION= .1431
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3460
HT FLOW CONVERGENCE VALUE= .5329E-01 CRITERION= .1416 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 644
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1425
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3470
HT FLOW CONVERGENCE VALUE= .5309E-01 CRITERION= .1409 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 645
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.14 CRITERION= .1418
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3464
HT FLOW CONVERGENCE VALUE= .5300E-01 CRITERION= .1403 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 646
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.11 CRITERION= .1411
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3474
HT FLOW CONVERGENCE VALUE= .5294E-01 CRITERION= .1396 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 647
*** TIME = .457585E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.14 CRITERION= .1405
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3469
HT FLOW CONVERGENCE VALUE= .5258E-01 CRITERION= .1390 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 648
*** TIME = .465475E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1398

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3479
HT FLOW CONVERGENCE VALUE= .5249E-01 CRITERION= .1383 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 649
*** TIME = .473364E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3270E-04 OSCILLATION LIMIT = 258.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.14 CRITERION= .1392
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3475
HT FLOW CONVERGENCE VALUE= .5214E-01 CRITERION= .1376 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 650
*** TIME = .481253E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1385
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3484
HT FLOW CONVERGENCE VALUE= .5199E-01 CRITERION= .1370 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 651
*** TIME = .489143E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3270E-04 OSCILLATION LIMIT = 258.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.13 CRITERION= .1379
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3480
HT FLOW CONVERGENCE VALUE= .5162E-01 CRITERION= .1363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 652
*** TIME = .497032E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1372
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3489
HT FLOW CONVERGENCE VALUE= .5142E-01 CRITERION= .1357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 653
*** TIME = .504922E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3270E-04 OSCILLATION LIMIT = 258.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.13 CRITERION= .1366
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3485
HT FLOW CONVERGENCE VALUE= .5115E-01 CRITERION= .1350 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 654
*** TIME = .512811E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3268E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1359
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3494
HT FLOW CONVERGENCE VALUE= .5099E-01 CRITERION= .1344 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 655
*** TIME = .520700E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3270E-04 OSCILLATION LIMIT = 258.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.13 CRITERION= .1353
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3490
HT FLOW CONVERGENCE VALUE= .5078E-01 CRITERION= .1337 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 656
*** TIME = .528590E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.10 CRITERION= .1346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3499
 HT FLOW CONVERGENCE VALUE= .5074E-01 CRITERION= .1330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 657
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3270E-04 OSCILLATION LIMIT = 258.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.13 CRITERION= .1340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3495
 HT FLOW CONVERGENCE VALUE= .5045E-01 CRITERION= .1324 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 658
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.09 CRITERION= .1333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3504
 HT FLOW CONVERGENCE VALUE= .5035E-01 CRITERION= .1317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 659
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.13 CRITERION= .1327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3500
 HT FLOW CONVERGENCE VALUE= .5000E-01 CRITERION= .1311 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 660
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.09 CRITERION= .1320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3509
 HT FLOW CONVERGENCE VALUE= .4984E-01 CRITERION= .1304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 661
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3505
 HT FLOW CONVERGENCE VALUE= .4932E-01 CRITERION= .1298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 662
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.09 CRITERION= .1307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3514
 HT FLOW CONVERGENCE VALUE= .4908E-01 CRITERION= .1291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 663
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3510
 HT FLOW CONVERGENCE VALUE= .4896E-01 CRITERION= .1284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 664
 *** TIME = .591705E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.09 CRITERION= .1294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3519
 HT FLOW CONVERGENCE VALUE= .4894E-01 CRITERION= .1278 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 665
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3516
 HT FLOW CONVERGENCE VALUE= .4872E-01 CRITERION= .1271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 666
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.09 CRITERION= .1281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3524
 HT FLOW CONVERGENCE VALUE= .4862E-01 CRITERION= .1265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 667
 *** TIME = .615373E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.12 CRITERION= .1275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3521
 HT FLOW CONVERGENCE VALUE= .4831E-01 CRITERION= .1258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 668
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3267E-04 OSCILLATION LIMIT = 257.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.08 CRITERION= .1268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3530
 HT FLOW CONVERGENCE VALUE= .4816E-01 CRITERION= .1252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 669
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3269E-04 OSCILLATION LIMIT = 257.9

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:06:54 JUN 24, 1995 CP= 25596.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 34.56 CRITERION= .1298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3090
 HT FLOW CONVERGENCE VALUE= .4993E-01 CRITERION= .1246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 670
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1829E-04 OSCILLATION LIMIT = 144.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.52 CRITERION= .1293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3098
 HT FLOW CONVERGENCE VALUE= .4931E-01 CRITERION= .1242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 671
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1828E-04 OSCILLATION LIMIT = 144.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.55 CRITERION= .1288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3098
 HT FLOW CONVERGENCE VALUE= .4919E-01 CRITERION= .1237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 672
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1827E-04 OSCILLATION LIMIT = 144.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.51 CRITERION= .1284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3103
 HT FLOW CONVERGENCE VALUE= .4907E-01 CRITERION= .1232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 673
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1830E-04 OSCILLATION LIMIT = 144.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.54 CRITERION= .1279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3102
 HT FLOW CONVERGENCE VALUE= .4879E-01 CRITERION= .1227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 674
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1829E-04 OSCILLATION LIMIT = 144.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.50 CRITERION= .1274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106
 HT FLOW CONVERGENCE VALUE= .4869E-01 CRITERION= .1222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 675
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1831E-04 OSCILLATION LIMIT = 144.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.53 CRITERION= .1270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3106
 HT FLOW CONVERGENCE VALUE= .4836E-01 CRITERION= .1217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 676
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1830E-04 OSCILLATION LIMIT = 144.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.49 CRITERION= .1265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3110
 HT FLOW CONVERGENCE VALUE= .4828E-01 CRITERION= .1212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 677
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1833E-04 OSCILLATION LIMIT = 144.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.52 CRITERION= .1260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3109
 HT FLOW CONVERGENCE VALUE= .4800E-01 CRITERION= .1207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 678
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1831E-04 OSCILLATION LIMIT = 144.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.48 CRITERION= .1255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3114

HT FLOW CONVERGENCE VALUE= .4791E-01 CRITERION= .1202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 679
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1833E-04 OSCILLATION LIMIT = 144.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.51 CRITERION= .1251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3113
 HT FLOW CONVERGENCE VALUE= .4769E-01 CRITERION= .1197 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 680
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1832E-04 OSCILLATION LIMIT = 144.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.47 CRITERION= .1246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3118
 HT FLOW CONVERGENCE VALUE= .4770E-01 CRITERION= .1193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 681
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1835E-04 OSCILLATION LIMIT = 144.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.50 CRITERION= .1241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3117
 HT FLOW CONVERGENCE VALUE= .4742E-01 CRITERION= .1188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 682
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1833E-04 OSCILLATION LIMIT = 144.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.47 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3122
 HT FLOW CONVERGENCE VALUE= .4722E-01 CRITERION= .1183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 683
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1836E-04 OSCILLATION LIMIT = 144.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.49 CRITERION= .1232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3121
 HT FLOW CONVERGENCE VALUE= .4692E-01 CRITERION= .1178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 684
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1834E-04 OSCILLATION LIMIT = 144.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.46 CRITERION= .1227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3126
 HT FLOW CONVERGENCE VALUE= .4689E-01 CRITERION= .1173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 685
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1837E-04 OSCILLATION LIMIT = 144.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.48 CRITERION= .1222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3125
 HT FLOW CONVERGENCE VALUE= .4667E-01 CRITERION= .1168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 686
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1835E-04 OSCILLATION LIMIT = 144.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.45 CRITERION= .1217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3130
 HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .1163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 687
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1838E-04 OSCILLATION LIMIT = .145.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.48 CRITERION= .1213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3129
 HT FLOW CONVERGENCE VALUE= .4623E-01 CRITERION= .1158 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 688
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1837E-04 OSCILLATION LIMIT = 144.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.44 CRITERION= .1208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3134
 HT FLOW CONVERGENCE VALUE= .4557E-01 CRITERION= .1153 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 689
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1839E-04 OSCILLATION LIMIT = 145.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.47 CRITERION= .1203
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3133
 HT FLOW CONVERGENCE VALUE= .4543E-01 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 690
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1838E-04 OSCILLATION LIMIT = 145.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.43 CRITERION= .1198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3137
 HT FLOW CONVERGENCE VALUE= .4548E-01 CRITERION= .1143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 691
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1840E-04 OSCILLATION LIMIT = 145.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.46 CRITERION= .1194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3137
 HT FLOW CONVERGENCE VALUE= .4511E-01 CRITERION= .1138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 692
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1839E-04 OSCILLATION LIMIT = 145.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.42 CRITERION= .1189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .4401E-01 CRITERION= .1134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 693
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1842E-04 OSCILLATION LIMIT = 145.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.45 CRITERION= .1184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .4359E-01 CRITERION= .1129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 694
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1840E-04 OSCILLATION LIMIT = 145.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.41 CRITERION= .1180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3146
 HT FLOW CONVERGENCE VALUE= .4343E-01 CRITERION= .1124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 695
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1843E-04 OSCILLATION LIMIT = 145.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.44 CRITERION= .1175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3146
 HT FLOW CONVERGENCE VALUE= .4321E-01 CRITERION= .1119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 696
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1841E-04 OSCILLATION LIMIT = 145.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.40 CRITERION= .1170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3150
 HT FLOW CONVERGENCE VALUE= .4309E-01 CRITERION= .1114 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 697
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1844E-04 OSCILLATION LIMIT = 145.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.43 CRITERION= .1166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3150
 HT FLOW CONVERGENCE VALUE= .4269E-01 CRITERION= .1109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 698
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1843E-04 OSCILLATION LIMIT = 145.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.39 CRITERION= .1161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3154
 HT FLOW CONVERGENCE VALUE= .4234E-01 CRITERION= .1104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 699
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1845E-04 OSCILLATION LIMIT = 145.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.42 CRITERION= .1156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3154
 HT FLOW CONVERGENCE VALUE= .4218E-01 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 700
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1844E-04 OSCILLATION LIMIT = 145.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.38 CRITERION= .1151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3158
 HT FLOW CONVERGENCE VALUE= .4208E-01 CRITERION= .1094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 701
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1846E-04 OSCILLATION LIMIT = 145.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.41 CRITERION= .1147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3158
 HT FLOW CONVERGENCE VALUE= .4171E-01 CRITERION= .1089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 702

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*** TIME = .891502E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1845E-04    OSCILLATION LIMIT = 145.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.38    CRITERION= .1142
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
    HT FLOW CONVERGENCE VALUE= .4171E-01    CRITERION= .1084    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 703
*** TIME = .899392E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1847E-04    OSCILLATION LIMIT = 145.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.40    CRITERION= .1137
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
    HT FLOW CONVERGENCE VALUE= .4161E-01    CRITERION= .1079    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 704
*** TIME = .907281E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1846E-04    OSCILLATION LIMIT = 145.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.37    CRITERION= .1132
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3166
    HT FLOW CONVERGENCE VALUE= .4104E-01    CRITERION= .1074    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 705
*** TIME = .915170E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1848E-04    OSCILLATION LIMIT = 145.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.39    CRITERION= .1128
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3166
    HT FLOW CONVERGENCE VALUE= .4063E-01    CRITERION= .1069    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 706
*** TIME = .923060E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1847E-04    OSCILLATION LIMIT = 145.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.36    CRITERION= .1123
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
    HT FLOW CONVERGENCE VALUE= .4054E-01    CRITERION= .1065    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 707
*** TIME = .930949E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1849E-04    OSCILLATION LIMIT = 145.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.39    CRITERION= .1118
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
    HT FLOW CONVERGENCE VALUE= .4035E-01    CRITERION= .1060    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 708
*** TIME = .938839E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1848E-04    OSCILLATION LIMIT = 145.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.35    CRITERION= .1114
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3174
    HT FLOW CONVERGENCE VALUE= .4025E-01    CRITERION= .1055    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 709
*** TIME = .946728E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1851E-04    OSCILLATION LIMIT = 146.0

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 13:33:11 JUN 24, 1995 CP= 27159.040
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 44.21 CRITERION= .1143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2786
HT FLOW CONVERGENCE VALUE= .3997E-01 CRITERION= .1051 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 710
*** TIME = .954617E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.17 CRITERION= .1140
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2797
HT FLOW CONVERGENCE VALUE= .3985E-01 CRITERION= .1047 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 711
*** TIME = .962507E+09 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= 44.19 CRITERION= .1136
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2801
HT FLOW CONVERGENCE VALUE= .3964E-01 CRITERION= .1043 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 712
*** TIME = .970396E+09 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= 44.15 CRITERION= .1133
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2800
HT FLOW CONVERGENCE VALUE= .3954E-01 CRITERION= .1040 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 713
*** TIME = .978286E+09 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= 44.18 CRITERION= .1129
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2803
HT FLOW CONVERGENCE VALUE= .3930E-01 CRITERION= .1036 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 714
*** TIME = .986175E+09 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= 44.14 CRITERION= .1126
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2803
HT FLOW CONVERGENCE VALUE= .3894E-01 CRITERION= .1032 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 715
*** TIME = .994064E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = 87.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.16 CRITERION= .1122
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2806
HT FLOW CONVERGENCE VALUE= .3856E-01 CRITERION= .1028 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 716
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = 87.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .1119

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2806
 HT FLOW CONVERGENCE VALUE= .3841E-01 CRITERION= .1025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 717
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1112E-04 OSCILLATION LIMIT = 87.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.15 CRITERION= .1115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2809
 HT FLOW CONVERGENCE VALUE= .3722E-01 CRITERION= .1021 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 718
 *** TIME = .101773E+10 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= 44.11 CRITERION= .1112
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2810
 HT FLOW CONVERGENCE VALUE= .3691E-01 CRITERION= .1017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 719
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1113E-04 OSCILLATION LIMIT = 87.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.13 CRITERION= .1109
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2813
 HT FLOW CONVERGENCE VALUE= .3669E-01 CRITERION= .1013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 720
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1114E-04 OSCILLATION LIMIT = 87.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.09 CRITERION= .1105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2813
 HT FLOW CONVERGENCE VALUE= .3652E-01 CRITERION= .1010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 721
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 87.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .1102
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2816
 HT FLOW CONVERGENCE VALUE= .3631E-01 CRITERION= .1006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 722
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 88.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.08 CRITERION= .1098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2816
 HT FLOW CONVERGENCE VALUE= .3610E-01 CRITERION= .1002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 723
 *** TIME = .105718E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 88.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.10 CRITERION= .1095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2819
 HT FLOW CONVERGENCE VALUE= .3585E-01 CRITERION= .9983E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 724
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1117E-04 OSCILLATION LIMIT = 88.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.06 CRITERION= .1091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2819
 HT FLOW CONVERGENCE VALUE= .3562E-01 CRITERION= .9946E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 725
 *** TIME = .107296E+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= 44.09 CRITERION= .1088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2823
 HT FLOW CONVERGENCE VALUE= .3538E-01 CRITERION= .9908E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 726
 *** TIME = .108085E+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= 44.05 CRITERION= .1084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2823
 HT FLOW CONVERGENCE VALUE= .3512E-01 CRITERION= .9871E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 727
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.07 CRITERION= .1081
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2826
 HT FLOW CONVERGENCE VALUE= .3450E-01 CRITERION= .9833E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 728
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.03 CRITERION= .1077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2827
 HT FLOW CONVERGENCE VALUE= .3417E-01 CRITERION= .9796E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 729
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.06 CRITERION= .1074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2831
 HT FLOW CONVERGENCE VALUE= .3401E-01 CRITERION= .9757E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 730
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.02 CRITERION= .1070
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2831
 HT FLOW CONVERGENCE VALUE= .3390E-01 CRITERION= .9721E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 731
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.04 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2834
 HT FLOW CONVERGENCE VALUE= .3375E-01 CRITERION= .9682E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 732
 *** TIME = .112818E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.00 CRITERION= .1063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2834
 HT FLOW CONVERGENCE VALUE= .3362E-01 CRITERION= .9646E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 733
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.03 CRITERION= .1060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2837
 HT FLOW CONVERGENCE VALUE= .3344E-01 CRITERION= .9607E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 734
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.99 CRITERION= .1056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2837
 HT FLOW CONVERGENCE VALUE= .3331E-01 CRITERION= .9570E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 735
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.01 CRITERION= .1053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2841
 HT FLOW CONVERGENCE VALUE= .3315E-01 CRITERION= .9532E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 736
 *** TIME = .115974E+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= 43.97 CRITERION= .1050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2841
 HT FLOW CONVERGENCE VALUE= .3301E-01 CRITERION= .9495E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 737
 *** TIME = .116763E+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= 44.00 CRITERION= .1046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2844
 HT FLOW CONVERGENCE VALUE= .3283E-01 CRITERION= .9456E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 738
 *** 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= 43.96 CRITERION= .1043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2844
 HT FLOW CONVERGENCE VALUE= .3265E-01 CRITERION= .9420E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 739
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1127E-04 OSCILLATION LIMIT = 88.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.98 CRITERION= .1039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2847
 HT FLOW CONVERGENCE VALUE= .3245E-01 CRITERION= .9381E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 740
 *** TIME = .119130E+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= 43.94 CRITERION= .1036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2848
 HT FLOW CONVERGENCE VALUE= .3228E-01 CRITERION= .9345E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 741
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1128E-04 OSCILLATION LIMIT = 89.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.97 CRITERION= .1032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2851
 HT FLOW CONVERGENCE VALUE= .3205E-01 CRITERION= .9306E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 742
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1129E-04 OSCILLATION LIMIT = 89.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.93 CRITERION= .1029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2852
 HT FLOW CONVERGENCE VALUE= .3189E-01 CRITERION= .9269E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 743
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1130E-04 OSCILLATION LIMIT = 89.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.95 CRITERION= .1026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2855
 HT FLOW CONVERGENCE VALUE= .3171E-01 CRITERION= .9231E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 744
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1131E-04 OSCILLATION LIMIT = 89.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.91 CRITERION= .1022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2856
 HT FLOW CONVERGENCE VALUE= .3161E-01 CRITERION= .9194E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 745
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1131E-04 OSCILLATION LIMIT = 89.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.94 CRITERION= .1019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2860
 HT FLOW CONVERGENCE VALUE= .3148E-01 CRITERION= .9155E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 746
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1132E-04 OSCILLATION LIMIT = 89.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.90 CRITERION= .1015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2860
 HT FLOW CONVERGENCE VALUE= .3139E-01 CRITERION= .9119E-01 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 747
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1133E-04 OSCILLATION LIMIT = 89.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.92 CRITERION= .1012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2863

HT FLOW CONVERGENCE VALUE= .3126E-01 CRITERION= .9080E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 748
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1133E-04 OSCILLATION LIMIT = 89.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.88 CRITERION= .1008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2863
 HT FLOW CONVERGENCE VALUE= .3117E-01 CRITERION= .9043E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 749
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1134E-04 OSCILLATION LIMIT = 89.45

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:59:28 JUN 24, 1995 CP= 28722.450
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 38.60 CRITERION= .9830E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2374
 HT FLOW CONVERGENCE VALUE= .2645E-01 CRITERION= .9011E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 750
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1027E-04 OSCILLATION LIMIT = 81.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.56 CRITERION= .9800E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2400
 HT FLOW CONVERGENCE VALUE= .2646E-01 CRITERION= .8982E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 751
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.59 CRITERION= .9773E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2407
 HT FLOW CONVERGENCE VALUE= .2639E-01 CRITERION= .8950E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 752
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1047E-04 OSCILLATION LIMIT = 82.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.55 CRITERION= .9743E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2401
 HT FLOW CONVERGENCE VALUE= .2630E-01 CRITERION= .8920E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 753
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.58 CRITERION= .9716E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2410
 HT FLOW CONVERGENCE VALUE= .2623E-01 CRITERION= .8888E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 754
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1048E-04 OSCILLATION LIMIT = 82.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.54 CRITERION= .9686E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2404
 HT FLOW CONVERGENCE VALUE= .2614E-01 CRITERION= .8858E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 755
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 82.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.57 CRITERION= .9659E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2413
 HT FLOW CONVERGENCE VALUE= .2607E-01 CRITERION= .8826E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 756
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 82.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.53 CRITERION= .9629E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2408
 HT FLOW CONVERGENCE VALUE= .2598E-01 CRITERION= .8797E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 757
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 82.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.55 CRITERION= .9602E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2416
 HT FLOW CONVERGENCE VALUE= .2592E-01 CRITERION= .8765E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 758
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1050E-04 OSCILLATION LIMIT = 82.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.52 CRITERION= .9572E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2410
 HT FLOW CONVERGENCE VALUE= .2583E-01 CRITERION= .8735E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 759
 *** TIME = .134120E+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= 38.54 CRITERION= .9545E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2418
 HT FLOW CONVERGENCE VALUE= .2576E-01 CRITERION= .8703E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 760
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = 82.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.50 CRITERION= .9515E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2413
 HT FLOW CONVERGENCE VALUE= .2567E-01 CRITERION= .8673E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 761
 *** TIME = .135698E+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= 38.53 CRITERION= .9488E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2421
 HT FLOW CONVERGENCE VALUE= .2560E-01 CRITERION= .8641E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 762
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1053E-04 OSCILLATION LIMIT = 83.04

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.49 CRITERION= .9458E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2415
HT FLOW CONVERGENCE VALUE= .2551E-01 CRITERION= .8611E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 763
*** TIME = .137276E+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= 38.52 CRITERION= .9431E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2423
HT FLOW CONVERGENCE VALUE= .2544E-01 CRITERION= .8579E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 764
*** TIME = .138065E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1054E-04 OSCILLATION LIMIT = 83.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.48 CRITERION= .9401E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2418
HT FLOW CONVERGENCE VALUE= .2535E-01 CRITERION= .8550E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 765
*** TIME = .138853E+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= 38.51 CRITERION= .9375E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2426
HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .8518E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 766
*** TIME = .139642E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1055E-04 OSCILLATION LIMIT = 83.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.47 CRITERION= .9345E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2421
HT FLOW CONVERGENCE VALUE= .2519E-01 CRITERION= .8488E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 767
*** TIME = .140431E+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= 38.50 CRITERION= .9318E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2429
HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .8456E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 768
*** TIME = .141220E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1056E-04 OSCILLATION LIMIT = 83.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.46 CRITERION= .9288E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2424
HT FLOW CONVERGENCE VALUE= .2504E-01 CRITERION= .8426E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 769
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1053E-04 OSCILLATION LIMIT = 83.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.48 CRITERION= .9261E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2431
HT FLOW CONVERGENCE VALUE= .2497E-01 CRITERION= .8394E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 770

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*** TIME = .142798E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1057E-04    OSCILLATION LIMIT = 83.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.45    CRITERION= .9231E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2427
    HT FLOW CONVERGENCE VALUE= .2488E-01 CRITERION= .8364E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 771
*** TIME = .143587E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1054E-04    OSCILLATION LIMIT = 83.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.47    CRITERION= .9205E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2434
    HT FLOW CONVERGENCE VALUE= .2481E-01 CRITERION= .8332E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 772
*** TIME = .144376E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1058E-04    OSCILLATION LIMIT = 83.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.43    CRITERION= .9175E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2430
    HT FLOW CONVERGENCE VALUE= .2472E-01 CRITERION= .8302E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 773
*** TIME = .145165E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1055E-04    OSCILLATION LIMIT = 83.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.46    CRITERION= .9148E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2437
    HT FLOW CONVERGENCE VALUE= .2465E-01 CRITERION= .8270E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 774
*** TIME = .145954E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1059E-04    OSCILLATION LIMIT = 83.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.42    CRITERION= .9118E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2433
    HT FLOW CONVERGENCE VALUE= .2456E-01 CRITERION= .8241E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 775
*** TIME = .146743E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1056E-04    OSCILLATION LIMIT = 83.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.45    CRITERION= .9091E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2440
    HT FLOW CONVERGENCE VALUE= .2449E-01 CRITERION= .8208E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 776
*** TIME = .147532E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1060E-04    OSCILLATION LIMIT = 83.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.41    CRITERION= .9061E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2435
    HT FLOW CONVERGENCE VALUE= .2440E-01 CRITERION= .8179E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 777
*** TIME = .148321E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1057E-04    OSCILLATION LIMIT = 83.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.44    CRITERION= .9035E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2442
    HT FLOW CONVERGENCE VALUE= .2433E-01 CRITERION= .8147E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 778
*** TIME = .149110E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1061E-04 OSCILLATION LIMIT = 83.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.40 CRITERION= .9005E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2438
HT FLOW CONVERGENCE VALUE= .2425E-01 CRITERION= .8117E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 779
*** TIME = .149899E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1058E-04 OSCILLATION LIMIT = 83.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.43 CRITERION= .8978E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2445
HT FLOW CONVERGENCE VALUE= .2417E-01 CRITERION= .8085E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 780
*** TIME = .150688E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1062E-04 OSCILLATION LIMIT = 83.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.39 CRITERION= .8948E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2441
HT FLOW CONVERGENCE VALUE= .2410E-01 CRITERION= .8055E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 781
*** TIME = .151476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1059E-04 OSCILLATION LIMIT = 83.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.42 CRITERION= .8922E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2448
HT FLOW CONVERGENCE VALUE= .2402E-01 CRITERION= .8023E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 782
*** TIME = .152265E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1063E-04 OSCILLATION LIMIT = 83.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.38 CRITERION= .8892E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2444
HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .7993E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 783
*** TIME = .153054E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1060E-04 OSCILLATION LIMIT = 83.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.40 CRITERION= .8866E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2450
HT FLOW CONVERGENCE VALUE= .2386E-01 CRITERION= .7961E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 784
*** TIME = .153843E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1064E-04 OSCILLATION LIMIT = 83.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.37 CRITERION= .8836E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2446
HT FLOW CONVERGENCE VALUE= .2378E-01 CRITERION= .7931E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 785
*** TIME = .154632E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1062E-04 OSCILLATION LIMIT = 83.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.39 CRITERION= .8809E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2453
 HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .7899E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 786
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1065E-04 OSCILLATION LIMIT = 84.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.35 CRITERION= .8780E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2449
 HT FLOW CONVERGENCE VALUE= .2362E-01 CRITERION= .7869E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 787
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1063E-04 OSCILLATION LIMIT = 83.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.38 CRITERION= .8753E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2455
 HT FLOW CONVERGENCE VALUE= .2354E-01 CRITERION= .7837E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 788
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1066E-04 OSCILLATION LIMIT = 84.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.34 CRITERION= .8723E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2451
 HT FLOW CONVERGENCE VALUE= .2347E-01 CRITERION= .7807E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 789
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1064E-04 OSCILLATION LIMIT = 83.92

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:25:46 JUN 24, 1995 CP= 30285.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 31.83 CRITERION= .8429E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1941
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .7782E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 790
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9812E-05 OSCILLATION LIMIT = 77.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.79 CRITERION= .8405E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1960
 HT FLOW CONVERGENCE VALUE= .1895E-01 CRITERION= .7759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 791
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9953E-05 OSCILLATION LIMIT = 78.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.82 CRITERION= .8384E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1971
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .7733E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 792
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1004E-04 OSCILLATION LIMIT = 79.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.79 CRITERION= .8360E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1961
 HT FLOW CONVERGENCE VALUE= .1885E-01 CRITERION= .7710E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 793
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9957E-05 OSCILLATION LIMIT = 78.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.81 CRITERION= .8339E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1972
 HT FLOW CONVERGENCE VALUE= .1883E-01 CRITERION= .7685E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 794
 *** TIME = .161733E+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= 31.78 CRITERION= .8315E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1962
 HT FLOW CONVERGENCE VALUE= .1875E-01 CRITERION= .7661E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 795
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9966E-05 OSCILLATION LIMIT = 78.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.81 CRITERION= .8294E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1974
 HT FLOW CONVERGENCE VALUE= .1873E-01 CRITERION= .7636E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 796
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 79.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.77 CRITERION= .8269E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1964
 HT FLOW CONVERGENCE VALUE= .1865E-01 CRITERION= .7613E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 797
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9976E-05 OSCILLATION LIMIT = 78.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.80 CRITERION= .8248E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1975
 HT FLOW CONVERGENCE VALUE= .1863E-01 CRITERION= .7587E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 798
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 79.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.76 CRITERION= .8224E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1965
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .7564E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 799
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9985E-05 OSCILLATION LIMIT = 78.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.79 CRITERION= .8203E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .7539E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 800
 *** TIME = .166466E+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= 31.75 CRITERION= .8179E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1967
 HT FLOW CONVERGENCE VALUE= .1845E-01 CRITERION= .7515E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 801
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9995E-05 OSCILLATION LIMIT = 78.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.78 CRITERION= .8158E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
 HT FLOW CONVERGENCE VALUE= .1843E-01 CRITERION= .7490E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 802
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 79.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.75 CRITERION= .8134E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1969
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .7467E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 803
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1000E-04 OSCILLATION LIMIT = 78.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.77 CRITERION= .8113E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
 HT FLOW CONVERGENCE VALUE= .1833E-01 CRITERION= .7441E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 804
 *** TIME = .169622E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 79.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.74 CRITERION= .8089E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1970
 HT FLOW CONVERGENCE VALUE= .1825E-01 CRITERION= .7418E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 805
 *** TIME = .170411E+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= 31.77 CRITERION= .8068E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1981
 HT FLOW CONVERGENCE VALUE= .1822E-01 CRITERION= .7392E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 806
 *** TIME = .171200E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1010E-04 OSCILLATION LIMIT = 79.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.73 CRITERION= .8044E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1972
 HT FLOW CONVERGENCE VALUE= .1815E-01 CRITERION= .7369E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 807
 *** TIME = .171989E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1002E-04 OSCILLATION LIMIT = 79.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.76 CRITERION= .8023E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1982
 HT FLOW CONVERGENCE VALUE= .1812E-01 CRITERION= .7344E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 808
*** TIME = .172778E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.72 CRITERION= .7999E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1974
HT FLOW CONVERGENCE VALUE= .1804E-01 CRITERION= .7321E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 809
*** TIME = .173567E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1003E-04 OSCILLATION LIMIT = 79.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.75 CRITERION= .7978E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
HT FLOW CONVERGENCE VALUE= .1802E-01 CRITERION= .7295E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 810
*** TIME = .174356E+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= 31.71 CRITERION= .7953E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1975
HT FLOW CONVERGENCE VALUE= .1795E-01 CRITERION= .7272E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 811
*** TIME = .175145E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1004E-04 OSCILLATION LIMIT = 79.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.74 CRITERION= .7933E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
HT FLOW CONVERGENCE VALUE= .1792E-01 CRITERION= .7246E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 812
*** TIME = .175934E+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= 31.71 CRITERION= .7909E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
HT FLOW CONVERGENCE VALUE= .1785E-01 CRITERION= .7223E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 813
*** TIME = .176723E+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= 31.74 CRITERION= .7888E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1987
HT FLOW CONVERGENCE VALUE= .1782E-01 CRITERION= .7197E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 814
*** TIME = .177512E+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= 31.70 CRITERION= .7864E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
HT FLOW CONVERGENCE VALUE= .1775E-01 CRITERION= .7174E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 815
*** TIME = .178300E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 79.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.73 CRITERION= .7843E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1988

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HT FLOW CONVERGENCE VALUE= .1772E-01 CRITERION= .7149E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 816
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 79.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.69 CRITERION= .7819E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1980
 HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .7125E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 817
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 79.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.72 CRITERION= .7798E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1990
 HT FLOW CONVERGENCE VALUE= .1761E-01 CRITERION= .7100E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 818
 *** TIME = .180667E+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= 31.68 CRITERION= .7774E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1982
 HT FLOW CONVERGENCE VALUE= .1754E-01 CRITERION= .7077E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 819
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 79.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.71 CRITERION= .7753E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1991
 HT FLOW CONVERGENCE VALUE= .1751E-01 CRITERION= .7051E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 820
 *** TIME = .182245E+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= 31.67 CRITERION= .7729E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1983
 HT FLOW CONVERGENCE VALUE= .1744E-01 CRITERION= .7028E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 821
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 79.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.70 CRITERION= .7708E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1993
 HT FLOW CONVERGENCE VALUE= .1741E-01 CRITERION= .7002E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 822
 *** TIME = .183823E+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= 31.67 CRITERION= .7684E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .1734E-01 CRITERION= .6979E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 823
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1010E-04 OSCILLATION LIMIT = 79.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.70 CRITERION= .7663E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1994
 HT FLOW CONVERGENCE VALUE= .1731E-01 CRITERION= .6954E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 824
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1017E-04 OSCILLATION LIMIT = 80.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.66 CRITERION= .7639E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1987
 HT FLOW CONVERGENCE VALUE= .1724E-01 CRITERION= .6930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 825
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.69 CRITERION= .7619E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1996
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .6905E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 826
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1018E-04 OSCILLATION LIMIT = 80.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.65 CRITERION= .7595E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1988
 HT FLOW CONVERGENCE VALUE= .1713E-01 CRITERION= .6881E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 827
 *** TIME = .187768E+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= 31.68 CRITERION= .7574E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1997
 HT FLOW CONVERGENCE VALUE= .1710E-01 CRITERION= .6856E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 828
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1019E-04 OSCILLATION LIMIT = 80.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.64 CRITERION= .7550E-01
 EQUIL ITER 1 COMPLETE. NEW TRIANG MATRIX. MAX DOF INC= -.1990
 HT FLOW CONVERGENCE VALUE= .1703E-01 CRITERION= .6833E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 829
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.91

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:52:04 JUN 24, 1995 CP= 31848.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 26.83 CRITERION= .7339E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1626
 HT FLOW CONVERGENCE VALUE= .1411E-01 CRITERION= .6812E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 830
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9490E-05 OSCILLATION LIMIT = 74.87

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .7319E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1633
 HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .6793E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 831
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9549E-05 OSCILLATION LIMIT = 75.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.82 CRITERION= .7302E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1645
 HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .6772E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 832
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9670E-05 OSCILLATION LIMIT = 76.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .7282E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1634
 HT FLOW CONVERGENCE VALUE= .1403E-01 CRITERION= .6754E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 833
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9554E-05 OSCILLATION LIMIT = 75.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.82 CRITERION= .7265E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1646
 HT FLOW CONVERGENCE VALUE= .1403E-01 CRITERION= .6733E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 834
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9676E-05 OSCILLATION LIMIT = 76.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .7245E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1635
 HT FLOW CONVERGENCE VALUE= .1396E-01 CRITERION= .6714E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 835
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9563E-05 OSCILLATION LIMIT = 75.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .7228E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1647
 HT FLOW CONVERGENCE VALUE= .1396E-01 CRITERION= .6694E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 836
 *** TIME = .194868E+10 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= 26.78 CRITERION= .7208E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1636
 HT FLOW CONVERGENCE VALUE= .1389E-01 CRITERION= .6675E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 837
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9571E-05 OSCILLATION LIMIT = 75.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .7192E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1648
 HT FLOW CONVERGENCE VALUE= .1389E-01 CRITERION= .6654E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 838

*** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9688E-05 OSCILLATION LIMIT = 76.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .7172E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1637
 HT FLOW CONVERGENCE VALUE= .1382E-01 CRITERION= .6636E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 839
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9579E-05 OSCILLATION LIMIT = 75.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .7155E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1649
 HT FLOW CONVERGENCE VALUE= .1382E-01 CRITERION= .6615E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 840
 *** TIME = .198024E+10 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= 26.76 CRITERION= .7135E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1639
 HT FLOW CONVERGENCE VALUE= .1375E-01 CRITERION= .6596E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 841
 *** TIME = .198813E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9588E-05 OSCILLATION LIMIT = 75.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .7118E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1650
 HT FLOW CONVERGENCE VALUE= .1375E-01 CRITERION= .6575E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 842
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9701E-05 OSCILLATION LIMIT = 76.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.76 CRITERION= .7098E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1640
 HT FLOW CONVERGENCE VALUE= .1368E-01 CRITERION= .6557E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 843
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9597E-05 OSCILLATION LIMIT = 75.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .7081E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1651
 HT FLOW CONVERGENCE VALUE= .1367E-01 CRITERION= .6536E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 844
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9708E-05 OSCILLATION LIMIT = 76.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .7061E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1641
 HT FLOW CONVERGENCE VALUE= .1361E-01 CRITERION= .6517E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 845
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9605E-05 OSCILLATION LIMIT = 75.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .7045E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1652
 HT FLOW CONVERGENCE VALUE= .1360E-01 CRITERION= .6496E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 846
*** TIME = .202758E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9714E-05 OSCILLATION LIMIT = 76.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .7024E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1642
HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .6478E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 847
*** TIME = .203547E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9614E-05 OSCILLATION LIMIT = 75.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .7008E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1653
HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .6457E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 848
*** TIME = .204335E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9720E-05 OSCILLATION LIMIT = 76.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .6988E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1643
HT FLOW CONVERGENCE VALUE= .1348E-01 CRITERION= .6438E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 849
*** TIME = .205124E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9622E-05 OSCILLATION LIMIT = 75.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6971E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1654
HT FLOW CONVERGENCE VALUE= .1348E-01 CRITERION= .6417E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 850
*** TIME = .205913E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9727E-05 OSCILLATION LIMIT = 76.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .6951E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1645
HT FLOW CONVERGENCE VALUE= .1343E-01 CRITERION= .6399E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 851
*** TIME = .206702E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9631E-05 OSCILLATION LIMIT = 75.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6934E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1655
HT FLOW CONVERGENCE VALUE= .1341E-01 CRITERION= .6378E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 852
*** TIME = .207491E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9733E-05 OSCILLATION LIMIT = 76.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .6914E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1646
HT FLOW CONVERGENCE VALUE= .1335E-01 CRITERION= .6359E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 853
*** TIME = .208280E+10 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= 26.76 CRITERION= .6898E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1656
HT FLOW CONVERGENCE VALUE= .1333E-01 CRITERION= .6338E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 854
*** TIME = .209069E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9740E-05 OSCILLATION LIMIT = 76.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.72 CRITERION= .6878E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1647
HT FLOW CONVERGENCE VALUE= .1327E-01 CRITERION= .6320E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 855
*** TIME = .209858E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9648E-05 OSCILLATION LIMIT = 76.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .6861E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1657
HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .6299E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 856
*** TIME = .210647E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9746E-05 OSCILLATION LIMIT = 76.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.72 CRITERION= .6841E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1648
HT FLOW CONVERGENCE VALUE= .1320E-01 CRITERION= .6280E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 857
*** TIME = .211436E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9656E-05 OSCILLATION LIMIT = 76.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .6825E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1658
HT FLOW CONVERGENCE VALUE= .1318E-01 CRITERION= .6259E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 858
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9753E-05 OSCILLATION LIMIT = 76.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.71 CRITERION= .6805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1649
HT FLOW CONVERGENCE VALUE= .1312E-01 CRITERION= .6241E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 859
*** TIME = .213014E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9664E-05 OSCILLATION LIMIT = 76.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .6788E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1659
HT FLOW CONVERGENCE VALUE= .1311E-01 CRITERION= .6220E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 860
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9759E-05 OSCILLATION LIMIT = 76.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.71 CRITERION= .6768E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1650
HT FLOW CONVERGENCE VALUE= .1305E-01 CRITERION= .6201E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 861
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9673E-05 OSCILLATION LIMIT = 76.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .6751E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1660
 HT FLOW CONVERGENCE VALUE= .1304E-01 CRITERION= .6180E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 862
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9765E-05 OSCILLATION LIMIT = 77.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.70 CRITERION= .6731E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1652
 HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .6161E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 863
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9681E-05 OSCILLATION LIMIT = 76.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .6715E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1661
 HT FLOW CONVERGENCE VALUE= .1317E-01 CRITERION= .6141E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 864
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9772E-05 OSCILLATION LIMIT = 77.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.70 CRITERION= .6695E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1653
 HT FLOW CONVERGENCE VALUE= .1330E-01 CRITERION= .6122E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 865
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9690E-05 OSCILLATION LIMIT = 76.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .6679E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1662
 HT FLOW CONVERGENCE VALUE= .1335E-01 CRITERION= .6101E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 866
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9779E-05 OSCILLATION LIMIT = 77.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.69 CRITERION= .6659E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1654
 HT FLOW CONVERGENCE VALUE= .1329E-01 CRITERION= .6083E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 867
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9699E-05 OSCILLATION LIMIT = 76.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .6642E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1663
 HT FLOW CONVERGENCE VALUE= .1330E-01 CRITERION= .6062E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 868
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9787E-05 OSCILLATION LIMIT = 77.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.69 CRITERION= .6622E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1655
 HT FLOW CONVERGENCE VALUE= .1360E-01 CRITERION= .6043E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 869
 *** TIME = .220903E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .9708E-05 OSCILLATION LIMIT = 76.59

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:18:23 JUN 24, 1995 CP= 33413.200
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6610E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1460
HT FLOW CONVERGENCE VALUE= .1288E-01 CRITERION= .6026E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 870
*** TIME = .221692E+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= 26.77 CRITERION= .6593E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1457
HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .6011E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 871
*** TIME = .222481E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7420E-05 OSCILLATION LIMIT = 58.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6580E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1468
HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .5994E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 872
*** TIME = .223270E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7530E-05 OSCILLATION LIMIT = 59.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6564E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1458
HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .5979E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 873
*** TIME = .224059E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7427E-05 OSCILLATION LIMIT = 58.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6551E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .5962E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 874
*** TIME = .224848E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7536E-05 OSCILLATION LIMIT = 59.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6535E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1459
HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .5947E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 875
*** TIME = .225637E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7435E-05 OSCILLATION LIMIT = 58.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .6522E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .5930E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 876
*** TIME = .226426E+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= 26.77 CRITERION= .6505E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1460
HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .5915E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 877
*** TIME = .227215E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7444E-05 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .6493E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
HT FLOW CONVERGENCE VALUE= .1292E-01 CRITERION= .5898E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 878
*** TIME = .228004E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7549E-05 OSCILLATION LIMIT = 59.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6476E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1461
HT FLOW CONVERGENCE VALUE= .1281E-01 CRITERION= .5883E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 879
*** TIME = .228793E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7452E-05 OSCILLATION LIMIT = 58.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6463E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1471
HT FLOW CONVERGENCE VALUE= .1271E-01 CRITERION= .5866E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 880
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7555E-05 OSCILLATION LIMIT = 59.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6447E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1462
HT FLOW CONVERGENCE VALUE= .1265E-01 CRITERION= .5851E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 881
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7460E-05 OSCILLATION LIMIT = 58.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6434E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1472
HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .5833E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 882
*** TIME = .231159E+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= 26.77 CRITERION= .6418E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1463
HT FLOW CONVERGENCE VALUE= .1269E-01 CRITERION= .5819E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 883
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7468E-05 OSCILLATION LIMIT = 58.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6405E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473

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HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .5801E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 884
 *** TIME = .232737E+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= 26.77 CRITERION= .6389E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1464
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .5786E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 885
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7476E-05 OSCILLATION LIMIT = 58.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .5769E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 886
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7572E-05 OSCILLATION LIMIT = 59.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6360E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1465
 HT FLOW CONVERGENCE VALUE= .1232E-01 CRITERION= .5754E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 887
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7483E-05 OSCILLATION LIMIT = 59.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6347E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1474
 HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .5737E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 888
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7577E-05 OSCILLATION LIMIT = 59.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6330E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1466
 HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .5722E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 889
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7491E-05 OSCILLATION LIMIT = 59.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6318E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1475
 HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .5705E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 890
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7584E-05 OSCILLATION LIMIT = 59.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6301E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1467
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .5690E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 891
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7499E-05 OSCILLATION LIMIT = 59.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6289E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1476
 HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .5673E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 892
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7589E-05 OSCILLATION LIMIT = 59.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6272E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1468
 HT FLOW CONVERGENCE VALUE= .1200E-01 CRITERION= .5658E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 893
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7506E-05 OSCILLATION LIMIT = 59.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6260E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1477
 HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .5641E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 894
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7594E-05 OSCILLATION LIMIT = 59.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6243E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
 HT FLOW CONVERGENCE VALUE= .1186E-01 CRITERION= .5626E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 895
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7513E-05 OSCILLATION LIMIT = 59.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6231E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1477
 HT FLOW CONVERGENCE VALUE= .1184E-01 CRITERION= .5609E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 896
 *** TIME = .242205E+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= 26.77 CRITERION= .6214E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
 HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .5594E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 897
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7520E-05 OSCILLATION LIMIT = 59.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6202E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1478
 HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .5576E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 898
 *** TIME = .243782E+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= 26.77 CRITERION= .6185E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1471
 HT FLOW CONVERGENCE VALUE= .1171E-01 CRITERION= .5561E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 899
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7527E-05 OSCILLATION LIMIT = 59.39

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6173E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1479
 HT FLOW CONVERGENCE VALUE= .1169E-01 CRITERION= .5544E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 900
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7611E-05 OSCILLATION LIMIT = 60.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6156E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1472
 HT FLOW CONVERGENCE VALUE= .1165E-01 CRITERION= .5529E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 901
 *** TIME = .246149E+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= 26.81 CRITERION= .6144E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1480
 HT FLOW CONVERGENCE VALUE= .1163E-01 CRITERION= .5512E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 902
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7616E-05 OSCILLATION LIMIT = 60.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .6127E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
 HT FLOW CONVERGENCE VALUE= .1159E-01 CRITERION= .5497E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 903
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7541E-05 OSCILLATION LIMIT = 59.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6115E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1480
 HT FLOW CONVERGENCE VALUE= .1157E-01 CRITERION= .5480E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 904
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7621E-05 OSCILLATION LIMIT = 60.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .6099E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
 HT FLOW CONVERGENCE VALUE= .1153E-01 CRITERION= .5465E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 905
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7548E-05 OSCILLATION LIMIT = 59.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .6086E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1481
 HT FLOW CONVERGENCE VALUE= .1151E-01 CRITERION= .5448E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 906
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7627E-05 OSCILLATION LIMIT = 60.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .6070E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1474
 HT FLOW CONVERGENCE VALUE= .1147E-01 CRITERION= .5433E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 907

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*** TIME = .250883E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7555E-05    OSCILLATION LIMIT = 59.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81    CRITERION= .6057E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1482
HT FLOW CONVERGENCE VALUE= .1144E-01 CRITERION= .5416E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 908
*** TIME = .251672E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7632E-05    OSCILLATION LIMIT = 60.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.78    CRITERION= .6041E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1475
HT FLOW CONVERGENCE VALUE= .1140E-01 CRITERION= .5401E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 909
*** TIME = .252461E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7562E-05    OSCILLATION LIMIT = 59.66

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***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    15:44:44 JUN 24, 1995 CP= 34978.960
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 20.51    CRITERION= .5776E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1142
HT FLOW CONVERGENCE VALUE= .8765E-02 CRITERION= .5387E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 910
*** TIME = .253250E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7785E-05    OSCILLATION LIMIT = 61.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.48    CRITERION= .5762E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1146
HT FLOW CONVERGENCE VALUE= .8757E-02 CRITERION= .5375E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 911
*** TIME = .254039E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7829E-05    OSCILLATION LIMIT = 61.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.51    CRITERION= .5752E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
HT FLOW CONVERGENCE VALUE= .8763E-02 CRITERION= .5361E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 912
*** TIME = .254828E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7982E-05    OSCILLATION LIMIT = 62.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.48    CRITERION= .5739E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1147
HT FLOW CONVERGENCE VALUE= .8719E-02 CRITERION= .5350E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 913
*** TIME = .255617E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7832E-05    OSCILLATION LIMIT = 61.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.51    CRITERION= .5729E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
HT FLOW CONVERGENCE VALUE= .8725E-02 CRITERION= .5336E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 914
*** TIME = .256406E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7985E-05 OSCILLATION LIMIT = 63.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5715E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1147
HT FLOW CONVERGENCE VALUE= .8682E-02 CRITERION= .5325E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 915
*** TIME = .257194E+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= 20.51 CRITERION= .5705E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
HT FLOW CONVERGENCE VALUE= .8688E-02 CRITERION= .5311E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 916
*** TIME = .257983E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7988E-05 OSCILLATION LIMIT = 63.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5691E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1148
HT FLOW CONVERGENCE VALUE= .8646E-02 CRITERION= .5299E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 917
*** TIME = .258772E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7844E-05 OSCILLATION LIMIT = 61.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5681E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
HT FLOW CONVERGENCE VALUE= .8650E-02 CRITERION= .5285E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 918
*** TIME = .259561E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7992E-05 OSCILLATION LIMIT = 63.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5668E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1148
HT FLOW CONVERGENCE VALUE= .8609E-02 CRITERION= .5274E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 919
*** TIME = .260350E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7851E-05 OSCILLATION LIMIT = 61.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5658E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
HT FLOW CONVERGENCE VALUE= .8612E-02 CRITERION= .5260E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 920
*** TIME = .261139E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7995E-05 OSCILLATION LIMIT = 63.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5644E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1149
HT FLOW CONVERGENCE VALUE= .8572E-02 CRITERION= .5248E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 921
*** TIME = .261928E+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= 20.51 CRITERION= .5634E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
HT FLOW CONVERGENCE VALUE= .8574E-02 CRITERION= .5235E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 922
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7998E-05 OSCILLATION LIMIT = 63.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5620E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1150
HT FLOW CONVERGENCE VALUE= .8535E-02 CRITERION= .5223E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 923
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7863E-05 OSCILLATION LIMIT = 62.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5610E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1160
HT FLOW CONVERGENCE VALUE= .8536E-02 CRITERION= .5209E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 924
*** TIME = .264295E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8002E-05 OSCILLATION LIMIT = 63.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5597E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1150
HT FLOW CONVERGENCE VALUE= .8497E-02 CRITERION= .5198E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 925
*** TIME = .265084E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7870E-05 OSCILLATION LIMIT = 62.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5587E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1160
HT FLOW CONVERGENCE VALUE= .8499E-02 CRITERION= .5184E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 926
*** TIME = .265873E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8005E-05 OSCILLATION LIMIT = 63.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5573E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1151
HT FLOW CONVERGENCE VALUE= .8460E-02 CRITERION= .5172E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 927
*** TIME = .266662E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7876E-05 OSCILLATION LIMIT = 62.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5563E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
HT FLOW CONVERGENCE VALUE= .8460E-02 CRITERION= .5158E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 928
*** TIME = .267451E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8009E-05 OSCILLATION LIMIT = 63.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5550E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1152
HT FLOW CONVERGENCE VALUE= .8422E-02 CRITERION= .5147E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 929
*** TIME = .268240E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7882E-05 OSCILLATION LIMIT = 62.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5540E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .8421E-02 CRITERION= .5133E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 930
 *** TIME = .269029E+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= 20.48 CRITERION= .5526E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1152
 HT FLOW CONVERGENCE VALUE= .8384E-02 CRITERION= .5122E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 931
 *** TIME = .269817E+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= 20.51 CRITERION= .5516E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .8383E-02 CRITERION= .5108E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 932
 *** TIME = .270606E+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= 20.48 CRITERION= .5502E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
 HT FLOW CONVERGENCE VALUE= .8346E-02 CRITERION= .5096E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 933
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7895E-05 OSCILLATION LIMIT = 62.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5492E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .8344E-02 CRITERION= .5082E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 934
 *** TIME = .272184E+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= 20.48 CRITERION= .5479E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
 HT FLOW CONVERGENCE VALUE= .8309E-02 CRITERION= .5071E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 935
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7901E-05 OSCILLATION LIMIT = 62.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5469E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .8306E-02 CRITERION= .5057E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 936
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8023E-05 OSCILLATION LIMIT = 63.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5455E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1154
 HT FLOW CONVERGENCE VALUE= .8271E-02 CRITERION= .5045E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 937
 *** TIME = .274551E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7907E-05 OSCILLATION LIMIT = 62.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5445E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .8268E-02 CRITERION= .5031E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 938
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8027E-05 OSCILLATION LIMIT = 63.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5432E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
 HT FLOW CONVERGENCE VALUE= .8234E-02 CRITERION= .5020E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 939
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7913E-05 OSCILLATION LIMIT = 62.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5422E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .8230E-02 CRITERION= .5006E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 940
 *** TIME = .276918E+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= 20.48 CRITERION= .5408E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
 HT FLOW CONVERGENCE VALUE= .8197E-02 CRITERION= .4994E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 941
 *** TIME = .277707E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7919E-05 OSCILLATION LIMIT = 62.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5398E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .8192E-02 CRITERION= .4981E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 942
 *** TIME = .278496E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8035E-05 OSCILLATION LIMIT = 63.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5385E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
 HT FLOW CONVERGENCE VALUE= .8159E-02 CRITERION= .4969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 943
 *** TIME = .279285E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7925E-05 OSCILLATION LIMIT = 62.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5375E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
 HT FLOW CONVERGENCE VALUE= .8154E-02 CRITERION= .4955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 944
 *** TIME = .280074E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8038E-05 OSCILLATION LIMIT = 63.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5361E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
 HT FLOW CONVERGENCE VALUE= .8121E-02 CRITERION= .4944E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 945
 *** TIME = .280863E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7931E-05 OSCILLATION LIMIT = 62.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5351E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
 HT FLOW CONVERGENCE VALUE= .8116E-02 CRITERION= .4930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 946
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8042E-05 OSCILLATION LIMIT = 63.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5338E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
 HT FLOW CONVERGENCE VALUE= .8084E-02 CRITERION= .4918E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 947
 *** TIME = .282441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7937E-05 OSCILLATION LIMIT = 62.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .5328E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
 HT FLOW CONVERGENCE VALUE= .8078E-02 CRITERION= .4904E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 948
 *** TIME = .283229E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8046E-05 OSCILLATION LIMIT = 63.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .5314E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
 HT FLOW CONVERGENCE VALUE= .8046E-02 CRITERION= .4893E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 949
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7943E-05 OSCILLATION LIMIT = 62.67
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION
 1285.61410 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP

VALUES = 93.383 .00000E+00 EXPANSION KEY = 1
 CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 93.614 .00000E+00 EXPANSION KEY = 1
 CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 94.088 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 36543.170 TIME= 16:11:03
 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 16:11:03 JUN 24, 1995 CP= 36543.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 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= 17.33 CRITERION= .5190E-01
 EQUIL ITER '1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1000
 HT FLOW CONVERGENCE VALUE= .6860E-02 CRITERION= .4880E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 950
 *** TIME = .284807E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8340E-05 OSCILLATION LIMIT = 65.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5178E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9981E-01
 HT FLOW CONVERGENCE VALUE= .6841E-02 CRITERION= .4871E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 951
 *** TIME = .285596E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8291E-05 OSCILLATION LIMIT = 65.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5169E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1007
 HT FLOW CONVERGENCE VALUE= .6846E-02 CRITERION= .4858E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 952
 *** TIME = .286385E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8446E-05 OSCILLATION LIMIT = 66.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5157E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9984E-01
 HT FLOW CONVERGENCE VALUE= .6813E-02 CRITERION= .4848E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 953
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8295E-05 OSCILLATION LIMIT = 65.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5148E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1008
 HT FLOW CONVERGENCE VALUE= .6816E-02 CRITERION= .4836E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 954
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8449E-05 OSCILLATION LIMIT = 66.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5136E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9989E-01
 HT FLOW CONVERGENCE VALUE= .6783E-02 CRITERION= .4826E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 955
 *** TIME = .288752E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8301E-05 OSCILLATION LIMIT = 65.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5127E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1008
 HT FLOW CONVERGENCE VALUE= .6786E-02 CRITERION= .4814E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 956
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8452E-05 OSCILLATION LIMIT = 66.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5115E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9994E-01
 HT FLOW CONVERGENCE VALUE= .6754E-02 CRITERION= .4804E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 957
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8307E-05 OSCILLATION LIMIT = 65.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5106E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1008
 HT FLOW CONVERGENCE VALUE= .6756E-02 CRITERION= .4791E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 958
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8455E-05 OSCILLATION LIMIT = 66.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5094E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9999E-01
 HT FLOW CONVERGENCE VALUE= .6725E-02 CRITERION= .4781E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 959
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8313E-05 OSCILLATION LIMIT = 65.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5085E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1009
 HT FLOW CONVERGENCE VALUE= .6726E-02 CRITERION= .4769E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 960
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8457E-05 OSCILLATION LIMIT = 66.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5073E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1000
 HT FLOW CONVERGENCE VALUE= .6695E-02 CRITERION= .4759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 961
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8319E-05 OSCILLATION LIMIT = 65.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5064E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1009
 HT FLOW CONVERGENCE VALUE= .6697E-02 CRITERION= .4747E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 962
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8461E-05 OSCILLATION LIMIT = 66.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5052E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1001
 HT FLOW CONVERGENCE VALUE= .6666E-02 CRITERION= .4737E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 963
 *** TIME = .295064E+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= 17.33 CRITERION= .5043E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1009
 HT FLOW CONVERGENCE VALUE= .6635E-02 CRITERION= .4725E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 964
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8463E-05 OSCILLATION LIMIT = 66.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .5031E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1001
 HT FLOW CONVERGENCE VALUE= .6625E-02 CRITERION= .4715E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 965
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8330E-05 OSCILLATION LIMIT = 65.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5022E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1010
 HT FLOW CONVERGENCE VALUE= .6626E-02 CRITERION= .4702E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 966
 *** TIME = .297430E+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= 17.30 CRITERION= .5010E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1002
 HT FLOW CONVERGENCE VALUE= .6553E-02 CRITERION= .4692E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 967
 *** TIME = .298219E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .8336E-05 OSCILLATION LIMIT = 65.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .5001E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1010
 HT FLOW CONVERGENCE VALUE= .6625E-02 CRITERION= .4680E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 968
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8469E-05 OSCILLATION LIMIT = 66.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4989E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1002
 HT FLOW CONVERGENCE VALUE= .6596E-02 CRITERION= .4670E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 969
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8341E-05 OSCILLATION LIMIT = 65.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .4981E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1010
 HT FLOW CONVERGENCE VALUE= .6596E-02 CRITERION= .4658E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 970
 *** TIME = .300586E+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= 17.30 CRITERION= .4968E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1003
 HT FLOW CONVERGENCE VALUE= .6568E-02 CRITERION= .4648E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 971
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8347E-05 OSCILLATION LIMIT = 65.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .4960E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1010
 HT FLOW CONVERGENCE VALUE= .6567E-02 CRITERION= .4636E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 972
 *** TIME = .302164E+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= 17.30 CRITERION= .4948E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1003
 HT FLOW CONVERGENCE VALUE= .6539E-02 CRITERION= .4626E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 973
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8353E-05 OSCILLATION LIMIT = 65.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.33 CRITERION= .4939E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1011
 HT FLOW CONVERGENCE VALUE= .6537E-02 CRITERION= .4613E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 974
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8478E-05 OSCILLATION LIMIT = 66.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1004
 HT FLOW CONVERGENCE VALUE= .6508E-02 CRITERION= .4603E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 975
*** TIME = .304531E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8358E-05 OSCILLATION LIMIT = 65.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4918E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1011
HT FLOW CONVERGENCE VALUE= .6513E-02 CRITERION= .4591E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 976
*** TIME = .305320E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8481E-05 OSCILLATION LIMIT = 66.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4906E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1004
HT FLOW CONVERGENCE VALUE= .6487E-02 CRITERION= .4581E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 977
*** TIME = .306109E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8364E-05 OSCILLATION LIMIT = 65.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4897E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1011
HT FLOW CONVERGENCE VALUE= .6400E-02 CRITERION= .4569E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 978
*** TIME = .306898E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8484E-05 OSCILLATION LIMIT = 66.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4885E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1005
HT FLOW CONVERGENCE VALUE= .6455E-02 CRITERION= .4559E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 979
*** TIME = .307687E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8369E-05 OSCILLATION LIMIT = 66.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4876E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1012
HT FLOW CONVERGENCE VALUE= .6444E-02 CRITERION= .4546E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 980
*** TIME = .308476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8486E-05 OSCILLATION LIMIT = 66.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4864E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1005
HT FLOW CONVERGENCE VALUE= .6413E-02 CRITERION= .4536E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 981
*** TIME = .309264E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8374E-05 OSCILLATION LIMIT = 66.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4855E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1012
HT FLOW CONVERGENCE VALUE= .6409E-02 CRITERION= .4524E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 982
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8489E-05 OSCILLATION LIMIT = 66.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4843E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1006

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HT FLOW CONVERGENCE VALUE= .6384E-02 CRITERION= .4514E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 983
 *** TIME = .310842E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8380E-05 OSCILLATION LIMIT = 66.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4835E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1012
 HT FLOW CONVERGENCE VALUE= .6378E-02 CRITERION= .4502E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 984
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8493E-05 OSCILLATION LIMIT = 67.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4822E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1006
 HT FLOW CONVERGENCE VALUE= .6326E-02 CRITERION= .4492E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 985
 *** TIME = .312420E+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= 17.34 CRITERION= .4814E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1013
 HT FLOW CONVERGENCE VALUE= .6352E-02 CRITERION= .4479E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 986
 *** TIME = .313209E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8496E-05 OSCILLATION LIMIT = 67.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4802E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1007
 HT FLOW CONVERGENCE VALUE= .6328E-02 CRITERION= .4469E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 987
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8391E-05 OSCILLATION LIMIT = 66.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.34 CRITERION= .4793E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1013
 HT FLOW CONVERGENCE VALUE= .6248E-02 CRITERION= .4457E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 988
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8499E-05 OSCILLATION LIMIT = 67.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.30 CRITERION= .4781E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1007
 HT FLOW CONVERGENCE VALUE= .6313E-02 CRITERION= .4447E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 989
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8396E-05 OSCILLATION LIMIT = 66.24

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=PP 9000/7XX 16:37:23 JUN 24, 1995 CP= 38107.110
 FOR SUPPORT CALL ROBERT BARNES PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 91.94 CRITERION= .1021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4862
 HT FLOW CONVERGENCE VALUE= .3112E-01 CRITERION= .4399E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 990
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 91.91 CRITERION= .1019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4702
 HT FLOW CONVERGENCE VALUE= .3057E-01 CRITERION= .4352E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 991
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 275.8 CRITERION= .2792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.452
 HT FLOW CONVERGENCE VALUE= .8918E-01 CRITERION= .4209E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5455E-01
 HT FLOW CONVERGENCE VALUE= .1401E-02 CRITERION= .4209E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 993
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 275.8 CRITERION= .2790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.473
 HT FLOW CONVERGENCE VALUE= .8688E-01 CRITERION= .4068E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5350E-01
 HT FLOW CONVERGENCE VALUE= .1321E-02 CRITERION= .4068E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 995
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 735.5 CRITERION= .7366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.934
 HT FLOW CONVERGENCE VALUE= .1939 CRITERION= .3687E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1292
 HT FLOW CONVERGENCE VALUE= .2806E-02 CRITERION= .3686E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 997
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 735.6 CRITERION= .7365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.952
 HT FLOW CONVERGENCE VALUE= .1852 CRITERION= .3307E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1176
 HT FLOW CONVERGENCE VALUE= .2137E-02 CRITERION= .3307E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 999
 *** TIME = .504922E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 735.7 CRITERION= .7364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.970
 HT FLOW CONVERGENCE VALUE= .1631 CRITERION= .2924E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1052
 HT FLOW CONVERGENCE VALUE= .1533E-02 CRITERION= .2923E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1001
 *** TIME = .568037E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 735.8 CRITERION= .7363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.987

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HT FLOW CONVERGENCE VALUE= .1414 CRITERION= .2542E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8730E-01
HT FLOW CONVERGENCE VALUE= .1114E-02 CRITERION= .2542E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1003
*** 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=IP 9000/7XX 16:44:33 JUN 24, 1995 CP= 38532.170
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 316.5 CRITERION= .3175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.452
HT FLOW CONVERGENCE VALUE= .5694E-01 CRITERION= .2422E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3122E-01
HT FLOW CONVERGENCE VALUE= .4257E-03 CRITERION= .2422E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1005
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 316.5 CRITERION= .3174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.452
HT FLOW CONVERGENCE VALUE= .5457E-01 CRITERION= .2305E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2964E-01
HT FLOW CONVERGENCE VALUE= .3903E-03 CRITERION= .2305E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1007
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 316.5 CRITERION= .3173
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.455
HT FLOW CONVERGENCE VALUE= .5202E-01 CRITERION= .2185E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2820E-01
HT FLOW CONVERGENCE VALUE= .3548E-03 CRITERION= .2185E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1009
*** TIME = .820498E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 316.5 CRITERION= .3173
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.456
HT FLOW CONVERGENCE VALUE= .4923E-01 CRITERION= .2067E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2680E-01
HT FLOW CONVERGENCE VALUE= .3189E-03 CRITERION= .2067E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1011
*** TIME = .883613E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 316.6 CRITERION= .3172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.459
HT FLOW CONVERGENCE VALUE= .4643E-01 CRITERION= .1947E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2543E-01
HT FLOW CONVERGENCE VALUE= .2846E-03 CRITERION= .1947E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1013
*** 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 *****

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38303 VERSION=HP 9000/7XX 16:49:26 JUN 24, 1995 CP= 38821.700
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 180.0 CRITERION= .1810
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8194
HT FLOW CONVERGENCE VALUE= .2565E-01 CRITERION= .1882E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1397E-01
HT FLOW CONVERGENCE VALUE= .1529E-03 CRITERION= .1882E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1015
*** TIME = .100984E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 180.0 CRITERION= .1810
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8216
HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .1815E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1354E-01
HT FLOW CONVERGENCE VALUE= .1428E-03 CRITERION= .1815E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1017
*** TIME = .107296E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 180.0 CRITERION= .1809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8206
HT FLOW CONVERGENCE VALUE= .2387E-01 CRITERION= .1750E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1308E-01
HT FLOW CONVERGENCE VALUE= .1330E-03 CRITERION= .1750E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1019
*** TIME = .113607E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 180.0 CRITERION= .1809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8228
HT FLOW CONVERGENCE VALUE= .2299E-01 CRITERION= .1683E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1264E-01
HT FLOW CONVERGENCE VALUE= .1236E-03 CRITERION= .1683E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1021
*** TIME = .119919E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 180.0 CRITERION= .1808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8219
HT FLOW CONVERGENCE VALUE= .2208E-01 CRITERION= .1618E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1218E-01
HT FLOW CONVERGENCE VALUE= .1144E-03 CRITERION= .1618E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1023
*** 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 16:54:19 JUN 24, 1995 CP= 39111.190
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 133.6 CRITERION= .1346
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5789
HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .1573E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1024

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*** TIME = .132542E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 133.6 CRITERION= .1345
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5690
HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1531E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1025
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 133.6 CRITERION= .1345
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5713
HT FLOW CONVERGENCE VALUE= .1475E-01 CRITERION= .1486E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1026
*** TIME = .145165E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 133.6 CRITERION= .1344
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5701
HT FLOW CONVERGENCE VALUE= .1432E-01 CRITERION= .1444E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1027
*** TIME = .151476E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 133.6 CRITERION= .1344
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5723
HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .1399E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1028
*** TIME = .157788E+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 16:57:39 JUN 24, 1995 CP= 39309.010
FOR SUPPORT CALL ROBERT BARKLEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 131.0 CRITERION= .1318
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5112
HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .1366E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1029
*** TIME = .164100E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 131.1 CRITERION= .1318
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5139
HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .1330E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1030
*** TIME = .170411E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 131.0 CRITERION= .1317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5126
HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .1297E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1031
*** TIME = .176723E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 131.1 CRITERION= .1317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5147

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HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .1261E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1032
*** TIME = .183034E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 131.0 CRITERION= .1317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5134
HT FLOW CONVERGENCE VALUE= .1156E-01 CRITERION= .1227E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1033
*** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:00:59 JUN 24, 1995 CP= 39506.720
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 113.6 CRITERION= .1143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4233
HT FLOW CONVERGENCE VALUE= .9640E-02 CRITERION= .1200E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1034
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.6 CRITERION= .1142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4228
HT FLOW CONVERGENCE VALUE= .9429E-02 CRITERION= .1175E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1035
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.6 CRITERION= .1142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4248
HT FLOW CONVERGENCE VALUE= .9230E-02 CRITERION= .1147E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1036
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.6 CRITERION= .1142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4233
HT FLOW CONVERGENCE VALUE= .9015E-02 CRITERION= .1122E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1037
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.6 CRITERION= .1142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4253
HT FLOW CONVERGENCE VALUE= .8815E-02 CRITERION= .1095E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1038
*** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:04:19 JUN 24, 1995 CP= 39704.650
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 99.53 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3680
 HT FLOW CONVERGENCE VALUE= .7546E-02 CRITERION= .1074E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1039
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.56 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3705
 HT FLOW CONVERGENCE VALUE= .7400E-02 CRITERION= .1050E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1040
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.53 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690
 HT FLOW CONVERGENCE VALUE= .7235E-02 CRITERION= .1028E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1041
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.57 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3709
 HT FLOW CONVERGENCE VALUE= .7085E-02 CRITERION= .1005E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1042
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.54 CRITERION= .1000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694
 HT FLOW CONVERGENCE VALUE= .6921E-02 CRITERION= .9832E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1043
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=H:19000/7XX 17:07:39 JUN 24, 1995 CP= 39902.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 88.47 CRITERION= .8901E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
 HT FLOW CONVERGENCE VALUE= .5964E-02 CRITERION= .9639E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1044
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.44 CRITERION= .8897E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3159
 HT FLOW CONVERGENCE VALUE= .5849E-02 CRITERION= .9472E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1045
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.47 CRITERION= .8897E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3177
 HT FLOW CONVERGENCE VALUE= .5745E-02 CRITERION= .9279E-02 <<< CONVERGED

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1046
*** TIME = .271395E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.44 CRITERION= .8893E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
HT FLOW CONVERGENCE VALUE= .5628E-02 CRITERION= .9111E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1047
*** TIME = .277707E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.48 CRITERION= .8894E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3180
HT FLOW CONVERGENCE VALUE= .5524E-02 CRITERION= .8919E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1048
*** TIME = .284018E+11 TIME INC = .631152E+09
```

***** ANSYS SOLVE COMMAND *****

1

```
***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:10:59 JUN 24, 1995 CP= 40100.340
FOR SUPPORT CALL ROBERT BARNBY PHONE (702) 794-5337 FAX (702) 794-1844
```

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

```
HT FLOW CONVERGENCE VALUE= 76.20 CRITERION= .7673E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2681
HT FLOW CONVERGENCE VALUE= .4655E-02 CRITERION= .8783E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1049
*** TIME = .290330E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 76.23 CRITERION= .7673E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2703
HT FLOW CONVERGENCE VALUE= .4584E-02 CRITERION= .8621E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1050
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 76.20 CRITERION= .7670E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2687
HT FLOW CONVERGENCE VALUE= .4500E-02 CRITERION= .8485E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1051
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 76.24 CRITERION= .7670E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2705
HT FLOW CONVERGENCE VALUE= .4428E-02 CRITERION= .8324E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1052
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 76.20 CRITERION= .7666E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2689
HT FLOW CONVERGENCE VALUE= .4343E-02 CRITERION= .8187E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1053
*** TIME = .315576E+11 TIME INC = .631152E+09
```

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 40297.300

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12j.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 17:14:24 JUN 24, 1995 CP= 40301.090
FOR SUPPORT CALL ROBERT BARNY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1298 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 1298 TEMP peakclad 76.24 .3156E+11 202.3 .9467E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 94672831.6

***** ROUTINE COMPLETED ***** CP = 40301.270

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:14:24 JUN 24, 1995 CP= 40301.290
FOR SUPPORT CALL ROBERT BARNY PHONE (702) 794-5337 FAX (702) 794-1844

12 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=NCNE 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 .76525E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

2845 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .94673E+08

SET COMMAND GOT LOAD STEP= 15 SUBSTEP= 40 CUMULATIVE ITERATION= 349
TIME/FREQUENCY= .94673E+08

TITLE=
12 PWR UCF/WP at Time of Peak Temp. (3.000001 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=
12 PWR UCF/WP at Time of Peak Temp. (3.000001 years)

*** WARNING *** CP= 40327.460 TIME= 17:14:52
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= 629
TIME/FREQUENCY= .31558E+09

TITLE=
12 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 110.36 BY .72375 TO 202.27

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 10 years

*** WARNING *** CP= 40360.020 TIME= 17:15:25
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= 789
TIME/FREQUENCY= .15779E+10

TITLE=
12 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 110.36 BY .72375 TO 202.27

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.

DISPLAY TITLE=

12 PWR UCF/WP at 50 years

*** WARNING ***

CP= 40390.710 TIME= 17:15:56

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= 989

TIME/FREQUENCY= .31558E+10

TITLE=

12 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 110.36 BY .72375 TO 202.27

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.

DISPLAY TITLE=

12 PWR UCF/WP at 100 years

*** WARNING ***

CP= 40421.070 TIME= 17:16:27

The selected element set contains mixed materials.

This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 40427.230

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

= IP 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 17:16:33 JUN 24, 1995 CP= 40427.240
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

*** WARNING *** CP= 40427.340 TIME= 17:16:33
Invalid NSOL label =

*** WARNING *** CP= 40427.430 TIME= 17:16:33
Invalid NSOL label =

*** WARNING *** CP= 40427.530 TIME= 17:16:33
Invalid NSOL label =

*** WARNING *** CP= 40427.630 TIME= 17:16:33
Invalid NSOL label =

*** WARNING *** CP= 40427.720 TIME= 17:16:33
Invalid NSOL label =

*** WARNING *** CP= 40427.820 TIME= 17:16:33
Invalid NSOL label = I.

*** WARNING *** CP= 40427.910 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.010 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.110 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.200 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.300 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.390 TIME= 17:16:34
Invalid NSOL label =

Add centers of assemblies 3 and 5

*** WARNING *** CP= 40428.490 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.580 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.630 TIME= 17:16:34
No data points saved this storage step.

* Temperature Profile from center to upper right (135 deg.) *

*** WARNING *** CP= 40428.730 TIME= 17:16:34
Invalid NSOL label =

*** WARNING *** CP= 40428.730 TIME= 17:16:34
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

*** WARNING *** CP= 40428.820 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40428.920 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.020 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.110 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.210 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.300 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.400 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.500 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.580 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.680 TIME= 17:16:35
Invalid NSOL label =

*** WARNING *** CP= 40429.780 TIME= 17:16:35
Invalid NSOL label =

Add centers of assemblies 4 and 6

*** WARNING *** CP= 40429.870 TIME= 17:16:36
Invalid NSOL label =

*** WARNING *** CP= 40429.970 TIME= 17:16:36
Invalid NSOL label =

*** WARNING *** CP= 40430.010 TIME= 17:16:36
No data points saved this storage step.

***** ROUTINE COMPLETED ***** CP = 40430.020

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12j.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 53
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*-----*
                        ANSYS RUN COMPLETED
*-----*

      REV. 5.0 A                      HP 9000/7XX

CP TIME      (sec) =      40432.690      TIME = 17:16:39
ELAPSED TIME (sec) =      40841.000      DATE  = 06/24/95
*-----*
```

```
*-----*
                        WELCOME TO THE ANSYS PROGRAM
*-----*
```

***** ANSYS COMMAND LINE ARGUMENTS *****
JOB NAME = ucfn12j
BATCH MODE REQUESTED
start.ans FILE

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

WORK SPACE REQUESTED	=	8388608	32.000	MB	DEFAULT
MINIMUM WORK SPACE REQUIRED	=	4718592	18.000	MB	
MINIMUM WORK SPACE RECOMMENDED	=	6702496	25.568	MB	
WORK SPACE OBTAINED	=	8388606	32.000	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 resume
2 /COM, *****
3 /COM,      Print time/temperature output at specific locations
4 /COM,      Save profile from center to edge
5 /COM,
6 /COM,      Variable Legend: A01i000
7 /COM,      c = center of assembly
8 /COM,      h = halfway between center and tube
9 /COM,      s = inside structural stainless tube layer
10 /COM,     t = stainless tube cladding
11 /COM,     g = tube guide
12 /COM,     i = inner barrier of DC
13 /COM,     o = outer barrier of DC
14 /COM,     ## = ID number of assembly (01 is center)
15 /COM,     i = side of assembly toward center of WP
16 /COM,     o = side of assembly toward edge of WP
17 /COM,     000 = profile center down
18 /COM,     045 = profile 45 deg down
19 /COM,     090 = profile center side
20 /COM,     135 = profile 45 deg up
21 /COM,     180 = profile center up
22 /POST26,
23 NUMVAR,30,
24 /COM,
25 /COM,
26 /COM, *****
27 /COM, * Temperature Profile from center to lower right (45 deg.) *
28 /COM, *****
29 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, t01o045,
30 NSOL, 3, (NODE(TWALL/2.0, (0.0-TWALL/2.0), 0.0)), TEMP, s01o145,
31 NSOL, 4, (NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL), 0.0)), TEMP, s01i145,
32 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (-TWALL/2.-SWALL-QCELL), 0.0)), TEMP, c01i045,
33 NSOL, 6, (NODE((SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0), 0.0)), TEMP, c01c045,
34 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (-TWALL/2-SWALL-3*QCELL), 0.0)), TEMP, c01o045,
35 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (-PITCH-TWALL/2.+SWALL), 0.0)), TEMP, s01i045,
36 NSOL, 9, (NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH), 0.0)), TEMP, s01o045,
37 NSOL, 10, (NODE((TWALL/2.0+PITCH+GWALL), (-TWALL/2.-PITCH-GWALL), 0.0)), TEMP, g01o045,
38 NSOL, 11, (NODE( D145, (-1.0*D145), 0.0)), TEMP, i01i045,
39 NSOL, 12, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, i01o045,
40 NSOL, 13, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, o08o045,
41 /COM,      Add centers of assemblies 3 and 5
42 NSOL, 14, (NODE( (SCCELL+TWALL/2.0+PITCH), -(SCCELL+TWALL/2.0), 0.0)), TEMP, c03c045,
43 NSOL, 15, (NODE( (SCCELL+TWALL/2.0), (-SCCELL-TWALL/2.0-PITCH), 0.0)), TEMP, c05c045,
44 PRVAR, 2, 3, 4, 5, 6,
45 PRVAR, 7, 8, 9, 10, 11,
46 PRVAR, 12, 13, 14, 15,
47 /COM,
48 /COM,
49 /COM, *****
50 /COM, * Temperature Profile from center to upper right (135 deg.) *
51 /COM, *****
52 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, t0200135,
53 NSOL, 3, (NODE(TWALL/2.0, TWALL/2.0, 0.0)), TEMP, s02o0135,
54 NSOL, 4, (NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL), 0.0)), TEMP, s02i0135,
55 NSOL, 5, (NODE((TWALL/2.0+SWALL+QCELL), (TWALL/2.+SWALL+QCELL), 0.0)), TEMP, c02i0135,
56 NSOL, 6, (NODE((SCCELL+TWALL/2.0), (SCCELL+TWALL/2.0), 0.0)), TEMP, c02c0135,
57 NSOL, 7, (NODE((TWALL/2+SWALL+3*QCELL), (TWALL/2+SWALL+3*QCELL), 0.0)), TEMP, c02o0135,
58 NSOL, 8, (NODE((PITCH+TWALL/2.0-SWALL), (PITCH+TWALL/2.-SWALL), 0.0)), TEMP, s02i0135,
59 NSOL, 9, (NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH), 0.0)), TEMP, s02o0135,
60 NSOL, 10, (NODE((TWALL/2.0+PITCH+GWALL), (TWALL/2.+PITCH+GWALL), 0.0)), TEMP, g02o0135,
61 NSOL, 11, (NODE( D145, D145, 0.0)), TEMP, i02i0135,
62 NSOL, 12, (NODE( DM45, DM45, 0.0)), TEMP, i02o0135,
  
```

```

63 NSOL,13,(NODE( DO45, DO45,0.0)),TEMP,,o02o0135,
64 /COM, Add centers of assemblies 4 and 6
65 NSOL,14,(NODE( (SCCELL+TWALL/2.0+PITCH) , (SCCELL+TWALL/2.0),0.0)),TEMP,,c04c0135,
66 NSOL,15,(NODE( (SCCELL+TWALL/2.0) , (SCCELL+TWALL/2.0+PITCH),0.0)),TEMP,,c06c0135,
67 PRVAR, 2, 3, 4, 5, 6,
68 PRVAR, 7, 8, 9, 10,11,
69 PRVAR, 12,13,14,15,
70 /COM, *****
71 /COM, * Temperature profile from the center of inner column
72 /COM, *****
73 NSOL,2,(NODE((TWALL/4.0+PITCH/2.0), 0.0,0.0)),TEMP,,t01c090,
74 NSOL,3,(NODE((TWALL/2.0+PITCH/2.0), -(TWALL/2.0),0.0)),TEMP,,s01ou90,
75 NSOL,4,(NODE((SCCELL+TWALL/2.0), -(TWALL/2.0+SWALL),0.0)),TEMP,,s01iu90,
76 NSOL,5,(NODE((SCCELL+TWALL/2.0), -(QCELL+TWALL/2.0+SWALL),0.0)),TEMP,,c01u090,
77 NSOL,6,(NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0),0.0)),TEMP,,c01c090,
78 NSOL,7,(NODE((SCCELL+TWALL/2.0), -(SCCELL+TWALL/2.0+QCELL),0.0)),TEMP,,c01l090,
79 NSOL,8,(NODE((SCCELL+TWALL/2.0), -(PITCH-SWALL+TWALL/2.0),0.0)),TEMP,,s01il90,
80 NSOL,9,(NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0),0.0)),TEMP,,s01ol90,
81 NSOL,10,(NODE((SCCELL+TWALL/2.0), -(PITCH+TWALL/2.0+SWALL),0.0)),TEMP,,s05iu90,
82 NSOL,11,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0-QCELL),0)),TEMP,,c05u090,
83 NSOL,12,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0),0.0)),TEMP,,c05c090,
84 NSOL,13,(NODE((SCCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0+QCELL),0)),TEMP,,c05l090,
85 NSOL,14,(NODE((SCCELL+TWALL/2.0), -(2.0*PITCH-SWALL),0.0)),TEMP,,s05il90,
86 NSOL,15,(NODE((TWALL/2.0+PITCH/2.0), -(2.0*PITCH),0.0)),TEMP,,s05ol90,
87 NSOL,16,(NODE(DCIRD*SIN(.2157), -(DCIRD*COS(.2157)),0.0)),TEMP,,i05i090,
88 NSOL,17,(NODE((DCRAD-OWALL)*SIN(.2157), -(DCRAD-OWALL)*COS(.2157),0)),TEMP,,15o90
89 NSOL,18,(NODE(DCRAD*SIN(.2157), -DCRAD*COS(.2157),0.0)),TEMP,,0050090,
90 PRVAR,2,3,4,5,6,
91 PRVAR,7,8,9,10,11,
92 PRVAR,12,13,14,15,16,
93 PRVAR,17,18,
94 FINISH
95 /COM, *****
96 /COM, End of batch input file
97 /COM, *****
98 /EXIT,
99 /EOF

```

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

```

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

```

RESUME ANSYS DATA FROM FILE NAME=ucfn12j.db

*** ANSYS GLOBAL STATUS ***

```

TITLE = 12 PWR UCF/WP at 100 years
ANALYSIS TYPE = TRANSIENT
NUMBER OF ELEMENT TYPES =      8
3306 ELEMENTS CURRENTLY SELECTED.  MAX ELEMENT NUMBER = 3530
3379 NODES CURRENTLY SELECTED.    MAX NODE NUMBER   = 3633
77 KEYPOINTS CURRENTLY SELECTED.  MAX KEYPOINT NUMBER = 1001
135 LINES CURRENTLY SELECTED.    MAX LINE NUMBER  = 143
56 AREAS CURRENTLY SELECTED.     MAX AREA NUMBER   = 56
MAXIMUM LINEAR PROPERTY NUMBER   = 15
ACTIVE COORDINATE SYSTEM         = 0 (CARTESIAN)
NUMBER OF SPECIFIED CONSTRAINTS  = 109
NUMBER OF SPECIFIED ELEM BODY FORCES = 1176

```

INITIAL JOBNAME = ucfn12j

CURRENT JOBNAME = ucfn12j

```

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 11:42:22 JUL 21, 1995 CP= 2.270
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2	IS AT NODE	2	ITEM= TEMP COMP=	NAME= t010045
VARIABLE 3	IS AT NODE	31	ITEM= TEMP COMP=	NAME= s01o145
VARIABLE 4	IS AT NODE	1105	ITEM= TEMP COMP=	NAME= s01i145
VARIABLE 5	IS AT NODE	1242	ITEM= TEMP COMP=	NAME= c01i045
VARIABLE 6	IS AT NODE	1298	ITEM= TEMP COMP=	NAME= c01c045
VARIABLE 7	IS AT NODE	1353	ITEM= TEMP COMP=	NAME= c01o045
VARIABLE 8	IS AT NODE	1063	ITEM= TEMP COMP=	NAME= s01ir45
VARIABLE 9	IS AT NODE	229	ITEM= TEMP COMP=	NAME= s01or45
VARIABLE 10	IS AT NODE	243	ITEM= TEMP COMP=	NAME= g01o045
VARIABLE 11	IS AT NODE	2682	ITEM= TEMP COMP=	NAME= i01i045
VARIABLE 12	IS AT NODE	2631	ITEM= TEMP COMP=	NAME= i01o045
VARIABLE 13	IS AT NODE	2845	ITEM= TEMP COMP=	NAME= o08o045
Add centers of assemblies 3 and 5				
VARIABLE 14	IS AT NODE	2309	ITEM= TEMP COMP=	NAME= c03c045
VARIABLE 15	IS AT NODE	1635	ITEM= TEMP COMP=	NAME= c05c045

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	2 TEMP	t010045	74.53	.3156E+11	177.3	.1578E+09
3 NSOL	31 TEMP	s010145	74.53	.3156E+11	177.4	.1578E+09
4 NSOL	1105 TEMP	s011145	74.53	.3156E+11	177.4	.1578E+09
5 NSOL	1242 TEMP	c011045	75.35	.3156E+11	189.6	.1262E+09
6 NSOL	1298 TEMP	c01c045	76.24	.3156E+11	202.3	.9467E+08
7 NSOL	1353 TEMP	c01o045	75.75	.3156E+11	193.7	.9467E+08
8 NSOL	1063 TEMP	s011r45	74.30	.3156E+11	168.5	.1578E+09
9 NSOL	229 TEMP	s01or45	74.24	.3156E+11	167.2	.1578E+09
10 NSOL	243 TEMP	g01o045	74.11	.3156E+11	164.7	.1578E+09
11 NSOL	2682 TEMP	i01i045	27.59	.1000E-05	119.8	.2840E+09
12 NSOL	2631 TEMP	i01o045	26.87	.1000E-05	119.1	.3156E+09
13 NSOL	2845 TEMP	o08o045	26.14	.1000E-05	118.4	.3156E+09
14 NSOL	2309 TEMP	c03c045	75.14	.3156E+11	182.0	.1262E+09
15 NSOL	1635 TEMP	c05c045	75.11	.3156E+11	181.1	.1262E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:30 JUL 21, 1995 CP= 3.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s010145	s011145	c011045	c01c045
.10000E-05	109.502	109.504	109.515	127.358	145.954
.20000E-05	136.903	136.905	136.916	153.128	169.813
31.558	136.903	136.905	136.916	153.127	169.812
.31558E+07	155.135	155.142	155.158	170.325	185.817
.63116E+07	159.727	159.734	159.749	174.629	189.796
.94673E+07	162.532	162.539	162.554	177.220	192.158
.12623E+08	164.598	164.605	164.620	179.119	193.878
.15779E+08	166.216	166.223	166.238	180.590	195.190
.18935E+08	167.542	167.549	167.564	181.792	196.256
.22090E+08	168.642	168.650	168.665	182.777	197.120
.25246E+08	169.587	169.594	169.609	183.616	197.847
.28402E+08	170.393	170.400	170.415	184.325	198.453
.31558E+08	171.106	171.113	171.128	184.948	198.979
.63115E+08	175.224	175.231	175.246	188.399	201.734
.94673E+08	176.738	176.744	176.759	189.431	202.274
.12623E+09	177.243	177.250	177.263	189.560	202.025
.15779E+09	177.346	177.352	177.366	189.369	201.539
.18935E+09	176.723	176.729	176.742	188.427	200.283
.22090E+09	176.185	176.191	176.204	187.643	199.257
.25246E+09	175.588	175.595	175.607	186.816	198.203
.28402E+09	174.463	174.470	174.482	185.493	196.689
.31558E+09	173.531	173.537	173.549	184.404	195.449
.63115E+09	162.632	162.637	162.647	171.962	181.514
.94673E+09	152.415	152.420	152.428	160.570	168.979
.12623E+10	142.933	142.937	142.944	150.156	157.664
.15779E+10	134.851	134.855	134.861	141.252	147.956
.18935E+10	128.294	128.297	128.303	134.019	140.044
.22090E+10	122.845	122.847	122.852	128.002	133.451
.25246E+10	117.915	117.917	117.922	122.601	127.569
.28402E+10	114.069	114.071	114.075	118.371	122.946
.31558E+10	110.748	110.750	110.754	114.704	118.921
.63115E+10	94.7741	94.7753	94.7776	97.1640	99.7427
.94673E+10	88.7252	88.7261	88.7279	90.5911	92.6104
.12623E+11	85.3050	85.3058	85.3073	86.8713	88.5695
.15779E+11	82.8648	82.8655	82.8668	84.2282	85.7079
.18935E+11	80.6313	80.6319	80.6330	81.8346	83.1421
.22090E+11	78.7660	78.7665	78.7676	79.8471	81.0226
.25246E+11	77.1392	77.1397	77.1406	78.1140	79.1749
.28402E+11	75.7321	75.7325	75.7334	76.6216	77.5902
.31558E+11	74.5329	74.5333	74.5341	75.3515	76.2436

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:30 JUL 21, 1995 CP= 3.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP c01o045	1063 TEMP s01ir45	229 TEMP s01or45	243 TEMP g01o045	2682 TEMP i01i045
.10000E-05	136.029	103.819	102.253	99.2463	27.5929
.20000E-05	160.152	129.318	127.781	124.807	58.8521
31.558	160.152	129.319	127.781	124.807	58.8521
.31558E+07	176.379	146.626	145.113	142.190	80.5875
.63116E+07	180.414	150.928	149.422	146.512	86.0106
.94673E+07	182.820	153.559	152.059	149.165	89.5307
.12623E+08	184.580	155.511	154.019	151.139	92.2202
.15779E+08	185.934	157.046	155.560	152.694	94.3873
.18935E+08	187.038	158.313	156.834	153.981	96.2154
.22090E+08	187.939	159.369	157.895	155.056	97.7854
.25246E+08	188.703	160.281	158.813	155.986	99.1760
.28402E+08	189.344	161.063	159.602	156.787	100.405
.31558E+08	189.906	161.761	160.306	157.503	101.524
.63115E+08	192.952	165.891	164.486	161.784	108.802
.94673E+08	193.741	167.549	166.189	163.572	112.780
.12623E+09	193.704	168.235	166.912	164.368	115.296
.15779E+09	193.392	168.506	167.213	164.728	117.002
.18935E+09	192.341	168.125	166.868	164.453	118.193
.22090E+09	191.476	167.778	166.550	164.188	119.055
.25246E+09	190.574	167.367	166.165	163.855	119.773
.28402E+09	189.201	166.440	165.263	163.000	119.823
.31558E+09	188.073	165.666	164.509	162.284	119.821
.63115E+09	175.266	156.374	155.413	153.561	117.987
.94673E+09	163.594	147.372	146.559	144.989	114.519
.12623E+10	152.954	138.806	138.105	136.752	110.186
.15779E+10	143.824	131.441	130.833	129.661	106.394
.18935E+10	136.384	125.422	124.889	123.859	103.257
.22090E+10	130.180	120.389	119.916	119.003	100.606
.25246E+10	124.620	115.792	115.368	114.551	97.9626
.28402E+10	120.254	112.199	111.814	111.073	95.9401
.31558E+10	116.458	109.091	108.740	108.066	94.2310
.63115E+10	98.2826	93.9365	93.7339	93.3466	85.2060
.94673E+10	91.4773	88.1111	87.9553	87.6589	81.3525
.12623E+11	87.6214	84.8085	84.6789	84.4328	79.1626
.15779E+11	84.8844	82.4429	82.3307	82.1180	77.5404
.18935E+11	82.4168	80.2681	80.1696	79.9832	75.9538
.22090E+11	80.3721	78.4466	78.3586	78.1923	74.5809
.25246E+11	78.5894	76.8572	76.7782	76.6290	73.3792
.28402E+11	77.0568	75.4795	75.4077	75.2723	72.3129
.31558E+11	75.7534	74.3043	74.2385	74.1143	71.3946

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:30 JUL 21, 1995 CP= 3.910
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP i01o045	2845 TEMP o08o045	2309 TEMP c03c045	1635 TEMP c05c045
.10000E-05	26.8682	26.1406	122.245	120.982
.20000E-05	58.0263	57.2044	146.568	145.190

31.558	58.0263	57.2044	146.567	145.189
.31558E+07	79.6999	78.8203	162.961	161.980
.63116E+07	85.1106	84.2199	167.072	166.088
.94673E+07	88.6242	87.7275	169.556	168.566
.12623E+08	91.3099	90.4091	171.389	170.399
.15779E+08	93.4756	92.5737	172.809	171.817
.18935E+08	95.3042	94.4008	173.976	172.986
.22090E+08	96.8754	95.9724	174.938	173.948
.25246E+08	98.2675	97.3643	175.760	174.772
.28402E+08	99.4978	98.5955	176.459	175.471
.31558E+08	100.619	99.7180	177.077	176.090
.63115E+08	107.918	107.044	180.583	179.618
.94673E+08	111.919	111.071	181.755	180.813
.12623E+09	114.457	113.631	182.044	181.124
.15779E+09	116.182	115.376	181.998	181.097
.18935E+09	117.397	116.614	181.258	180.383
.22090E+09	118.276	117.512	180.633	179.778
.25246E+09	119.012	118.265	179.961	179.124
.28402E+09	119.079	118.349	178.802	177.979
.31558E+09	119.091	118.375	177.844	177.033
.63115E+09	117.392	116.807	166.711	166.038
.94673E+09	114.026	113.539	156.295	155.731
.12623E+10	109.770	109.359	146.611	146.130
.15779E+10	106.041	105.690	138.299	137.889
.18935E+10	102.953	102.649	131.515	131.164
.22090E+10	100.340	100.074	125.851	125.546
.25246E+10	97.7272	97.4923	120.734	120.466
.28402E+10	95.7287	95.5182	116.721	116.482
.31558E+10	94.0404	93.8507	113.237	113.024
.63115E+10	85.1023	84.9990	96.4042	96.2936
.94673E+10	81.2747	81.1970	90.0310	89.9501
.12623E+11	79.0988	79.0351	86.4170	86.3521
.15779E+11	77.4856	77.4308	83.8409	83.7855
.18935E+11	75.9063	75.8587	81.5010	81.4529
.22090E+11	74.5387	74.4965	79.5538	79.5108
.25246E+11	73.3417	73.3041	77.8546	77.8170
.28402E+11	72.2789	72.2449	76.3890	76.3554
.31558E+11	71.3637	71.3327	75.1407	75.1106

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 4.020 TIME= 11:42:30
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135

VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135

VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135

VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135

VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135

VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135

VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s020r135

VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135

VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135

VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135

VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
Add centers of assemblies 4 and 6

VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135

VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	74.53	.3156E+11	177.3	.1578E+09
3 NSOL	1 TEMP	s02o0135	74.53	.3156E+11	177.3	.1578E+09
4 NSOL	402 TEMP	s02i0135	74.53	.3156E+11	177.3	.1578E+09
5 NSOL	486 TEMP	c02i0135	75.34	.3156E+11	189.3	.1262E+09
6 NSOL	542 TEMP	c02c0135	76.21	.3156E+11	201.9	.9467E+08
7 NSOL	597 TEMP	c02o0135	75.72	.3156E+11	193.3	.9467E+08
8 NSOL	417 TEMP	s02ir135	74.26	.3156E+11	168.0	.1578E+09
9 NSOL	316 TEMP	s020r135	74.19	.3156E+11	166.7	.1578E+09
10 NSOL	315 TEMP	g02o0135	74.06	.3156E+11	164.2	.1578E+09
11 NSOL	2473 TEMP	i02i0135	27.60	.1000E-05	118.9	.3156E+09
12 NSOL	2422 TEMP	i02o0135	26.87	.1000E-05	118.2	.3156E+09
13 NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	117.4	.3156E+09
14 NSOL	1972 TEMP	c04c0135	75.12	.3156E+11	181.8	.1262E+09
15 NSOL	961 TEMP	c06c0135	75.10	.3156E+11	181.6	.1262E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:42:32 JUL 21, 1995 CP= 5.440
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	1 TEMP	402 TEMP	486 TEMP	542 TEMP
	t0200135	s02o0135	s02i0135	c02i0135	c02c0135
.10000E-05	109.502	109.500	109.506	127.296	145.911
.20000E-05	136.903	136.899	136.905	153.049	169.750
31.558	136.903	136.899	136.905	153.049	169.750
.31558E+07	155.135	155.128	155.128	170.079	185.411
.63116E+07	159.727	159.719	159.720	174.379	189.382
.94673E+07	162.532	162.524	162.524	176.970	191.744
.12623E+08	164.598	164.590	164.590	178.868	193.462
.15779E+08	166.216	166.208	166.208	180.339	194.775
.18935E+08	167.542	167.534	167.534	181.540	195.840
.22090E+08	168.642	168.635	168.635	182.526	196.704
.25246E+08	169.587	169.579	169.579	183.366	197.432
.28402E+08	170.393	170.385	170.386	184.075	198.039
.31558E+08	171.106	171.099	171.099	184.698	198.566
.63115E+08	175.224	175.217	175.217	188.153	201.327
.94673E+08	176.738	176.730	176.730	189.190	201.874
.12623E+09	177.243	177.236	177.235	189.324	201.630
.15779E+09	177.346	177.339	177.339	189.136	201.151
.18935E+09	176.723	176.716	176.715	188.199	199.900
.22090E+09	176.185	176.178	176.178	187.419	198.880
.25246E+09	175.588	175.582	175.582	186.595	197.830
.28402E+09	174.463	174.457	174.457	185.277	196.324
.31558E+09	173.531	173.524	173.524	184.191	195.090
.63115E+09	162.632	162.627	162.627	171.782	181.206
.94673E+09	152.415	152.411	152.411	160.415	168.710
.12623E+10	142.933	142.929	142.929	150.021	157.429
.15779E+10	134.851	134.848	134.848	141.134	147.747
.18935E+10	128.294	128.291	128.291	133.913	139.855
.22090E+10	122.845	122.842	122.842	127.906	133.278
.25246E+10	117.915	117.912	117.912	122.514	127.412
.28402E+10	114.069	114.067	114.066	118.292	122.800

.31558E+10	110.748	110.746	110.745	114.630	118.785
.63115E+10	94.7741	94.7728	94.7727	97.1185	99.6565
.94673E+10	88.7252	88.7242	88.7240	90.5553	92.5420
.12623E+11	85.3050	85.3041	85.3040	86.8411	88.5113
.15779E+11	82.8648	82.8640	82.8639	84.2019	85.6572
.18935E+11	80.6313	80.6307	80.6306	81.8116	83.0975
.22090E+11	78.7660	78.7654	78.7654	79.8266	80.9830
.25246E+11	77.1392	77.1387	77.1387	78.0954	79.1388
.28402E+11	75.7321	75.7316	75.7315	76.6046	77.5571
.31558E+11	74.5329	74.5325	74.5324	75.3357	76.2128

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:32 JUL 21, 1995 CP= 5.470
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP	417 TEMP	316 TEMP	315 TEMP	2473 TEMP
	c02o0135	s02ir135	s020r135	g02o0135	i02i0135
.10000E-05	136.079	103.996	102.436	99.4407	27.6038
.20000E-05	160.193	129.501	127.971	125.010	58.8768
31.558	160.193	129.501	127.971	125.010	58.8768
.31558E+07	175.941	146.110	144.596	141.667	79.4136
.63116E+07	179.967	150.402	148.894	145.979	84.8284
.94673E+07	182.374	153.036	151.534	148.635	88.3565
.12623E+08	184.132	154.988	153.494	150.609	91.0504
.15779E+08	185.487	156.525	155.037	152.166	93.2261
.18935E+08	186.592	157.793	156.311	153.454	95.0592
.22090E+08	187.493	158.850	157.375	154.530	96.6357
.25246E+08	188.257	159.762	158.293	155.461	98.0303
.28402E+08	188.900	160.547	159.084	156.264	99.2646
.31558E+08	189.462	161.245	159.788	156.981	100.388
.63115E+08	192.516	165.384	163.978	161.271	107.705
.94673E+08	193.311	167.051	165.688	163.067	111.712
.12623E+09	193.280	167.742	166.417	163.868	114.251
.15779E+09	192.974	168.020	166.725	164.236	115.979
.18935E+09	191.928	167.643	166.385	163.964	117.189
.22090E+09	191.067	167.301	166.071	163.705	118.067
.25246E+09	190.170	166.895	165.691	163.376	118.801
.28402E+09	188.806	165.979	164.800	162.533	118.876
.31558E+09	187.685	165.214	164.055	161.825	118.893
.63115E+09	174.929	155.978	155.015	153.159	117.198
.94673E+09	163.296	147.019	146.204	144.630	113.833
.12623E+10	152.691	138.494	137.791	136.435	109.589
.15779E+10	143.588	131.159	130.550	129.374	105.863
.18935E+10	136.169	125.163	124.628	123.595	102.778
.22090E+10	129.983	120.149	119.674	118.758	100.169
.25246E+10	124.439	115.571	115.145	114.325	97.5634
.28402E+10	120.085	111.992	111.605	110.861	95.5696
.31558E+10	116.299	108.895	108.543	107.866	93.8836
.63115E+10	98.1790	93.8070	93.6033	93.2140	84.9855
.94673E+10	91.3943	88.0068	87.8502	87.5521	81.1771
.12623E+11	87.5504	84.7189	84.5885	84.3410	79.0129
.15779E+11	84.8224	82.3645	82.2517	82.0377	77.4099
.18935E+11	82.3622	80.1991	80.1001	79.9125	75.8391
.22090E+11	80.3236	78.3852	78.2968	78.1294	74.4789
.25246E+11	78.5451	76.8010	76.7216	76.5714	73.2863
.28402E+11	77.0160	75.4278	75.3555	75.2192	72.2274
.31558E+11	75.7153	74.2558	74.1896	74.0646	71.3149

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:32 JUL 21, 1995 CP= 5.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	102o0135	o02o0135	c04c0135	c06c0135
.10000E-05	26.8740	26.1406	122.288	122.288
.20000E-05	58.0445	57.2152	146.615	146.617
31.558	58.0445	57.2152	146.614	146.617
.31558E+07	78.5183	77.6299	162.697	162.458
.63116E+07	83.9203	83.0204	166.803	166.563
.94673E+07	87.4416	86.5354	169.287	169.049
.12623E+08	90.1315	89.2209	171.121	170.885
.15779E+08	92.3051	91.3933	172.542	172.307
.18935E+08	94.1380	93.2247	173.709	173.476
.22090E+08	95.7157	94.8026	174.672	174.439
.25246E+08	97.1117	96.1984	175.494	175.263
.28402E+08	98.3477	97.4351	176.194	175.964
.31558E+08	99.4731	98.5616	176.812	176.583
.63115E+08	106.811	105.925	180.323	180.101
.94673E+08	110.842	109.981	181.499	181.282
.12623E+09	113.403	112.565	181.791	181.578
.15779E+09	115.149	114.331	181.749	181.539
.18935E+09	116.382	115.588	181.011	180.805
.22090E+09	117.279	116.504	180.390	180.187
.25246E+09	118.030	117.273	179.719	179.518
.28402E+09	118.123	117.382	178.566	178.370
.31558E+09	118.153	117.427	177.612	177.420
.63115E+09	116.595	116.002	166.508	166.340
.94673E+09	113.333	112.840	156.113	155.964
.12623E+10	109.168	108.751	146.450	146.318
.15779E+10	105.506	105.150	138.153	138.034
.18935E+10	102.469	102.161	131.382	131.274
.22090E+10	99.8991	99.6291	125.728	125.628
.25246E+10	97.3249	97.0869	120.621	120.529
.28402E+10	95.3555	95.1420	116.615	116.529
.31558E+10	93.6905	93.4982	113.137	113.056
.63115E+10	84.8804	84.7756	96.3382	96.2851
.94673E+10	81.0982	81.0194	89.9780	89.9352
.12623E+11	78.9483	78.8836	86.3715	86.3348
.15779E+11	77.3543	77.2988	83.8011	83.7690
.18935E+11	75.7909	75.7427	81.4660	81.4376
.22090E+11	74.4361	74.3933	79.5227	79.4973
.25246E+11	73.2482	73.2101	77.8261	77.8030
.28402E+11	72.1930	72.1585	76.3628	76.3414
.31558E+11	71.2835	71.2521	75.1162	75.0962

 * Temperature profile from the center of inner column

VARIABLE 2 IS AT NODE 10 ITEM= TEMP COMP= NAME= t01c090

*** WARNING *** CP= 5.620 TIME= 11:42:32
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 39 ITEM= TEMP COMP= NAME= s01ou90

VARIABLE 4 IS AT NODE 1140 ITEM= TEMP COMP= NAME= s01iu90

VARIABLE 5 IS AT NODE 1294 ITEM= TEMP COMP= NAME= c01u090

VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c090

VARIABLE 7 IS AT NODE 1302 ITEM= TEMP COMP= NAME= c01l090

VARIABLE 8 IS AT NODE 1071 ITEM= TEMP COMP= NAME= s01il90

VARIABLE 9 IS AT NODE 1056 ITEM= TEMP COMP= NAME= s01o190
 VARIABLE 10 IS AT NODE 1477 ITEM= TEMP COMP= NAME= s05iu90
 VARIABLE 11 IS AT NODE 1631 ITEM= TEMP COMP= NAME= c05u090
 VARIABLE 12 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c090
 VARIABLE 13 IS AT NODE 1638 ITEM= TEMP COMP= NAME= c05l090
 VARIABLE 14 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05il90
 VARIABLE 15 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05o190
 VARIABLE 16 IS AT NODE 2666 ITEM= TEMP COMP= NAME= i05i090
 VARIABLE 17 IS AT NODE 2651 ITEM= TEMP COMP= NAME= i5o90
 VARIABLE 18 IS AT NODE 2865 ITEM= TEMP COMP= NAME= 0050090

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	10 TEMP	t01c090	74.47	.3156E+11	176.0	.1578E+09
3 NSOL	39 TEMP	s01ou90	74.46	.3156E+11	176.0	.1578E+09
4 NSOL	1140 TEMP	s01iu90	74.47	.3156E+11	176.1	.1578E+09
5 NSOL	1294 TEMP	c01u090	75.67	.3156E+11	194.0	.9467E+08
6 NSOL	1298 TEMP	c01c090	76.24	.3156E+11	202.3	.9467E+08
7 NSOL	1302 TEMP	c01l090	75.92	.3156E+11	197.0	.9467E+08
8 NSOL	1071 TEMP	s01il90	75.07	.3156E+11	184.1	.1262E+09
9 NSOL	1056 TEMP	s01o190	75.07	.3156E+11	184.0	.1262E+09
10 NSOL	1477 TEMP	s05iu90	75.07	.3156E+11	184.0	.1262E+09
11 NSOL	1631 TEMP	c05u090	75.40	.3156E+11	187.3	.1262E+09
12 NSOL	1635 TEMP	c05c090	75.11	.3156E+11	181.1	.1262E+09
13 NSOL	1638 TEMP	c05l090	74.41	.3156E+11	169.3	.1578E+09
14 NSOL	1408 TEMP	s05il90	62.05	.1000E-05	139.6	.2525E+09
15 NSOL	1408 TEMP	s05o190	62.05	.1000E-05	139.6	.2525E+09
16 NSOL	2666 TEMP	i05i090	27.70	.1000E-05	120.2	.2840E+09
17 NSOL	2651 TEMP	i5o90	27.15	.1000E-05	119.7	.3156E+09
18 NSOL	2865 TEMP	0050090	26.14	.1000E-05	118.9	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:36 JUL 21, 1995 CP= 7.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	10 TEMP	39 TEMP	1140 TEMP	1294 TEMP	1298 TEMP
	t01c090	s01ou90	s01iu90	c01u090	c01c090
.10000E-05	107.964	107.882	108.034	134.110	145.954
.20000E-05	135.377	135.296	135.442	159.151	169.813
31.558	135.377	135.296	135.443	159.151	169.812
.31558E+07	153.603	153.523	153.665	175.836	185.817
.63116E+07	158.200	158.120	158.261	180.016	189.796
.94673E+07	161.012	160.932	161.072	182.520	192.158
.12623E+08	163.084	163.005	163.144	184.348	193.878
.15779E+08	164.709	164.630	164.768	185.760	195.190
.18935E+08	166.041	165.963	166.100	186.910	196.256
.22090E+08	167.149	167.071	167.207	187.850	197.120
.25246E+08	168.099	168.021	168.157	188.648	197.847
.28402E+08	168.912	168.834	168.970	189.318	198.453
.31558E+08	169.631	169.554	169.688	189.905	198.979
.63115E+08	173.801	173.727	173.856	193.100	201.734

.94673E+08	175.360	175.288	175.412	193.955	202.274
.12623E+09	175.903	175.833	175.954	193.948	202.025
.15779E+09	176.038	175.970	176.088	193.651	201.539
.18935E+09	175.452	175.386	175.500	192.598	200.283
.22090E+09	174.943	174.879	174.991	191.728	199.257
.25246E+09	174.374	174.311	174.420	190.821	198.203
.28402E+09	173.275	173.213	173.320	189.432	196.689
.31558E+09	172.363	172.302	172.408	188.290	195.449
.63115E+09	161.666	161.615	161.703	175.329	181.514
.94673E+09	151.600	151.558	151.633	163.540	168.979
.12623E+10	142.233	142.197	142.261	152.812	157.664
.15779E+10	134.246	134.215	134.271	143.623	147.956
.18935E+10	127.764	127.736	127.786	136.151	140.044
.22090E+10	122.375	122.350	122.395	129.931	133.451
.25246E+10	117.494	117.473	117.512	124.361	127.569
.28402E+10	113.688	113.668	113.704	119.992	122.946
.31558E+10	110.401	110.383	110.416	116.199	118.921
.63115E+10	94.5751	94.5647	94.5838	98.0783	99.7427
.94673E+10	88.5724	88.5644	88.5791	91.3071	92.6104
.12623E+11	85.1777	85.1711	85.1833	87.4736	88.5695
.15779E+11	82.7547	82.7490	82.7596	84.7530	85.7079
.18935E+11	80.5346	80.5296	80.5389	82.2985	83.1421
.22090E+11	78.6798	78.6753	78.6836	80.2642	81.0226
.25246E+11	77.0617	77.0577	77.0651	78.4906	79.1749
.28402E+11	75.6618	75.6581	75.6649	76.9653	77.5902
.31558E+11	74.4683	74.4649	74.4711	75.6682	76.2436

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:36 JUL 21, 1995 CP= 7.360
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1302 TEMP	1071 TEMP	1056 TEMP	1477 TEMP	1631 TEMP
	c011090	s011190	s010190	s051u90	c05u090
.10000E-05	139.401	121.502	121.440	121.448	127.827
.20000E-05	163.585	147.046	146.985	146.990	152.198
31.558	163.584	147.046	146.985	146.990	152.198
.31558E+07	179.904	164.420	164.360	164.364	168.892
.63116E+07	183.945	168.712	168.652	168.655	172.993
.94673E+07	186.351	171.298	171.239	171.242	175.454
.12623E+08	188.106	173.196	173.137	173.140	177.267
.15779E+08	189.454	174.675	174.616	174.618	178.663
.18935E+08	190.552	175.883	175.824	175.826	179.809
.22090E+08	191.444	176.879	176.820	176.822	180.747
.25246E+08	192.200	177.728	177.670	177.672	181.548
.28402E+08	192.832	178.449	178.391	178.393	182.224
.31558E+08	193.384	179.084	179.026	179.028	182.819
.63115E+08	196.342	182.665	182.609	182.611	186.136
.94673E+08	197.045	183.832	183.778	183.779	187.143
.12623E+09	196.931	184.088	184.036	184.037	187.288
.15779E+09	196.554	184.005	183.953	183.954	187.124
.18935E+09	195.424	183.200	183.150	183.151	186.244
.22090E+09	194.496	182.523	182.474	182.475	185.510
.25246E+09	193.535	181.799	181.751	181.752	184.734
.28402E+09	192.105	180.574	180.527	180.528	183.473
.31558E+09	190.931	179.563	179.517	179.518	182.436
.63115E+09	177.662	167.913	167.875	167.876	170.523
.94673E+09	165.637	157.121	157.089	157.091	159.525
.12623E+10	154.722	147.176	147.148	147.150	149.398
.15779E+10	145.361	138.680	138.656	138.658	140.714
.18935E+10	137.736	131.768	131.747	131.749	133.636
.22090E+10	131.381	126.010	125.991	125.993	127.731
.25246E+10	125.697	120.820	120.803	120.805	122.416
.28402E+10	121.233	116.758	116.743	116.744	118.247

.31558E+10	117.351	113.238	113.224	113.226	114.626
.63115E+10	98.8021	96.3172	96.3092	96.3103	97.2082
.94673E+10	91.8779	89.9373	89.9312	89.9321	90.6483
.12623E+11	87.9554	86.3256	86.3205	86.3213	86.9305
.15779E+11	85.1737	83.7550	83.7506	83.7512	84.2852
.18935E+11	82.6708	81.4180	81.4141	81.4148	81.8901
.22090E+11	80.5994	79.4735	79.4701	79.4706	79.9006
.25246E+11	78.7936	77.7782	77.7751	77.7756	78.1659
.28402E+11	77.2425	76.3160	76.3132	76.3137	76.6717
.31558E+11	75.9238	75.0711	75.0685	75.0689	75.4001

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:36 JUL 21, 1995 CP= 7.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1635 TEMP	1638 TEMP	1408 TEMP	1408 TEMP	2666 TEMP
	c05c090	c05i090	s05i190	s05o190	i05i090
.10000E-05	120.982	105.201	62.0475	62.0475	27.7038
.20000E-05	145.190	130.165	89.7055	89.7055	58.8674
31.558	145.189	130.165	89.7055	89.7055	58.8674
.31558E+07	161.980	147.612	109.317	109.317	81.1050
.63116E+07	166.088	151.891	114.109	114.109	86.5216
.94673E+07	168.566	154.503	117.144	117.144	90.0293
.12623E+08	170.399	156.447	119.442	119.442	92.7125
.15779E+08	171.817	157.968	121.275	121.275	94.8708
.18935E+08	172.986	159.229	122.813	122.813	96.6947
.22090E+08	173.948	160.276	124.118	124.118	98.2588
.25246E+08	174.772	161.180	125.265	125.265	99.6459
.28402E+08	175.471	161.956	126.267	126.267	100.870
.31558E+08	176.090	162.647	127.175	127.175	101.985
.63115E+08	179.618	166.736	132.911	132.911	109.235
.94673E+08	180.813	168.368	135.797	135.797	113.195
.12623E+09	181.124	169.035	137.472	137.472	115.700
.15779E+09	181.097	169.293	138.528	138.528	117.397
.18935E+09	180.383	168.901	139.026	139.026	118.581
.22090E+09	179.778	168.545	139.357	139.357	119.436
.25246E+09	179.124	168.127	139.583	139.583	120.149
.28402E+09	177.979	167.192	139.215	139.215	120.190
.31558E+09	177.033	166.413	138.885	138.885	120.182
.63115E+09	166.038	157.063	133.932	133.932	118.305
.94673E+09	155.731	147.998	128.181	128.181	114.806
.12623E+10	146.130	139.378	122.115	122.115	110.444
.15779E+10	137.889	131.971	116.859	116.859	106.629
.18935E+10	131.164	125.919	112.539	112.539	103.476
.22090E+10	125.546	120.858	108.908	108.908	100.809
.25246E+10	120.466	116.237	105.460	105.460	98.1500
.28402E+10	116.482	112.622	102.788	102.788	96.1157
.31558E+10	113.024	109.493	100.499	100.499	94.3970
.63115E+10	96.2936	94.2067	88.9161	88.9161	85.3151
.94673E+10	89.9501	88.3335	84.2359	84.2359	81.4402
.12623E+11	86.3521	85.0012	81.5770	81.5770	79.2379
.15779E+11	83.7855	82.6125	79.6398	79.6398	77.6061
.18935E+11	81.4529	80.4206	77.8039	77.8039	76.0120
.22090E+11	79.5108	78.5856	76.2403	76.2403	74.6327
.25246E+11	77.8170	76.9847	74.8743	74.8743	73.4267
.28402E+11	76.3554	75.5976	73.6758	73.6758	72.3565
.31558E+11	75.1106	74.4144	72.6483	72.6483	71.4353

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:42:36 JUL 21, 1995 CP= 7.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2651 TEMP	2865 TEMP
	i5o90	0050090
.10000E-05	27.1537	26.1406
.20000E-05	58.2553	57.1995
31.558	58.2553	57.1995
.31558E+07	80.4756	79.4081
.63116E+07	85.8851	84.8155
.94673E+07	89.3891	88.3197
.12623E+08	92.0703	91.0013
.15779E+08	94.2286	93.1622
.18935E+08	96.0533	94.9885
.22090E+08	97.6188	96.5571
.25246E+08	99.0072	97.9479
.28402E+08	100.233	99.1766
.31558E+08	101.349	100.298
.63115E+08	108.616	107.607
.94673E+08	112.593	111.620
.12623E+09	115.113	114.170
.15779E+09	116.823	115.904
.18935E+09	118.024	117.133
.22090E+09	118.891	118.022
.25246E+09	119.617	118.768
.28402E+09	119.670	118.839
.31558E+09	119.671	118.855
.63115E+09	117.886	117.214
.94673E+09	114.458	113.892
.12623E+10	110.150	109.665
.15779E+10	106.379	105.961
.18935E+10	103.259	102.893
.22090E+10	100.619	100.296
.25246E+10	97.9817	97.6948
.28402E+10	95.9643	95.7056
.31558E+10	94.2604	94.0263
.63115E+10	85.2404	85.1094
.94673E+10	81.3840	81.2845
.12623E+11	79.1918	79.1096
.15779E+11	77.5665	77.4956
.18935E+11	75.9775	75.9156
.22090E+11	74.6021	74.5469
.25246E+11	73.3994	73.3501
.28402E+11	72.3318	72.2871
.31558E+11	71.4129	71.3720

***** ROUTINE COMPLETED ***** CP = 7.390

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucfn12j.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 2
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

ANSYS RUN COMPLETED

REV. 5.0 A

HP 9000/7XX

CP TIME (sec) = 10.010
ELAPSED TIME (sec) = 29.000

TIME = 11:42:41
DATE = 07/21/95

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf12h
 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 Hongyan Wang
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf12h.inp
7 /COM, * 12 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: c12h5a.parm
  
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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (High 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 = 9.237 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, 12 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,c12h5a,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=1.1977/2.0
66 OWALL=0.05000
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=TWALL/2.0
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=TWALL/2.0+PITCH
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=TWALL/2.0+PITCH+GWALL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 /COM,
117 /COM,          MI45=MIRAD/SQRT(2.0)
118 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
119 DI45=DCIRD/SQRT(2.0)
120 DM45=(DCRAD-OWALL)/SQRT(2.0)
121 DO45=DCRAD/SQRT(2.0)
122 /COM,
123 /COM,          Define Transient Time parameters based upon the following:
124 /COM,          Note: 1 year = 3.15576e7 seconds
125 /COM,          TM_START = start time (sec)
126 /COM,          TMI* = time increment for solution (sec)
127 /COM,          TME* = start and stop for time do-loops (sec)
128 /COM,          TMTMAX = time of maximum cladding temperature
129 /COM,
130 TM_START=(1.0E-6)*(3.15576E7)
131 TMI0=0.1*3.15576E7
132 TMI1=1.0*3.15576E7
133 TMI10=10.0*3.15576E7
134 TMI100=100.0*3.15576E7
135 TMI1000=1000.0*3.15576E7
136 TME0=0.9*3.15576E7+TM_START
137 TME1=TMI1+TM_START
138 TME9=9.0*3.15576E7+TM_START
139 TME10=TMI10+TM_START
140 TME50=50.0*3.15576E7+TM_START
141 TME90=90.0*3.15576E7+TM_START
142 TME100=TMI100+TM_START
143 TME1000=TMI1000+TM_START
144 /COM,
145 /COM,          *****
146 /COM,          Define different element types
147 /PREP7
148 ETYPE
149 ET, 1,55,
150 ET, 2,70,
151 ET, 7,32,
152 ET, 16,57,
153 ET, 17,32,
154 ET, 18,50,1,
155 ET, 19,31,
156 ET, 27,32,
157 /COM,          *****
158 /COM,          File props01.dat describes material properties

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159 /COM,          and thier reference numbers
160 MPREAD,props01,dat,
161 /COM,          Read in single assembly heat loads
162 /COM,          Calculate the volumetric heat generation
163 /COM,          (Assembly time is in years, FUEL is in seconds)
164 /INPUT,snf1048,dat
165 *VFACT,3.15576E7,
166 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
167 *VFACT,(PEAKF/FVOLUME),
168 *VFUN,FUEL(1),COPY,ASSY(1),
169 FUEL(0,1)=1.0
170 /COM,          *****
171 /COM,          Define new material 14 for SNF effective conductivity
172 /COM,          Density:      DENS      (kg/m^3)
173 /COM,          Conductivity:  KXX      (W/m/K)
174 /COM,          Specific Heat: C      (J/kg/K)
175 MPTEMP
176 MPTEMP, 1, .00000E+00,
177 MPDATA,DENS,14, 1, .396004E+04,
178 MPDATA, C,14, 1, .27400E+03,
179 /COM,          Store average effective conductivities
180 IINC=1
181 TBSKT=25.0
182 MPTEMP
183 MPTEMP,IINC,TBSKT,
184 IINC=IINC+1
185 *DO,TBSKT,50.0,400.0,50.0,
186     MPTEMP,IINC,TBSKT,
187     IINC=IINC+1
188 *ENDDO
189 IINC=1
190 TBSKT=25.0
191 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
192 IINC=IINC+1
193 *DO,TBSKT,50.0,400.0,50.0,
194     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
195     IINC=IINC+1
196 *ENDDO
197 /COM,          *****
198 /COM,          Define new material 15 for low thermal loading
199 /COM,          outer barrier of 70/30 Copper Nikel (c71500)
200 /COM,          Density:      DENS      (kg/m^3)
201 /COM,          Conductivity:  KXX      (W/m/K)
202 /COM,          Specific Heat: C      (J/kg/K)
203 MPTEMP
204 MPTEMP, 1, 0.000E+00
205 /COM,          Density (lb/F converted to J/kg/k)
206 MPDATA,DENS,15,1, (0.323*2.768E+04)
207 /COM,          Specific Heat (Btu/lb/F converted to J/kg/k)
208 MPDATA, C,15,1, (0.09/2.3886E-04)
209 /COM,          Conductivity (Btu/hr/ft/F converted to W/m/k)
210 MPTEMP
211 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
212 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
213 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
214 MPTEMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
215 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
216 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
217 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
218 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
219 /COM,          *****
220 /COM,          Construct geometry for Disposal Container
221 /COM,
222 /COM,          Define center and axis keypoints for waste package
223 /COM,          Also, create placeholder keypoints and lines
224 /COM,          (K's 1,2,3,4,5,6,7,8)
225 /COM,          (L's 1,2,3,4)
226 K,1,0.0,0.0,0.0,
227 K,2,0.0,0.0,1.0,
228 K,3,0.0,0.0,1.3,

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229 K,4,0.0,0.0,1.4,
230 K,5,0.0,0.0,1.5,
231 K,6,0.0,0.0,1.6,
232 K,7,0.0,0.0,1.7,
233 K,8,0.0,0.0,1.8,
234 L,3,4,
235 L,4,5,
236 L,5,6,
237 L,6,7,
238 /COM, Define disposal container outer radius and material interface
239 /COM, (K's 9,10,11,12,13,14)
240 /COM, (L's 5,6,7,8,9,10,11)
241 /COM, (A's 1,2)
242 K, 9, 0.0, (0.0-DCRAD),0.0,
243 K,10, DCRAD, 0.0,0.0,
244 K,11, 0.0, DCRAD,0.0,
245 K,12, 0.0, (OWALL-DCRAD),0.0,
246 K,13, (DCRAD-OWALL), 0.0,0.0,
247 K,14, 0.0, (DCRAD-OWALL),0.0,
248 L,10,13,
249 LARC,10, 9,1, DCRAD,
250 LARC,11,10,1, DCRAD,
251 LARC,13,12,1, (DCRAD-OWALL),
252 LARC,14,13,1, (DCRAD-OWALL),
253 L,11,14,
254 L, 9,12,
255 AL, 5, 6,11, 8,
256 AL,10, 7, 5, 9,
257 /COM, *****
258 /COM, Define UCF shell inner edge and area
259 /COM, (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,)
260 /COM, (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
261 /COM, (A's 3,4)
262 K,15, 0.0, DCIRD,0.0,
263 K,16, GX22, GY22,0.0,
264 K,17, GX23, GY23,0.0,
265 K,18, GX24, GY24,0.0,
266 K,19, GY24, GX24,0.0,
267 K,20, GY23, GX23,0.0,
268 K,21, GY22, GX22,0.0,
269 K,22, DCIRD, 0.0,0.0,
270 K,23, GY22, (0.0-GX22),0.0,
271 K,24, GY23, (0.0-GX23),0.0,
272 K,25, GY24, (0.0-GX24),0.0,
273 K,26, GX24, (0.0-GY24),0.0,
274 K,27, GX23, (0.0-GY23),0.0,
275 K,28, GX22, (0.0-GY22),0.0,
276 K,29, 0.0,(0.0-DCIRD),0.0,
277 L,14,15,
278 LARC,16,15,1,DCIRD,
279 LARC,17,16,1,DCIRD,
280 LARC,18,17,1,DCIRD,
281 LARC,19,18,1,DCIRD,
282 LARC,20,19,1,DCIRD,
283 LARC,21,20,1,DCIRD,
284 LARC,22,21,1,DCIRD,
285 LARC,23,22,1,DCIRD,
286 LARC,24,23,1,DCIRD,
287 LARC,25,24,1,DCIRD,
288 LARC,26,25,1,DCIRD,
289 LARC,27,26,1,DCIRD,
290 LARC,28,27,1,DCIRD,
291 LARC,29,28,1,DCIRD,
292 L,29,12,
293 L,22,13,
294 LSEL,S,LINE,,12,19,
295 LSEL,A,LINE,, 9,
296 LSEL,A,LINE,,28,
297 AL,ALL,
298 LSEL,S,LINE,,20,28,

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299 LSEL,A,LINE,, 8,
300 AL,ALL,
301 LSEL,ALL,
302 /COM, *****
303 /COM, Define tube guides
304 /COM, (K's 30,31,32,33)
305 /COM, (L's 29,30,31,32,33,34,35,36,37,38)
306 /COM, (A's 5,6,7,8,9,10)
307 /COM,
308 /COM, top guide
309 K,31, GX23, GX23,0.0,
310 K,30, GX24, GX24,0.0,
311 L,30,19,
312 L,18,30
313 L,31,20
314 L,17,31
315 /COM, bottom guide
316 K,33, GX23, (0.0-GX23),0.0,
317 K,32, GX24, (0.0-GX24),0.0,
318 L,25,32,
319 L,32,26,
320 L,24,33,
321 L,33,27,
322 L,30,31,
323 L,32,33,
324 /COM, Guide gaps
325 AL,29,16,30,
326 AL,33,34,23,
327 /COM, Guide steel
328 AL,35,38,33,22,
329 AL,36,24,34,38,
330 AL,37,31,17,29,
331 AL,15,32,37,30,
332 /COM, *****
333 /COM, Define thermal shunts
334 /COM, (K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)
335 /COM, (L's 39,40,41,42,43,44,45,46,47,48,49)
336 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69
337 /COM, (A's 11 - 22)
338 /COM,
339 /COM, horizontal thermal shunt
340 K,34, TWALL/2.0, TWALL/2.0,0.0,
341 K,35, TWALL/2.0, (0.0-TWALL/2.0),0.0,
342 K,36,(TWALL/2.0+1.0*PITCH), TWALL/2.0,0.0,
343 K,37,(TWALL/2.0+1.0*PITCH), (0.0-TWALL/2.0),0.0,
344 K,38,(TWALL/2.0+2.0*PITCH), TWALL/2.0,0.0,
345 K,39,(TWALL/2.0+2.0*PITCH), (0.0-TWALL/2.0),0.0,
346 K,1000,(TWALL/2.0+1.0*PITCH),0.0,0.0,
347 K,1001,(TWALL/2.0+2.0*PITCH),0.0,0.0,
348 L,34,1,
349 L,1,1000,
350 L,1000,36,
351 L,36,34,
352 L,1,35,
353 L,35,37,
354 L,37,1000,
355 L,1000,1001,
356 L,1001,38,
357 L,38,36,
358 L,37,39,
359 L,39,1001
360 L,23,39,
361 L,38,21,
362 L,1001,22,
363 /COM, vertical thermal shunt
364 K,40,TWALL/2.0, (TWALL/2.0+1.0*PITCH),0.0,
365 K,41, 0.0, (TWALL/2.0+1.0*PITCH),0.0,
366 K,42,TWALL/2.0, (TWALL/2.0+2.0*PITCH),0.0,
367 K,43, 0.0, (TWALL/2.0+2.0*PITCH),0.0,
368 K,44,TWALL/2.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,

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369 K,45, 0.0, (0.0-TWALL/2.0-1.0*PITCH),0.0,
370 K,46,TWALL/2.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
371 K,47, 0.0, (0.0-TWALL/2.0-2.0*PITCH),0.0,
372 L,34,40,
373 L,40,41,
374 L,41,1,
375 L,40,42,
376 L,42,43,
377 L,43,41,
378 L,16,42,
379 L,15,43,
380 L,1,45,
381 L,45,44,
382 L,44,35,
383 L,45,47,
384 L,47,46,
385 L,46,44,
386 L,47,29,
387 L,46,28,
388 /COM, Define areas for thermal shunts
389 /COM, horizontal thermal shunts
390 AL,39,40,41,42,
391 AL,43,44,45,40,
392 AL,48,41,46,47,
393 AL,45,49,50,46,
394 AL,47,53,19,52,
395 AL,50,51,20,53,
396 /COM, vertical thermal shunts
397 AL,39,54,55,56,
398 AL,57,58,59,55,
399 AL,60,13,61,58,
400 AL,43,62,63,64,
401 AL,65,66,67,63,
402 AL,68,26,69,66,
403 /COM, *****
404 /COM, Define shell gaps at the exterior of the tube array
405 /COM, (L's 70 - 73)
406 /COM, (A's 23 - 26)
407 L,42,17,
408 L,20,38,
409 L,39,24,
410 L,27,46,
411 AL,60,70,14,
412 AL,18,71,52,
413 AL,51,72,21,
414 AL,69,25,73,
415 /COM, *****
416 /COM, Create mesh in tube guides, thermal shunts
417 /COM, Set mesh size for gaps.....
418 ESIZE,,2,
419 LSEL,S,LINE,,60,61,1,
420 LSEL,A,LINE,,68,69,1,
421 LSEL,A,LINE,,51,53,1,
422 LESIZE,ALL,,,4,
423 LSEL,S,LINE,,39,47,2,
424 LSEL,A,LINE,,19,20,1,
425 LSEL,A,LINE,,50,
426 LSEL,A,LINE,,13,
427 LSEL,A,LINE,,58,
428 LSEL,A,LINE,,55,
429 LSEL,A,LINE,,63,
430 LSEL,A,LINE,,66,
431 LSEL,A,LINE,,26,
432 LESIZE,ALL,,,1,
433 LSEL,S,LINE,,40,48,2,
434 LSEL,A,LINE,,54,56,2,
435 LSEL,A,LINE,,57,59,2,
436 LSEL,A,LINE,,62,64,2,
437 LSEL,A,LINE,,65,67,2,
438 LSEL,A,LINE,,49,

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439 LSEL,A,LINE,,33,34,1,
440 LSEL,A,LINE,,29,30,1,
441 LSEL,A,LINE,,70,73,1,
442 LESIZE,ALL,,,14,
443 /COM, Mesh thermal shunts
444 ESHAPE,2,
445 MAT,13,
446 TYPE,1,
447 AMESH,11,22,
448 /COM, Mesh corn guides
449 ESHAPE,2,
450 MAT,2,
451 TYPE,1,
452 AMESH,7,10,1,
453 /COM, *****
454 /COM, Define center tube
455 /COM, (K's 48-51)
456 /COM, (L's 74-83)
457 /COM, (A's 27-31)
458 K,48, (TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0,
459 K,49, (TWALL/2.0+SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
460 K,50, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+PITCH-SWALL),0.0,
461 K,51, (TWALL/2.0+PITCH-SWALL), (TWALL/2.0+SWALL),0.0,
462 L,34,48,
463 L,48,49,
464 L,49,40,
465 L,49,50,
466 L,50,31,
467 L,31,40,
468 L,50,51,
469 L,51,36,
470 L,36,31,
471 L,51,48,
472 AL,76,79,78,77,
473 AL,54,74,75,76,
474 AL,74,42,81,83,
475 AL,81,82,78,80,
476 AL,75,83,80,77,
477 /COM, *****
478 /COM, Set element shapes and sizes for tubes
479 /COM, 14x14 mesh in fuel with 2
480 /COM, divisions per tube layer
481 ESHAPE,0,
482 ESIZE,,1,
483 LSEL,S,LINE,,74,83,1,
484 LSEL,U,LINE,,76,
485 LSEL,U,LINE,,78,
486 LSEL,U,LINE,,81,
487 LSEL,U,LINE,,74,
488 LESIZE,ALL,,,14,
489 LSEL,S,LINE,,76,
490 LSEL,A,LINE,,78,
491 LSEL,A,LINE,,81,
492 LSEL,A,LINE,,74,
493 LESIZE,ALL,,,2,
494 LSEL,ALL,
495 /COM,
496 /COM, Mesh areas
497 /COM, First fuel, then stainless tubes
498 MAT,14,
499 TYPE,1,
500 ASEL,ALL,
501 AMESH,31,
502 MAT,1,
503 TYPE,1,
504 AMESH,27,30,1,
505 /COM, *****
506 /COM, Copy tube mesh
507 /COM,
508 /COM, Center tubes above

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509 /COM, (A's 32 - 36)
510 AGEN,2,27,31,1,0.0,PITCH,0.0,0,0,
511 /COM, Center tubes below
512 /COM, (A's 37 - 46)
513 ARSYM,Y,27,36,1,
514 /COM, (A's 47 - 51)
515 AGEN,2,27,31,1,PITCH,0.0,0.0,0,0,
516 /COM, (A's 52 - 56)
517 AGEN,2,47,51,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
518 NUMMRG,NODE,
519 NUMMRG,KP,
520 /COM, *****
521 /COM, Create mesh in UCF inner shell
522 /COM, (L's 105,108)
523 ESHAP,2,
524 LSEL,S,LINE,,14,18,2,
525 LSEL,A,LINE,,21,25,2,
526 LSIZE,ALL,,20,
527 LSEL,ALL,
528 LSEL,S,LINE,,13,19,1,
529 LCCAT,ALL,
530 LSEL,S,LINE,,20,26,1,
531 LCCAT,ALL,
532 LSEL,ALL,
533 LESIZE,8,,,54,
534 LESIZE,9,,,54,
535 LESIZE,28,,,3,
536 LESIZE,12,,,3,
537 LESIZE,27,,,3,
538 LSEL,ALL,
539 MAT,2,
540 TYPE,1,
541 AMESH,3,4,1,
542 /COM, Delete concatenated lines
543 /COM, (L's freed up 105,108)
544 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
545 /COM,
546 LSEL,S,LINE,,6,7,1,
547 LESIZE,ALL,,,54,
548 LSEL,ALL,
549 LESIZE,5,,,4,
550 LESIZE,10,,,4,
551 LESIZE,11,,,4,
552 MAT,15,
553 TYPE,1,
554 AMESH,1,2,1,
555 NUMMRG,NODE,
556 NUMMRG,KP,
557 /COM, *****
558 /COM, Create mesh in empty basket spaces
559 ESIZE,0.1,
560 ESHAPE,0,
561 MAT,7,
562 TYPE,1,
563 AMESH,5,6,1
564 ESIZE,0.1,
565 ESHAPE,0,
566 AMESH,23,26,1,
567 NUMMRG,NODE,
568 NUMMRG,KP,
569 /COM, *****
570 /COM, Create radiation surface elements
571 /COM, Basket spaces
572 MAT,1,
573 TYPE,17,
574 LMESH,70,73,1,
575 LMESH,14,18,2,
576 LMESH,21,25,2,
577 MAT,2,
578 TYPE,17,

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579 LMESS,29,30,1,
580 LMESS,33,34,1,
581 MAT,13,
582 TYPE,17,
583 LMESS,60,
584 LMESS,69,
585 LMESS,51,52,1,
586 /COM,
587 FINISH
588 /COM, *****
589 /COM,      Create element mesh plots to illustrate model
590 /COM,      View mesh for entire model
591 /RESET
592 /TRIAD,OFF,
593 /NUM, 1,
594 /PNUM,MAT, 1,
595 /TYPE,HIDP,
596 /GLINE,,0,
597 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
598 /TITLE, 12 PWR UCF/Waste Package - 1/2 FEM Model
599 /SHOW,meshfull,grph,1,8,
600 EPLOT
601 ESEL,U,MAT,, 7,
602 /SHOW,meshgap,grph,1,8,
603 EPLOT
604 ESEL,ALL,
605 /COM,      View mesh for radiation substructure
606 /PNUM,MAT, 0,
607 /PNUM,TYPE, 1,
608 ESEL,S,TYPE,,17,
609 /TITLE, 12 PWR UCF/Waste Package - Radiation Matrix
610 /SHOW,meshrad,grph,1,8,
611 EPLOT
612 ESEL,ALL,
613 /TITLE, 12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
614 /COM, *****
615 /COM,      Generate super-elements
616 /AUX12,
617 ESEL,S,TYPE,,17,
618 NSLE,S,
619 STEF,5.67E-8,
620 GEOM,1,0,
621 VTYPE,0,800,
622 WRITE,spaces,
623 ESEL,ALL,
624 NSEL,ALL,
625 FINISH
626 /PREP7,
627 TYPE,18,
628 SE,spaces,
629 /COM,      Delete radiation edge elements
630 LSEL,S,TYPE,,17,
631 LCLEAR,ALL,
632 LSEL,ALL,
633 FINISH
634 /COM, *****
635 /COM,      Set solution parameters and apply B.C.'s
636 /COM,
637 /COM,      Solve steady-state for initial conditions
638 /COM,      with WP surface equal to drift ambient
639 /COM,      temperature from repository model.
640 /SOLU
641 ANTYPE,TRAN,NEW,
642 NROPT,AUTO,
643 TRNOPT,FULL,
644 TOFFST,273.15,
645 LSEL,S,LINE,,6,
646 LSEL,A,LINE,,7,
647 NSLL,S,1,
648 D,ALL,TEMP,DFAMBT,

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649 LSEL,ALL,
650 NSEL,ALL,
651 ASEL,S,MAT,,14,
652 ESLA,S,
653 BFE,ALL,HGEN,,(FUEL(TM_START)),
654 ASEL,ALL,
655 ESEL,ALL,
656 TIMINT,OFF,
657 TIME,1e-6,
658 AUTOTS,ON,
659 KBC,0,
660 SOLVE
661 /COM,          Solve steady-state for initial conditions
662 /COM,          with WP surface temperatures from repository
663 /COM,          steady-state solution.
664 LSEL,S,LINE,,6,
665 LSEL,A,LINE,,7,
666 NSLL,S,1,
667 DDELE,ALL,TEMP,
668 LSEL,ALL,
669 NSEL,ALL,
670 DK,11,TEMP,(WPTOP(TM_START)),,1,
671 DK,10,TEMP,(WPSID(TM_START)),,1,
672 DK, 9,TEMP,(WPBOT(TM_START)),,1,
673 ASEL,S,MAT,,14,
674 ESLA,S,
675 BFE,ALL,HGEN,,(FUEL(TM_START)),
676 ASEL,ALL,
677 ESEL,ALL,
678 TIMINT,OFF,
679 TIME,2e-6,
680 AUTOTS,ON,
681 KBC,0,
682 SOLVE
683 /COM,          *****
684 /COM,          Set time integration parameters
685 TIMINT,ON,
686 AUTOTS,ON,
687 /COM,          Time substep ranges from 10 sec to 1/4 loadstep
688 NSUBST,10,40,5,ON
689 /COM,          Begin Transient
690 /COM,          Apply loads and solve for 0 to .9 years
691 *DO,TM,TM_START,TMEO,TM10
692     TIME,TM,
693     ASEL,S,MAT,,14,
694     ESLA,S,
695     BFE,ALL,HGEN,,(FUEL(TM)),
696     ASEL,ALL
697     ESEL,ALL
698     DK,11,TEMP,(WPTOP(TM)),,1,
699     DK,10,TEMP,(WPSID(TM)),,1,
700     DK, 9,TEMP,(WPBOT(TM)),,1,
701     SOLVE
702 *ENDDO
703 /COM,          Apply loads and solve for 1 to 9 years
704 *DO,TM,TME1,TME9,TM11
705     TIME,TM,
706     ASEL,S,MAT,,14,
707     ESLA,S,
708     BFE,ALL,HGEN,,(FUEL(TM)),
709     ASEL,ALL
710     ESEL,ALL
711     DK,11,TEMP,(WPTOP(TM)),,1,
712     DK,10,TEMP,(WPSID(TM)),,1,
713     DK, 9,TEMP,(WPBOT(TM)),,1,
714     SOLVE
715 *ENDDO
716 /COM,          Apply loads and solve for 10 to 90 years
717 *DO,TM,TME10,TME90,TM110
718     TIME,TM,

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719      ASEL,S,MAT,,14,
720      ESLA,S,
721      BFE,ALL,HGEN,,(FUEL(TM)),
722      ASEL,ALL
723      ESEL,ALL
724      DK,11,TEMP,(WPTOP(TM)),,1,
725      DK,10,TEMP,(WPSID(TM)),,1,
726      DK, 9,TEMP,(WPBOT(TM)),,1,
727      SOLVE
728 *ENDDO
729 /COM,          Apply loads and solve for 100 to 1000 years
730 *DO,TM,TME100,TME1000,TMI100
731      TIME,TM,
732      ASEL,S,MAT,,14,
733      ESLA,S,
734      BFE,ALL,HGEN,,(FUEL(TM)),
735      ASEL,ALL
736      ESEL,ALL
737      DK,11,TEMP,(WPTOP(TM)),,1,
738      DK,10,TEMP,(WPSID(TM)),,1,
739      DK, 9,TEMP,(WPBOT(TM)),,1,
740      SOLVE
741 *ENDDO
742 FINISH
743 SAVE,
744 /COM,          *****
745 /COM,          Create element contour plots of solution results
746 /COM,
747 /COM,          Sort through solution results for time of max temp.
748 /POST26,
749 NSOL,2,(NODE((SCCELL+TWALL/2.0),(-SCCELL-TWALL/2.0),0.0)),TEMP,,peakclad,
750 STORE,NEW,
751 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
752 FINISH
753 /POST1,
754 /COM,          Create temperature contour plots of WP at peak
755 /RESET
756 /TRIAD,OFF,
757 /NUM, 1,
758 /PNUM,MAT, 1,
759 /TYPE,HIDP,
760 /GLINE,,-1,
761 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
762 ESEL,U,MAT,,7,
763 SET,NEAR,,,TMTMAX,
764 /TITLE, 12 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
765 /SHOW,solupk,grph,0,8,
766 /CONTOUR,1,128,AUTO,
767 PLNSOL,TEMP,
768 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
769 SET,NEAR,,,TME10,
770 /TITLE, 12 PWR UCF/WP at 10 years
771 /SHOW,solu10,grph,0,8,
772 /CONTOUR,1,128,USER,
773 PLNSOL,TEMP,
774 SET,NEAR,,,TME50,
775 /TITLE, 12 PWR UCF/WP at 50 years
776 /SHOW,solu50,grph,0,8,
777 /CONTOUR,1,128,USER,
778 PLNSOL,TEMP,
779 SET,NEAR,,,TME100,
780 /TITLE, 12 PWR UCF/WP at 100 years
781 /SHOW,solu100,grph,0,8,
782 /CONTOUR,1,128,USER,
783 PLNSOL,TEMP,
784 ESEL,ALL,
785 FINISH
786 /COM,          *****
787 /COM,          Print time/temperature output at specific locations
788 /COM,          Save profile from center to edge

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789 /COM,
790 /COM,
791 /COM,
792 /COM,
793 /COM,
794 /COM,
795 /COM,
796 /COM,
797 /COM,
798 /COM,
799 /COM,
800 /COM,
801 /COM,
802 /COM,
803 /COM,
804 /COM,
805 /COM,
806 /POST26,
807 NUMVAR,30,
808 /COM,
809 /COM,
810 /COM,
811 /COM,
812 /COM,
813 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t010045,
814 NSOL, 3,(NODE(TWALL/2.0, (0.0-TWALL/2.0),0.0)),TEMP,,s01o145,
815 NSOL, 4,(NODE((TWALL/2.0+SWALL), (-TWALL/2.0-SWALL),0.0)),TEMP,,s01i145,
816 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),(-TWALL/2.-SWALL-QCELL),0.0)),TEMP,,c01i045,
817 NSOL, 6,(NODE((SCELL+TWALL/2.0), (-SCELL-TWALL/2.0),0.0)),TEMP,,c01c045,
818 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL),(-TWALL/2-SWALL-3*QCELL),0.0)),TEMP,,c01o045,
819 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL),(-PITCH-TWALL/2.+SWALL),0.0)),TEMP,,s01ir45,
820 NSOL, 9,(NODE((TWALL/2.0+PITCH), (-TWALL/2.0-PITCH),0.0)),TEMP,,s01or45,
821 NSOL,10,(NODE((TWALL/2.0+PITCH+G WALL),(-TWALL/2.-PITCH-G WALL),0.0)),TEMP,,g01o045,
822 NSOL,11,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i01i045,
823 NSOL,12,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i01o045,
824 NSOL,13,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o08o045,
825 /COM,
826 NSOL,14,(NODE( (SCELL+TWALL/2.0+PITCH), -(SCELL+TWALL/2.0),0.0)),TEMP,,c03c045,
827 NSOL,15,(NODE( (SCELL+TWALL/2.0), (-SCELL-TWALL/2.0-PITCH),0.0)),TEMP,,c05c045,
828 PRVAR, 2, 3, 4, 5, 6,
829 PRVAR, 7, 8, 9, 10,11,
830 PRVAR, 12,13,14,15,
831 /COM,
832 /COM,
833 /COM,
834 /COM,
835 /COM,
836 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,t0200135,
837 NSOL, 3,(NODE(TWALL/2.0, TWALL/2.0,0.0)),TEMP,,s02o0135,
838 NSOL, 4,(NODE((TWALL/2.0+SWALL), (TWALL/2.0+SWALL),0.0)),TEMP,,s02i0135,
839 NSOL, 5,(NODE((TWALL/2.0+SWALL+QCELL),(TWALL/2.+SWALL+QCELL),0.0)),TEMP,,c02i0135,
840 NSOL, 6,(NODE((SCELL+TWALL/2.0), (SCELL+TWALL/2.0),0.0)),TEMP,,c02c0135,
841 NSOL, 7,(NODE((TWALL/2+SWALL+3*QCELL),(TWALL/2+SWALL+3*QCELL),0.0)),TEMP,,c02o0135,
842 NSOL, 8,(NODE((PITCH+TWALL/2.0-SWALL),(PITCH+TWALL/2.-SWALL),0.0)),TEMP,,s02ir135,
843 NSOL, 9,(NODE((TWALL/2.0+PITCH), (TWALL/2.0+PITCH),0.0)),TEMP,,s02or135,
844 NSOL,10,(NODE((TWALL/2.0+PITCH+G WALL),(TWALL/2.+PITCH+G WALL),0.0)),TEMP,,g02o0135,
845 NSOL,11,(NODE( DI45, DI45,0.0)),TEMP,,i02i0135,
846 NSOL,12,(NODE( DM45, DM45,0.0)),TEMP,,i02o0135,
847 NSOL,13,(NODE( DO45, DO45,0.0)),TEMP,,o02o0135,
848 /COM,
849 NSOL,14,(NODE( (SCELL+TWALL/2.0+PITCH), (SCELL+TWALL/2.0),0.0)),TEMP,,c04c0135,
850 NSOL,15,(NODE( (SCELL+TWALL/2.0), (SCELL+TWALL/2.0+PITCH),0.0)),TEMP,,c06c0135,
851 PRVAR, 2, 3, 4, 5, 6,
852 PRVAR, 7, 8, 9, 10,11,
853 PRVAR, 12,13,14,15,
854 /COM,
855 /COM,
856 /COM,
857 NSOL,2,(NODE((TWALL/4.0+PITCH/2.0), 0.0,0.0)),TEMP,,t01c090,
858 NSOL,3,(NODE((TWALL/2.0+PITCH/2.0), -(TWALL/2.0),0.0)),TEMP,,s01ou90,

```

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

```

859 NSOL,4,(NODE((SCELL+TWALL/2.0), -(TWALL/2.0+SWALL),0.0)),TEMP,,s01iu90,
860 NSOL,5,(NODE((SCELL+TWALL/2.0), -(QCELL+TWALL/2.0+SWALL),0.0)),TEMP,,c01u090,
861 NSOL,6,(NODE((SCELL+TWALL/2.0), -(SCELL+TWALL/2.0),0.0)),TEMP,,c01c090,
862 NSOL,7,(NODE((SCELL+TWALL/2.0), -(SCELL+TWALL/2.0+QCELL),0.0)),TEMP,,c01l090,
863 NSOL,8,(NODE((SCELL+TWALL/2.0), -(PITCH-SWALL+TWALL/2.0),0.0)),TEMP,,s01il90,
864 NSOL,9,(NODE((SCELL+TWALL/2.0), -(PITCH+TWALL/2.0),0.0)),TEMP,,s01ol90,
865 NSOL,10,(NODE((SCELL+TWALL/2.0), -(PITCH+TWALL/2.0+SWALL),0.0)),TEMP,,s05iu90,
866 NSOL,11,(NODE((SCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0-QCELL),0.0)),TEMP,,c05u090,
867 NSOL,12,(NODE((SCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0),0.0)),TEMP,,c05c090,
868 NSOL,13,(NODE((SCELL+TWALL/2.0), -(1.5*PITCH+TWALL/2.0+QCELL),0.0)),TEMP,,c05l090,
869 NSOL,14,(NODE((SCELL+TWALL/2.0), -(2.0*PITCH-SWALL),0.0)),TEMP,,s05il90,
870 NSOL,15,(NODE((TWALL/2.0+PITCH/2.0), -(2.0*PITCH),0.0)),TEMP,,s05ol90,
871 NSOL,16,(NODE(DCIRD*SIN(.2157), -(DCIRD*COS(.2157)),0.0)),TEMP,,i05i090,
872 NSOL,17,(NODE(DCRAD-OWALL)*SIN(.2157), -(DCRAD-OWALL)*COS(.2157),0.0)),TEMP,,i5o090,
873 NSOL,18,(NODE(DCRAD*SIN(.2157), -DCRAD*COS(.2157),0.0)),TEMP,,0050090,
874 PRVAR,2,3,4,5,6,
875 PRVAR,7,8,9,10,11,
876 PRVAR,12,13,14,15,16,
877 PRVAR,17,18,
878 FINISH
879 /COM, *****
880 /COM, End of batch input file
881 /COM, *****
882 /EXIT,
883 /EOF
884
885
886

```

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= TO      /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  Hongyan Wang
*****

```

```

*
* File name: ucf12h.inp
*   12 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:   c12h5a.parm
*   25 MTU/acre (6.18 kgU/m^2) AML (High Thermal Loading)
*   5.0 m Diameter Drift with Concrete Invert
*   Drift spacing = 90.0 m
*   WP c/c spacing = 9.237 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=

12 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= 09:35:01
 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= 09:35:01
 Restore ANSYS parameters from file= c12h5a.parm.

/INPUT FILE= c12h5a.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 required)

MIRAD = inner radius of UCF He Backfill shell (m) (NOT USED)
 MWALL = UCF He Backfill shell thickness (m) (NOT USED)
 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 = .5988500

PARAMETER OWALL = .5000000E-01

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .5288500

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 = .5000000E-02

PARAMETER GY22 = .5288264

PARAMETER GX23 = .2385000

PARAMETER GY23 = .4720170

PARAMETER GX24 = .2480000

PARAMETER GY24 = .4670956

MI45=MIRAD/SQRT(2.0)

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

PARAMETER DI45 = .3739534

PARAMETER DM45 = .3880956

PARAMETER D045 = .4234509

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 09:35:02 SEP 07, 1995 CP= 1.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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	41.02000
	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	26.13000	
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	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 18.52000
 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
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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/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/F converted to J/kg/k)

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 20.0000 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	-.598850	.000000E+00	IN CSYS=	0
----------	---	--------	-------------	----------	-------------	----------	---

KEYPOINT 10 X,Y,Z= .598850 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .598850 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.548850 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .548850 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .548850 .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= .59885
 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= .59885
 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= .54885
 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= .54885
 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,)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,)
 (A's 3,4)

KEYPOINT 15 X,Y,Z= .000000E+00 .528850 .000000E+00 IN CSYS= 0
 KEYPOINT 16 X,Y,Z= .500000E-02 .528826 .000000E+00 IN CSYS= 0
 KEYPOINT 17 X,Y,Z= .238500 .472017 .000000E+00 IN CSYS= 0
 KEYPOINT 18 X,Y,Z= .248000 .467096 .000000E+00 IN CSYS= 0
 KEYPOINT 19 X,Y,Z= .467096 .248000 .000000E+00 IN CSYS= 0
 KEYPOINT 20 X,Y,Z= .472017 .238500 .000000E+00 IN CSYS= 0

KEYPOINT	21	X,Y,Z=	.528826	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.528850	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.528826	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.472017	-.238500	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.467096	-.248000	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.248000	-.467096	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.238500	-.472017	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.500000E-02	-.528826	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.000000E+00	-.528850	.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=	.52885		
LINE NO.= 13	KP1= 16	TAN1=	1.0000
	KP2= 15	TAN2=	-1.0000

ARC BETWEEN KEYPOINTS	17 AND 16	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 14	KP1= 17	TAN1=	.8925
	KP2= 16	TAN2=	-1.0000

ARC BETWEEN KEYPOINTS	18 AND 17	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 15	KP1= 18	TAN1=	.8832
	KP2= 17	TAN2=	-.8925

ARC BETWEEN KEYPOINTS	19 AND 18	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 16	KP1= 19	TAN1=	.4689
	KP2= 18	TAN2=	-.8832

ARC BETWEEN KEYPOINTS	20 AND 19	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 17	KP1= 20	TAN1=	.4510
	KP2= 19	TAN2=	-.4689

ARC BETWEEN KEYPOINTS	21 AND 20	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 18	KP1= 21	TAN1=	.0095
	KP2= 20	TAN2=	-.4510

ARC BETWEEN KEYPOINTS	22 AND 21	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 19	KP1= 22	TAN1=	.0000
	KP2= 21	TAN2=	-.0095

ARC BETWEEN KEYPOINTS	23 AND 22	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 20	KP1= 23	TAN1=	-.0095
	KP2= 22	TAN2=	.0000

ARC BETWEEN KEYPOINTS	24 AND 23	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		
LINE NO.= 21	KP1= 24	TAN1=	-.4510
	KP2= 23	TAN2=	.0095

ARC BETWEEN KEYPOINTS	25 AND 24	ORIENTATION KEYPOINT=	1
RADIUS=	.52885		

LINE NO.= 22 KP1= 25 TAN1= -.4689 -.8832 .0000
 KP2= 24 TAN2= .4510 .8925 .0000

ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1
 RADIUS= .52885

LINE NO.= 23 KP1= 26 TAN1= -.8832 -.4689 .0000
 KP2= 25 TAN2= .4689 .8832 .0000

ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1
 RADIUS= .52885

LINE NO.= 24 KP1= 27 TAN1= -.8925 -.4510 .0000
 KP2= 26 TAN2= .8832 .4689 .0000

ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1
 RADIUS= .52885

LINE NO.= 25 KP1= 28 TAN1= -1.0000 -.0095 .0000
 KP2= 27 TAN2= .8925 .4510 .0000

ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1
 RADIUS= .52885

LINE NO.= 26 KP1= 29 TAN1= -1.0000 .0000 .0000
 KP2= 28 TAN2= 1.0000 .0095 .0000

LINE CONNECTS KEYPOINTS 29 12

LINE NO.= 27 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 22 13

LINE NO.= 28 KP1= 22 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 19 STEP 1

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

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

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

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 28 TO 28 STEP 1

10 LINES (OF 28 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 20 TO 28 STEP 1

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

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

10 LINES (OF 28 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 28 STEP 1

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

Define tube guides

(K's 30,31,32,33)

(L's 29,30,31,32,33,34,35,36,37,38)

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

top guide

KEYPOINT 31 X,Y,Z= .238500 .238500 .000000E+00 IN CSYS= 0

KEYPOINT 30 X,Y,Z= .248000 .248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 30 19

LINE NO.= 29 KP1= 30 TAN1= -1.0000 .0000 .0000

KP2= 19 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 18 30

LINE NO.= 30 KP1= 18 TAN1= .0000 1.0000 .0000

KP2= 30 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 31 20

LINE NO.= 31 KP1= 31 TAN1= -1.0000 .0000 .0000

KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 17 31

LINE NO.= 32 KP1= 17 TAN1= .0000 1.0000 .0000

KP2= 31 TAN2= .0000 -1.0000 .0000

bottom guide

KEYPOINT 33 X,Y,Z= .238500 -.238500 .000000E+00 IN CSYS= 0

KEYPOINT 32 X,Y,Z= .248000 -.248000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 25 32

LINE NO.= 33 KP1= 25 TAN1= 1.0000 .0000 .0000

KP2= 32 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 32 26

LINE NO.= 34 KP1= 32 TAN1= .0000 1.0000 .0000

KP2= 26 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 33

LINE NO.= 35 KP1= 24 TAN1= 1.0000 .0000 .0000

KP2= 33 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 27

LINE NO.= 36 KP1= 33 TAN1= .0000 1.0000 .0000

KP2= 27 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 31

LINE NO.= 37 KP1= 30 TAN1= .7071 .7071 .0000

KP2= 31 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 32 33

LINE NO.= 38 KP1= 32 TAN1= .7071 -.7071 .0000

KP2= 33 TAN2= -.7071 .7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 29 16 30

(TRAVERSED IN SAME DIRECTION AS LINE 29)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES

LINE LIST = 33 34 23

(TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES
LINE LIST = 35 38 33 22
(TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
LINE LIST = 36 24 34 38
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
LINE LIST = 37 31 17 29
(TRAVERSED IN SAME DIRECTION AS LINE 37)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES
LINE LIST = 15 32 37 30
(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 10

Define thermal shunts

(K's 34,35,36,37,38,39,40,41,42,43,44,45,46,47,1000,1001)

(L's 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

(A's 11 - 22)

horizontal thermal shunt

KEYPOINT	34	X,Y,Z=	.500000E-02	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	35	X,Y,Z=	.500000E-02	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	36	X,Y,Z=	.238500	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	37	X,Y,Z=	.238500	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	38	X,Y,Z=	.472000	.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.472000	-.500000E-02	.000000E+00	IN CSYS= 0
KEYPOINT	1000	X,Y,Z=	.238500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	1001	X,Y,Z=	.472000	.000000E+00	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	34	1			
LINE NO.= 39	KP1= 34	TAN1=	.7071	.7071	.0000
	KP2= 1	TAN2=	-.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	1	1000			
LINE NO.= 40	KP1= 1	TAN1=	-1.0000	.0000	.0000
	KP2= 1000	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	1000	36			
LINE NO.= 41	KP1= 1000	TAN1=	.0000	-1.0000	.0000
	KP2= 36	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	36	34			
LINE NO.= 42	KP1= 36	TAN1=	1.0000	.0000	.0000
	KP2= 34	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	1	35			
LINE NO.= 43	KP1= 1	TAN1=	-.7071	.7071	.0000
	KP2= 35	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS 35 37
 LINE NO.= 44 KP1= 35 TAN1= -1.0000 .0000 .0000
 KP2= 37 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 37 1000
 LINE NO.= 45 KP1= 37 TAN1= .0000 -1.0000 .0000
 KP2= 1000 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 1000 1001
 LINE NO.= 46 KP1= 1000 TAN1= -1.0000 .0000 .0000
 KP2= 1001 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 38
 LINE NO.= 47 KP1= 1001 TAN1= .0000 -1.0000 .0000
 KP2= 38 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 38 36
 LINE NO.= 48 KP1= 38 TAN1= 1.0000 .0000 .0000
 KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 37 39
 LINE NO.= 49 KP1= 37 TAN1= -1.0000 .0000 .0000
 KP2= 39 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 39 1001
 LINE NO.= 50 KP1= 39 TAN1= .0000 -1.0000 .0000
 KP2= 1001 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 23 39
 LINE NO.= 51 KP1= 23 TAN1= 1.0000 .0000 .0000
 KP2= 39 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 38 21
 LINE NO.= 52 KP1= 38 TAN1= -1.0000 .0000 .0000
 KP2= 21 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 1001 22
 LINE NO.= 53 KP1= 1001 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

vertical thermal shunt

KEYPOINT 40 X,Y,Z= .500000E-02 .238500 .000000E+00 IN CSYS= 0
 KEYPOINT 41 X,Y,Z= .000000E+00 .238500 .000000E+00 IN CSYS= 0
 KEYPOINT 42 X,Y,Z= .500000E-02 .472000 .000000E+00 IN CSYS= 0
 KEYPOINT 43 X,Y,Z= .000000E+00 .472000 .000000E+00 IN CSYS= 0
 KEYPOINT 44 X,Y,Z= .500000E-02 -.238500 .000000E+00 IN CSYS= 0
 KEYPOINT 45 X,Y,Z= .000000E+00 -.238500 .000000E+00 IN CSYS= 0
 KEYPOINT 46 X,Y,Z= .500000E-02 -.472000 .000000E+00 IN CSYS= 0
 KEYPOINT 47 X,Y,Z= .000000E+00 -.472000 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 34 40
 LINE NO.= 54 KP1= 34 TAN1= .0000 -1.0000 .0000
 KP2= 40 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 55 KP1= 40 TAN1= 1.0000 .0000 .0000
 KP2= 41 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 1
 LINE NO.= 56 KP1= 41 TAN1= .0000 1.0000 .0000
 KP2= 1 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS	40	42			
LINE NO.= 57 KP1=	40	TAN1=	.0000	-1.0000	.0000
KP2=	42	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 58 KP1=	42	TAN1=	1.0000	.0000	.0000
KP2=	43	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	43	41			
LINE NO.= 59 KP1=	43	TAN1=	.0000	1.0000	.0000
KP2=	41	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	16	42			
LINE NO.= 60 KP1=	16	TAN1=	.0000	1.0000	.0000
KP2=	42	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	15	43			
LINE NO.= 61 KP1=	15	TAN1=	.0000	1.0000	.0000
KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	1	45			
LINE NO.= 62 KP1=	1	TAN1=	.0000	1.0000	.0000
KP2=	45	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	45	44			
LINE NO.= 63 KP1=	45	TAN1=	-1.0000	.0000	.0000
KP2=	44	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	44	35			
LINE NO.= 64 KP1=	44	TAN1=	.0000	-1.0000	.0000
KP2=	35	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	45	47			
LINE NO.= 65 KP1=	45	TAN1=	.0000	1.0000	.0000
KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	47	46			
LINE NO.= 66 KP1=	47	TAN1=	-1.0000	.0000	.0000
KP2=	46	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	46	44			
LINE NO.= 67 KP1=	46	TAN1=	.0000	-1.0000	.0000
KP2=	44	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	47	29			
LINE NO.= 68 KP1=	47	TAN1=	.0000	1.0000	.0000
KP2=	29	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	46	28			
LINE NO.= 69 KP1=	46	TAN1=	.0000	1.0000	.0000
KP2=	28	TAN2=	.0000	-1.0000	.0000

Define areas for thermal shunts
horizontal thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 40 41 42
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 44 45 40
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 41 46 47
(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 49 50 46
(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 53 19 52
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 51 20 53
(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 16

vertical thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 54 55 56
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES

LINE LIST = 57 58 59 55
(TRAVERSED IN SAME DIRECTION AS LINE 57)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES

LINE LIST = 60 13 61 58
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 62 63 64
(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 65 66 67 63
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 68 26 69 66
(TRAVERSED IN SAME DIRECTION AS LINE 68)

AREA NUMBER = 22

Define shell gaps at the exterior of the tube array

(L's 70 - 73)

(A's 23 - 26)

LINE CONNECTS KEYPOINTS	42	17			
LINE NO.= 70	KP1= 42	TAN1= -1.0000	-1.0000	.0000	
	KP2= 17	TAN2= 1.0000	.0001	.0000	

LINE CONNECTS KEYPOINTS	20	38			
LINE NO.= 71	KP1= 20	TAN1= .0001	1.0000	.0000	
	KP2= 38	TAN2= -.0001	-1.0000	.0000	

LINE CONNECTS KEYPOINTS	39	24			
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LINE NO.= 72 KP1= 39 TAN1= -.0001 1.0000 .0000
 KP2= 24 TAN2= .0001 -1.0000 .0000

LINE CONNECTS KEYPOINTS 27 46
 LINE NO.= 73 KP1= 27 TAN1= 1.0000 -.0001 .0000
 KP2= 46 TAN2= -1.0000 .0001 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 60 70 14
 (TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
 LINE LIST = 18 71 52
 (TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES
 LINE LIST = 51 72 21
 (TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES
 LINE LIST = 69 25 73
 (TRAVERSED IN SAME DIRECTION AS LINE 69)

AREA NUMBER = 26

 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 60 TO 61 STEP 1

2 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 68 TO 69 STEP 1

4 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 51 TO 53 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 39 TO 47 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 19 TO 20 STEP 1

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 50 TO 50 STEP 1

8 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 13 TO 13 STEP 1

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 58 STEP 1

10 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 55 TO 55 STEP 1

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

12 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 26 TO 26 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 1, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 40 TO 48 STEP 2

5 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 56 STEP 2

7 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 57 TO 59 STEP 2

9 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 62 TO 64 STEP 2

11 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 65 TO 67 STEP 2

13 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 49 TO 49 STEP 1

14 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 34 STEP 1

16 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 30 STEP 1

18 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 70 TO 73 STEP 1

22 LINES (OF 73 DEFINED) SELECTED BY LSEL COMMAND.

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

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

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 22 IN STEPS OF 1

NUMBER OF AREAS MESHED = 12
MAXIMUM NODE NUMBER = 227
MAXIMUM ELEMENT NUMBER = 128
Mesh corn guides

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

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 = 401
MAXIMUM ELEMENT NUMBER = 240

Define center tube
(K's 48-51)
(L's 74-83)
(A's 27-31)

KEYPOINT	48	X,Y,Z=	.100000E-01	.100000E-01	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.100000E-01	.233500	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.233500	.233500	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.233500	.100000E-01	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	34	48			
LINE NO.= 74	KP1= 34	TAN1=	-.7071	-.7071	.0000
	KP2= 48	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 75	KP1= 48	TAN1=	.0000	-1.0000	.0000
	KP2= 49	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	49	40			
LINE NO.= 76	KP1= 49	TAN1=	.7071	-.7071	.0000
	KP2= 40	TAN2=	-.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	49	50			
LINE NO.= 77	KP1= 49	TAN1=	-1.0000	.0000	.0000
	KP2= 50	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS 50 31

LINE NO.= 78 KP1= 50 TAN1= -.7071 -.7071 .0000
 KP2= 31 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 31 40
 LINE NO.= 79 KP1= 31 TAN1= 1.0000 .0000 .0000
 KP2= 40 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 80 KP1= 50 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 51 36
 LINE NO.= 81 KP1= 51 TAN1= -.7071 .7071 .0000
 KP2= 36 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 36 31
 LINE NO.= 82 KP1= 36 TAN1= .0000 -1.0000 .0000
 KP2= 31 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 51 48
 LINE NO.= 83 KP1= 51 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 76 79 78 77
 (TRAVERSED IN SAME DIRECTION AS LINE 76)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES
 LINE LIST = 54 74 75 76
 (TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 74 42 81 83
 (TRAVERSED IN SAME DIRECTION AS LINE 74)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 81 82 78 80
 (TRAVERSED IN SAME DIRECTION AS LINE 81)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 75 83 80 77
 (TRAVERSED IN SAME DIRECTION AS LINE 75)

AREA NUMBER = 31

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 MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 74 TO 83 STEP 1

10 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 76 TO 76 STEP 1

9 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 78 TO 78 STEP 1

8 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

7 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

UNSELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 74 STEP 1

6 LINES (OF 83 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 76 TO 76 STEP 1

1 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 81 TO 81 STEP 1

3 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

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

4 LINES (OF 83 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 83 STEP 1

83 LINES (OF 83 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
First fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 31 STEP 1

31 AREAS (OF 31 DEFINED) SELECTED BY ASEL COMMAND.

GENERATE NODES AND ELEMENTS
IN AREAS 31 TO 31 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 626
MAXIMUM ELEMENT NUMBER = 436

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 27 TO 30 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 708
MAXIMUM ELEMENT NUMBER = 548

Copy tube mesh

Center tubes above
(A's 32 - 36)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .000E+00 .234 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1045
MAXIMUM ELEMENT NUMBER = 856
Center tubes below
(A's 37 - 46)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
SET IS FROM 27 TO 36 IN STEPS OF 1

MAXIMUM NODE NUMBER = 1719
MAXIMUM ELEMENT NUMBER = 1472
(A's 47 - 51)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 27 TO 31 IN STEPS OF 1
DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2056
MAXIMUM ELEMENT NUMBER = 1780
(A's 52 - 56)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 47 TO 51 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2393
MAXIMUM ELEMENT NUMBER = 2088

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 140	USED FOR NODES	766
NODE 217	USED FOR NODES	1431
NODE 141	USED FOR NODES	767
NODE 216	USED FOR NODES	1432
NODE 215	USED FOR NODES	1433
NODE 214	USED FOR NODES	1434
NODE 213	USED FOR NODES	1435
NODE 212	USED FOR NODES	1436
NODE 211	USED FOR NODES	1437
NODE 210	USED FOR NODES	1438
NODE 209	USED FOR NODES	1439
NODE 208	USED FOR NODES	1440
NODE 207	USED FOR NODES	1441
NODE 177	USED FOR NODES	1092
NODE 139	USED FOR NODES	765
NODE 206	USED FOR NODES	1384
NODE 128	USED FOR NODES	710
NODE 31	USED FOR NODES	1091
NODE 176	USED FOR NODES	1093
NODE 175	USED FOR NODES	1094
NODE 174	USED FOR NODES	1095
NODE 173	USED FOR NODES	1096
NODE 172	USED FOR NODES	1097
NODE 171	USED FOR NODES	1098

NODE	170	USED FOR NODES	1099	
NODE	169	USED FOR NODES	1100	
NODE	168	USED FOR NODES	1101	
NODE	167	USED FOR NODES	1102	
NODE	166	USED FOR NODES	1103	
NODE	218	USED FOR NODES	1430	
NODE	219	USED FOR NODES	1429	
NODE	165	USED FOR NODES	1104	
NODE	164	USED FOR NODES	1047	1428
NODE	114	USED FOR NODES	754	
NODE	129	USED FOR NODES	755	
NODE	130	USED FOR NODES	756	
NODE	131	USED FOR NODES	757	
NODE	132	USED FOR NODES	758	
NODE	133	USED FOR NODES	759	
NODE	134	USED FOR NODES	760	
NODE	135	USED FOR NODES	761	
NODE	136	USED FOR NODES	762	
NODE	137	USED FOR NODES	763	
NODE	138	USED FOR NODES	764	
NODE	640	USED FOR NODES	824	
NODE	1062	USED FOR NODES	1498	
NODE	33	USED FOR NODES	1161	
NODE	34	USED FOR NODES	1160	
NODE	639	USED FOR NODES	823	
NODE	1061	USED FOR NODES	1497	
NODE	1060	USED FOR NODES	1496	
NODE	638	USED FOR NODES	822	
NODE	35	USED FOR NODES	1159	
NODE	1059	USED FOR NODES	1495	
NODE	36	USED FOR NODES	1158	
NODE	637	USED FOR NODES	821	
NODE	37	USED FOR NODES	1157	
NODE	636	USED FOR NODES	820	
NODE	1058	USED FOR NODES	1494	
NODE	38	USED FOR NODES	1156	
NODE	635	USED FOR NODES	819	
NODE	1057	USED FOR NODES	1493	
NODE	39	USED FOR NODES	1155	
NODE	634	USED FOR NODES	818	
NODE	1056	USED FOR NODES	1492	
NODE	40	USED FOR NODES	1154	
NODE	633	USED FOR NODES	817	
NODE	1055	USED FOR NODES	1491	
NODE	632	USED FOR NODES	816	
NODE	1054	USED FOR NODES	1490	
NODE	41	USED FOR NODES	1153	
NODE	42	USED FOR NODES	1152	
NODE	631	USED FOR NODES	815	
NODE	1053	USED FOR NODES	1489	
NODE	43	USED FOR NODES	1151	
NODE	630	USED FOR NODES	814	
NODE	1052	USED FOR NODES	1488	
NODE	44	USED FOR NODES	1150	
NODE	629	USED FOR NODES	813	
NODE	1051	USED FOR NODES	1487	
NODE	45	USED FOR NODES	1149	
NODE	628	USED FOR NODES	812	
NODE	1050	USED FOR NODES	1486	
NODE	683	USED FOR NODES	1766	
NODE	370	USED FOR NODES	843	
NODE	369	USED FOR NODES	844	
NODE	684	USED FOR NODES	1767	
NODE	368	USED FOR NODES	845	
NODE	688	USED FOR NODES	1771	
NODE	316	USED FOR NODES	810	1721
NODE	367	USED FOR NODES	846	
NODE	685	USED FOR NODES	1768	
NODE	366	USED FOR NODES	847	
NODE	229	USED FOR NODES	1049	1484 2102

NODE	365	USED FOR NODES	848
NODE	1187	USED FOR NODES	2103
NODE	364	USED FOR NODES	849
NODE	363	USED FOR NODES	850
NODE	692	USED FOR NODES	1775
NODE	1186	USED FOR NODES	2104
NODE	1185	USED FOR NODES	2105
NODE	1184	USED FOR NODES	2106
NODE	1183	USED FOR NODES	2107
NODE	1182	USED FOR NODES	2108
NODE	1181	USED FOR NODES	2109
NODE	1180	USED FOR NODES	2110
NODE	1179	USED FOR NODES	2111
NODE	1178	USED FOR NODES	2112
NODE	1177	USED FOR NODES	2113
NODE	375	USED FOR NODES	838
NODE	1176	USED FOR NODES	2114
NODE	689	USED FOR NODES	1772
NODE	690	USED FOR NODES	1773
NODE	687	USED FOR NODES	1770
NODE	691	USED FOR NODES	1774
NODE	1175	USED FOR NODES	2115
NODE	693	USED FOR NODES	1776
NODE	694	USED FOR NODES	1777
NODE	686	USED FOR NODES	1769
NODE	273	USED FOR NODES	1386
NODE	695	USED FOR NODES	1778
NODE	274	USED FOR NODES	1512
NODE	275	USED FOR NODES	1513
NODE	276	USED FOR NODES	1514
NODE	32	USED FOR NODES	1147
NODE	17	USED FOR NODES	1765
NODE	277	USED FOR NODES	1515
NODE	278	USED FOR NODES	1516
NODE	279	USED FOR NODES	1517
NODE	280	USED FOR NODES	1518
NODE	361	USED FOR NODES	712
NODE	281	USED FOR NODES	1519
NODE	282	USED FOR NODES	1520
NODE	283	USED FOR NODES	1521
NODE	284	USED FOR NODES	1522
NODE	285	USED FOR NODES	1523
NODE	286	USED FOR NODES	1524
NODE	371	USED FOR NODES	842
NODE	374	USED FOR NODES	839
NODE	372	USED FOR NODES	841
NODE	373	USED FOR NODES	840
NODE	75	USED FOR NODES	2073
NODE	59	USED FOR NODES	1835
NODE	319	USED FOR NODES	1736
NODE	242	USED FOR NODES	2172
NODE	320	USED FOR NODES	1735
NODE	58	USED FOR NODES	1834
NODE	76	USED FOR NODES	2072
NODE	241	USED FOR NODES	2171
NODE	321	USED FOR NODES	1734
NODE	57	USED FOR NODES	1833
NODE	77	USED FOR NODES	2071
NODE	240	USED FOR NODES	2170
NODE	322	USED FOR NODES	1733
NODE	56	USED FOR NODES	1832
NODE	78	USED FOR NODES	2070
NODE	239	USED FOR NODES	2169
NODE	79	USED FOR NODES	2069
NODE	238	USED FOR NODES	2168
NODE	323	USED FOR NODES	1732
NODE	55	USED FOR NODES	1831
NODE	80	USED FOR NODES	2068
NODE	54	USED FOR NODES	1830
NODE	237	USED FOR NODES	2167

2058

NODE	324	USED FOR NODES	1731
NODE	81	USED FOR NODES	2067
NODE	53	USED FOR NODES	1829
NODE	236	USED FOR NODES	2166
NODE	325	USED FOR NODES	1730
NODE	52	USED FOR NODES	1828
NODE	235	USED FOR NODES	2165
NODE	82	USED FOR NODES	2066
NODE	326	USED FOR NODES	1729
NODE	83	USED FOR NODES	2065
NODE	51	USED FOR NODES	1827
NODE	327	USED FOR NODES	1728
NODE	234	USED FOR NODES	2164
NODE	84	USED FOR NODES	2064
NODE	50	USED FOR NODES	1826
NODE	233	USED FOR NODES	2163
NODE	328	USED FOR NODES	1727
NODE	85	USED FOR NODES	2063
NODE	49	USED FOR NODES	1825
NODE	329	USED FOR NODES	1726
NODE	232	USED FOR NODES	2162
NODE	86	USED FOR NODES	2062
NODE	330	USED FOR NODES	1725
NODE	48	USED FOR NODES	1824
NODE	231	USED FOR NODES	2161
NODE	87	USED FOR NODES	2061
NODE	47	USED FOR NODES	1823
NODE	230	USED FOR NODES	2160
NODE	331	USED FOR NODES	1724
NODE	46	USED FOR NODES	1821
NODE	228	USED FOR NODES	2158
NODE	74	USED FOR NODES	2060
NODE	318	USED FOR NODES	1723

*** WARNING *** CP= 10.140 TIME= 09:35:19
 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= 10.460 TIME= 09:35:19
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.470 TIME= 09:35:19
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.470 TIME= 09:35:19
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.480 TIME= 09:35:19
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

KEYPOINT	31	USED FOR KEYPOINT(S)	59	77	
KEYPOINT	33	USED FOR KEYPOINT(S)	62	75	88
KEYPOINT	35	USED FOR KEYPOINT(S)	64		
KEYPOINT	36	USED FOR KEYPOINT(S)	80		
KEYPOINT	37	USED FOR KEYPOINT(S)	67	85	
KEYPOINT	38	USED FOR KEYPOINT(S)	83		

```

KEYPOINT    39 USED FOR KEYPOINT(S)    86
KEYPOINT    40 USED FOR KEYPOINT(S)    56
KEYPOINT    42 USED FOR KEYPOINT(S)    53
KEYPOINT    44 USED FOR KEYPOINT(S)    61    72
KEYPOINT    46 USED FOR KEYPOINT(S)    69
LINE        44 USED FOR LINE(S)    105
LINE        48 USED FOR LINE(S)    129
LINE        49 USED FOR LINE(S)    133
LINE        57 USED FOR LINE(S)    88
LINE        64 USED FOR LINE(S)    100
LINE        67 USED FOR LINE(S)    112
LINE        79 USED FOR LINE(S)    93
LINE        82 USED FOR LINE(S)    124
LINE        97 USED FOR LINE(S)    117
LINE       106 USED FOR LINE(S)    136

```

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

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

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    14 TO      18 STEP      2

    3 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

```

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    21 TO      25 STEP      2

    6 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

```

*** WARNING *** CP= 10.630 TIME= 09:35:20
LSIZE is not a recognized PREP7 command, abbreviation, or macro.
This command will be ignored.

```

ALL SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    1 TO      143 STEP      1

    133 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

```

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    13 TO      19 STEP      1

    7 LINES (OF 133 DEFINED) SELECTED BY LSEL COMMAND.

```

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 88 KP1= 15 KP2= 22

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    20 TO      26 STEP      1

    7 LINES (OF 134 DEFINED) SELECTED BY LSEL COMMAND.

```

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 93 KP1= 22 KP2= 29

```

ALL SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    1 TO      143 STEP      1

    135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

```

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 54, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)

TO NDIV = 54, SPACING RATIO = 1.000
 SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000
 SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000
 SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000
 ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.
 MATERIAL NUMBER SET TO 2
 ELEMENT TYPE SET TO 1
 GENERATE NODES AND ELEMENTS
 IN AREAS 3 TO 4 IN STEPS OF 1
 NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 2810
 MAXIMUM ELEMENT NUMBER = 2412
 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 135 DEFINED) SELECTED BY LSEL COMMAND.
 SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 54, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 143 STEP 1
 135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.
 SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000
 SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000
 SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, 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 = 3246
 MAXIMUM ELEMENT NUMBER = 2844

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 14.790 TIME= 09:35:28
 Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 14.820 TIME= 09:35:28
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.820 TIME= 09:35:28
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.820 TIME= 09:35:28
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 14.830 TIME= 09:35:28
 Keypoints 20 and 78 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) 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
** AREA	5 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **
** AREA	6 MESHED WITH	132 QUADRILATERALS,	4 TRIANGLES **

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 3470
 MAXIMUM ELEMENT NUMBER = 3116

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.)

GENERATE NODES AND ELEMENTS

IN AREAS	23 TO	26 IN STEPS OF	1
** AREA	23 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **
** AREA	24 MESHED WITH	40 QUADRILATERALS,	7 TRIANGLES **
** AREA	25 MESHED WITH	38 QUADRILATERALS,	9 TRIANGLES **
** AREA	26 MESHED WITH	41 QUADRILATERALS,	7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 3633
 MAXIMUM ELEMENT NUMBER = 3305

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 725 USED FOR NODES 3471
 NODE 1399 USED FOR NODES 3604
 NODE 724 USED FOR NODES 3472
 NODE 1398 USED FOR NODES 3603
 NODE 723 USED FOR NODES 3473
 NODE 1397 USED FOR NODES 3602

NODE	722	USED FOR NODES	3474
NODE	1396	USED FOR NODES	3601
NODE	721	USED FOR NODES	3475
NODE	1395	USED FOR NODES	3600
NODE	720	USED FOR NODES	3476
NODE	1394	USED FOR NODES	3599
NODE	719	USED FOR NODES	3477
NODE	1393	USED FOR NODES	3598
NODE	718	USED FOR NODES	3478
NODE	1392	USED FOR NODES	3597
NODE	717	USED FOR NODES	3479
NODE	1391	USED FOR NODES	3596
NODE	716	USED FOR NODES	3480
NODE	1390	USED FOR NODES	3595
NODE	715	USED FOR NODES	3481
NODE	1389	USED FOR NODES	3594
NODE	714	USED FOR NODES	3482
NODE	1388	USED FOR NODES	3593
NODE	713	USED FOR NODES	3483
NODE	1387	USED FOR NODES	3592
NODE	1853	USED FOR NODES	3519
NODE	2190	USED FOR NODES	3560
NODE	1854	USED FOR NODES	3518
NODE	2192	USED FOR NODES	3558
NODE	2186	USED FOR NODES	3564
NODE	2193	USED FOR NODES	3557
NODE	1861	USED FOR NODES	3511
NODE	1849	USED FOR NODES	3523
NODE	1856	USED FOR NODES	3516
NODE	2191	USED FOR NODES	3559
NODE	1851	USED FOR NODES	3521
NODE	1852	USED FOR NODES	3520
NODE	2198	USED FOR NODES	3552
NODE	1858	USED FOR NODES	3514
NODE	1855	USED FOR NODES	3517
NODE	2195	USED FOR NODES	3555
NODE	2189	USED FOR NODES	3561
NODE	2197	USED FOR NODES	3553
NODE	1860	USED FOR NODES	3512
NODE	2188	USED FOR NODES	3562
NODE	1850	USED FOR NODES	3522
NODE	1859	USED FOR NODES	3513
NODE	2187	USED FOR NODES	3563
NODE	1857	USED FOR NODES	3515
NODE	2196	USED FOR NODES	3554
NODE	2194	USED FOR NODES	3556

*** WARNING *** CP= 17.970 TIME= 09:35:34
 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= 18.220 TIME= 09:35:35
 Keypoints 27 and 70 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.220 TIME= 09:35:35
 Keypoints 17 and 54 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 18.220 TIME= 09:35:35
 Keypoints 24 and 91 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (1.702564632E-05) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 18.230 TIME= 09:35:35

Keypoints 20 and 78 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (1.702564632E-05) exceeds the tolerance (2.335E-06).

Create radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 70 TO 73 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3361

GENERATE NODES AND ELEMENTS
ON LINES 14 TO 18 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3409

GENERATE NODES AND ELEMENTS
ON LINES 21 TO 25 IN STEPS OF 2

NUMBER OF LINES MESHED = 3
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3457

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 29 TO 30 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3485

GENERATE NODES AND ELEMENTS
ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3513

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 60 TO 60 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3517

GENERATE NODES AND ELEMENTS
ON LINES 69 TO 69 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 3633

MAXIMUM ELEMENT NUMBER = 3521

GENERATE NODES AND ELEMENTS
ON LINES 51 TO 52 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 3633
MAXIMUM ELEMENT NUMBER = 3529

***** ROUTINE COMPLETED ***** CP = 18.430

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 .76525E-01 .00000E+00 .00000E+00

TITLE=
12 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

3068 ELEMENTS (OF 3529 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=
12 PWR UCF/Waste Package - 1/2 FEM Model

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.
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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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=

12 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=

12 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 09:35:43 SEP 07, 1995 CP= 22.180
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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

224 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

224 NODES (OF 3379 DEFINED) SELECTED FROM
224 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= 22.360 TIME= 09:35:43
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= 224 NUMBER OF NODES= 224

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3529 STEP 1

3529 ELEMENTS (OF 3529 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.230

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:36:00 SEP 07, 1995 CP= 32.230
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 3530 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 3530

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 3530
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

18 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 32.270 TIME= 09:36:00
Nodes cannot be cleared from line 14 because area 23 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.270 TIME= 09:36:00
Nodes cannot be cleared from line 16 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.280 TIME= 09:36:00
Nodes cannot be cleared from line 18 because area 24 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.290 TIME= 09:36:00
Nodes cannot be cleared from line 21 because area 25 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.290 TIME= 09:36:00
Nodes cannot be cleared from line 23 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.300 TIME= 09:36:00
Nodes cannot be cleared from line 25 because area 26 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.310 TIME= 09:36:00
Nodes cannot be cleared from line 29 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 32.310 TIME= 09:36:00

Nodes cannot be cleared from line 30 because area 5 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.320 TIME= 09:36:00
Nodes cannot be cleared from line 33 because area 6 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.330 TIME= 09:36:00
Nodes cannot be cleared from line 34 because area 6 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.340 TIME= 09:36:00
Nodes cannot be cleared from line 51 because area 16 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.340 TIME= 09:36:00
Nodes cannot be cleared from line 52 because area 15 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.340 TIME= 09:36:00
Nodes cannot be cleared from line 60 because area 19 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.350 TIME= 09:36:00
Nodes cannot be cleared from line 69 because area 22 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.350 TIME= 09:36:00
Nodes cannot be cleared from line 70 because area 23 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.350 TIME= 09:36:00
Nodes cannot be cleared from line 71 because area 24 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.360 TIME= 09:36:00
Nodes cannot be cleared from line 72 because area 25 is meshed. Only elements are deleted.

*** NOTE *** CP= 32.370 TIME= 09:36:00
Nodes cannot be cleared from line 73 because area 26 is meshed. Only elements are deleted.

CLEARED 18 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 32.380

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= 32.390 TIME= 09:36:00
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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 3633 BY 1
REAL= 26.1413043 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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= 33.390 TIME= 09:36:02
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 09:36:02 SEP 07, 1995 CP= 33.390
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 OPTION.PROGRAM CHOSEN

*** NOTE *** CP= 34.070 TIME= 09:36:04
This load step will be a static (steady-state) step.

*** NOTE *** CP= 34.380 TIME= 09:36:04
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 = 2585.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .26857	IXX = 260.8	IXX = 260.8
YC = -.36772E-11	IYY = 260.8	IYY = 74.23
ZC = .00000E+00	IZZ = 521.5	IZZ = 335.0
	IXY = -.1208E-08	IXY = -.3762E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
1 2585.95

Range of element maximum matrix coefficients in global coordinates
Maximum= 329.296048 at element 97.
Minimum= 4.296058466E-09 at element 3530.

*** WARNING *** CP= 47.380 TIME= 09:36:28
Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	8.880	.003
18	1	MATRIX50	.060	.060

Time at end of element matrix formulation CP= 47.39.

HT FLOW CONVERGENCE VALUE= .1100E+05 CRITERION= 11.00

Estimated number of active DOF= 3270.
Maximum wavefront= 271.

Time at end of matrix triangularization CP= 59.59.

Equation solver maximum pivot= 614.24291 at node 4 TEMP.

Equation solver minimum pivot= 0.317532065 at node 3348 TEMP.

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 170.3
HT FLOW CONVERGENCE VALUE= 45.66 CRITERION= .2164

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -26.81
HT FLOW CONVERGENCE VALUE= 3.212 CRITERION= .2110

EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.402
HT FLOW CONVERGENCE VALUE= .1712 CRITERION= .2102 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	4.740	.001
18	1	MATRIX50	.100	.100

*** NODAL LOAD CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	3305	PLANE55	.600	.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 = 3270
R.M.S. WAVEFRONT SIZE = 127.9

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096

1.563 MB WRITTEN ON ELEMENT MATRIX FILE: ucf12h.emat

1.484 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf12h.esav

3.188 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf12h.tri

.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf12h.dsub

1.813 MB WRITTEN ON RESULTS FILE: ucf12h.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 135 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

109 NODES (OF 3379 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 3633 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 109

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 143 STEP 1

135 LINES (OF 135 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 3633 STEP 1

3379 NODES (OF 3379 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.859 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.782 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.678 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 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 = 109

*** WARNING *** CP= 128.220 TIME= 09:39:02
This load step will be a static (steady-state) step.

*** NOTE *** CP= 128.520 TIME= 09:39:03
The step data was checked and warning messages were found.
Please review output or errors file (ucf12h.err) for these warning messages.

*** NOTE *** CP= 128.520 TIME= 09:39:03
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 09:39:03 SEP 07, 1995 CP= 128.520
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .1330E+05 CRITERION= 13.30
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 31.81
HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2081
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.677
HT FLOW CONVERGENCE VALUE= 1.082 CRITERION= .2066
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6821
HT FLOW CONVERGENCE VALUE= .5401E-01 CRITERION= .2063 <<< 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
6 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 57.859 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 57.782 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 57.678 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 209.230 TIME= 09:41:38
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 09:41:38 SEP 07, 1995 CP= 209.230
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= .5401E-01 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1123E-03
 HT FLOW CONVERGENCE VALUE= .2104E-05 CRITERION= .2063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
 *** TIME = .788942 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .1432 OSCILLATION LIMIT = .1130
 *** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1043 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307E-03
 HT FLOW CONVERGENCE VALUE= .3103E-05 CRITERION= .2063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .7123E-01 OSCILLATION LIMIT = .5620E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .1007 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2462E-03
 HT FLOW CONVERGENCE VALUE= .5967E-05 CRITERION= .2063 <<< 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 = .1507E-01 OSCILLATION LIMIT = .3567E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .9806E-01 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2256E-03
 HT FLOW CONVERGENCE VALUE= .1251E-04 CRITERION= .2063 <<< 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 = .2499E-02 OSCILLATION LIMIT = .1577E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9686E-01 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7524E-04
 HT FLOW CONVERGENCE VALUE= .1123E-04 CRITERION= .2063 <<< 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 = .1121E-02 OSCILLATION LIMIT = .7074E-02
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9626E-01 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7509E-04
 HT FLOW CONVERGENCE VALUE= .1063E-04 CRITERION= .2063 <<< 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 = .9475E-03 OSCILLATION LIMIT = .5980E-02
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9570E-01 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7493E-04
 HT FLOW CONVERGENCE VALUE= .1028E-04 CRITERION= .2063 <<< 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 = .8849E-03 OSCILLATION LIMIT = .5585E-02
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

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HT FLOW CONVERGENCE VALUE= .9520E-01 CRITERION= .2063
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2806E-04
HT FLOW CONVERGENCE VALUE= .3778E-05 CRITERION= .2063 <<< 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 = .8651E-03 OSCILLATION LIMIT = .2047E-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 09:51:12 SEP 07, 1995 CP= 535.810
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 261.7 CRITERION= .3333
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6592
HT FLOW CONVERGENCE VALUE= .2816 CRITERION= .2053
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6828E-01
HT FLOW CONVERGENCE VALUE= .1207E-01 CRITERION= .2053 <<< 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 = .7500E-05 OSCILLATION LIMIT = .5917
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 261.9 CRITERION= .3327
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6808
HT FLOW CONVERGENCE VALUE= .3323 CRITERION= .2058
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9335E-01
HT FLOW CONVERGENCE VALUE= .1363E-01 CRITERION= .2058 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
*** TIME = 157820. TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .3958E-06 OSCILLATION LIMIT = .3123E-01
*** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

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HT FLOW CONVERGENCE VALUE= 785.1 CRITERION= .8116
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.978
HT FLOW CONVERGENCE VALUE= .9506 CRITERION= .2050
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3180
HT FLOW CONVERGENCE VALUE= .5133E-01 CRITERION= .2050 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
*** TIME = 394502. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .1173E-05 OSCILLATION LIMIT = .2776
*** AUTO TIME STEP: NEXT TIME INC = .42636E+06 INCREASED (FACTOR = 1.8014)

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HT FLOW CONVERGENCE VALUE= 1414. CRITERION= 1.429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
HT FLOW CONVERGENCE VALUE= 1.725 CRITERION= .2051
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6215
HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .2050 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
*** TIME = 820866. TIME INC = 426365.
*** RESPONSE EIGENVALUE = .8843E-06 OSCILLATION LIMIT = .3770
*** AUTO STEP TIME: NEXT TIME INC = .42636E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1414. CRITERION= 1.429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
HT FLOW CONVERGENCE VALUE= 1.758 CRITERION= .2040
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6083
HT FLOW CONVERGENCE VALUE= .9755E-01 CRITERION= .2040 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP      4  SUBSTEP      5  COMPLETED.    CUM ITER =    24
*** TIME = .124723E+07    TIME INC = 426365.
*** RESPONSE EIGENVALUE = .9621E-06    OSCILLATION LIMIT = .4102
*** AUTO STEP TIME: NEXT TIME INC = .42636E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1414.    CRITERION= 1.428
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
    HT FLOW CONVERGENCE VALUE= 1.736    CRITERION= .2040
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6090
    HT FLOW CONVERGENCE VALUE= .9817E-01    CRITERION= .2039    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP      4  SUBSTEP      6  COMPLETED.    CUM ITER =    26
*** TIME = .167360E+07    TIME INC = 426365.
*** RESPONSE EIGENVALUE = .8344E-06    OSCILLATION LIMIT = .3557
*** AUTO STEP TIME: NEXT TIME INC = .42636E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1413.    CRITERION= 1.428
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
    HT FLOW CONVERGENCE VALUE= 1.685    CRITERION= .2030
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5979
    HT FLOW CONVERGENCE VALUE= .9688E-01    CRITERION= .2029    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP      4  SUBSTEP      7  COMPLETED.    CUM ITER =    28
*** TIME = .209996E+07    TIME INC = 426365.
*** RESPONSE EIGENVALUE = .9269E-06    OSCILLATION LIMIT = .3952
*** AUTO STEP TIME: NEXT TIME INC = .42636E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1413.    CRITERION= 1.427
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
    HT FLOW CONVERGENCE VALUE= 1.546    CRITERION= .2030
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5974
    HT FLOW CONVERGENCE VALUE= .9593E-01    CRITERION= .2029    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP      4  SUBSTEP      8  COMPLETED.    CUM ITER =    30
*** TIME = .252633E+07    TIME INC = 426365.
*** RESPONSE EIGENVALUE = .8319E-06    OSCILLATION LIMIT = .3547
*** AUTO STEP TIME: NEXT TIME INC = .42636E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1412.    CRITERION= 1.427
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.562
    HT FLOW CONVERGENCE VALUE= 1.532    CRITERION= .2020
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5895
    HT FLOW CONVERGENCE VALUE= .9583E-01    CRITERION= .2019    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP      4  SUBSTEP      9  COMPLETED.    CUM ITER =    32
*** TIME = .295269E+07    TIME INC = 426365.
*** RESPONSE EIGENVALUE = .9085E-06    OSCILLATION LIMIT = .3873
*** AUTO TIME STEP: NEXT TIME INC = .20310E+06    DECREASED (FACTOR = .4764)

    HT FLOW CONVERGENCE VALUE= 672.8    CRITERION= .7024
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.697
    HT FLOW CONVERGENCE VALUE= .7798    CRITERION= .2021
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2614
    HT FLOW CONVERGENCE VALUE= .4259E-01    CRITERION= .2021    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP      4  SUBSTEP     10  COMPLETED.    CUM ITER =    34
*** TIME = .315579E+07    TIME INC = 203101.
*** RESPONSE EIGENVALUE = .7575E-06    OSCILLATION LIMIT = .1538

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:10:05 SEP 07, 1995 CP= 1129.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 195.1 CRITERION= .2809

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6188
 HT FLOW CONVERGENCE VALUE= .2582 CRITERION= .2023
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9423E-01
 HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .2023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
 *** TIME = .335889E+07 TIME INC = 203101.
 *** RESPONSE EIGENVALUE = .7380E-06 OSCILLATION LIMIT = .1499
 *** AUTO STEP TIME: NEXT TIME INC = .20310E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 195.2 CRITERION= .2811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4667
 HT FLOW CONVERGENCE VALUE= .2103 CRITERION= .2020
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6021E-01
 HT FLOW CONVERGENCE VALUE= .1146E-01 CRITERION= .2020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 38
 *** TIME = .356199E+07 TIME INC = 203101.
 *** RESPONSE EIGENVALUE = .5274E-05 OSCILLATION LIMIT = 1.071
 *** AUTO TIME STEP: NEXT TIME INC = 94806. DECREASED (FACTOR = .4668)

HT FLOW CONVERGENCE VALUE= 91.06 CRITERION= .2216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2702
 HT FLOW CONVERGENCE VALUE= .1198 CRITERION= .2020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 39
 *** TIME = .365680E+07 TIME INC = 94806.1
 *** RESPONSE EIGENVALUE = .8848E-06 OSCILLATION LIMIT = .8389E-01
 *** AUTO STEP TIME: NEXT TIME INC = 94806. UNCHANGED

HT FLOW CONVERGENCE VALUE= 91.13 CRITERION= .2216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2193
 HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .2020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 40
 *** TIME = .375161E+07 TIME INC = 94806.1
 *** RESPONSE EIGENVALUE = .2662E-05 OSCILLATION LIMIT = .2524
 *** AUTO TIME STEP: NEXT TIME INC = .18782E+06 INCREASED (FACTOR = 1.9811)

HT FLOW CONVERGENCE VALUE= 180.4 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4318
 HT FLOW CONVERGENCE VALUE= .2118 CRITERION= .2019
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6348E-01
 HT FLOW CONVERGENCE VALUE= .1125E-01 CRITERION= .2019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 42
 *** TIME = .393943E+07 TIME INC = 187819.
 *** RESPONSE EIGENVALUE = .2135E-05 OSCILLATION LIMIT = .4009
 *** AUTO STEP TIME: NEXT TIME INC = .18782E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 180.5 CRITERION= .2707
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4322
 HT FLOW CONVERGENCE VALUE= .2097 CRITERION= .2018
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6490E-01
 HT FLOW CONVERGENCE VALUE= .1117E-01 CRITERION= .2018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 44
 *** TIME = .412724E+07 TIME INC = 187819.
 *** RESPONSE EIGENVALUE = .1438E-05 OSCILLATION LIMIT = .2700
 *** AUTO TIME STEP: NEXT TIME INC = .34778E+06 INCREASED (FACTOR = 1.8517)

HT FLOW CONVERGENCE VALUE= 334.0 CRITERION= .3903
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7992
 HT FLOW CONVERGENCE VALUE= .4003 CRITERION= .2016
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1329
 HT FLOW CONVERGENCE VALUE= .2307E-01 CRITERION= .2016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 46
 *** TIME = .447503E+07 TIME INC = 347783.
 *** RESPONSE EIGENVALUE = .1200E-05 OSCILLATION LIMIT = .4172

*** AUTO STEP TIME: NEXT TIME INC = .34778E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 334.1 CRITERION= .3901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8001
 HT FLOW CONVERGENCE VALUE= .3962 CRITERION= .2015
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1318
 HT FLOW CONVERGENCE VALUE= .2288E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 48
 *** TIME = .482281E+07 TIME INC = 347783.
 *** RESPONSE EIGENVALUE = .1224E-05 OSCILLATION LIMIT = .4257
 *** AUTO STEP TIME: NEXT TIME INC = .34778E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 334.0 CRITERION= .3900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7991
 HT FLOW CONVERGENCE VALUE= .4011 CRITERION= .2012
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1327
 HT FLOW CONVERGENCE VALUE= .2307E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 50
 *** TIME = .517059E+07 TIME INC = 347783.
 *** RESPONSE EIGENVALUE = .1165E-05 OSCILLATION LIMIT = .4053
 *** AUTO STEP TIME: NEXT TIME INC = .34778E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 334.0 CRITERION= .3899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8001
 HT FLOW CONVERGENCE VALUE= .3953 CRITERION= .2011
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1315
 HT FLOW CONVERGENCE VALUE= .2289E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 52
 *** TIME = .551838E+07 TIME INC = 347783.
 *** RESPONSE EIGENVALUE = .1190E-05 OSCILLATION LIMIT = .4140
 *** AUTO STEP TIME: NEXT TIME INC = .34778E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 333.9 CRITERION= .3898
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7991
 HT FLOW CONVERGENCE VALUE= .4007 CRITERION= .2008
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1319
 HT FLOW CONVERGENCE VALUE= .2305E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 54
 *** TIME = .586616E+07 TIME INC = 347783.
 *** RESPONSE EIGENVALUE = .1176E-05 OSCILLATION LIMIT = .4091
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 DECREASED (FACTOR = .6403)

HT FLOW CONVERGENCE VALUE= 213.9 CRITERION= .2934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5124
 HT FLOW CONVERGENCE VALUE= .2528 CRITERION= .2008
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7974E-01
 HT FLOW CONVERGENCE VALUE= .1387E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 56
 *** TIME = .608886E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1165E-05 OSCILLATION LIMIT = .2594
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 213.8 CRITERION= .2933
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5117
 HT FLOW CONVERGENCE VALUE= .2551 CRITERION= .2006
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7963E-01
 HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .2006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 58
 *** TIME = .631155E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1221E-05 OSCILLATION LIMIT = .2720

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:32:18 SEP 07, 1995 CP= 1858.100
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2453
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3401
HT FLOW CONVERGENCE VALUE= .1689 CRITERION= .2007 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 59
*** TIME = .653425E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .2750E-06 OSCILLATION LIMIT = .6123E-01
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2454
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
HT FLOW CONVERGENCE VALUE= .1608 CRITERION= .2004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 60
*** TIME = .675694E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1927E-05 OSCILLATION LIMIT = .4291
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3407
HT FLOW CONVERGENCE VALUE= .1607 CRITERION= .2005 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 61
*** TIME = .697964E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1366E-05 OSCILLATION LIMIT = .3041
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
HT FLOW CONVERGENCE VALUE= .1594 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 62
*** TIME = .720233E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1614E-05 OSCILLATION LIMIT = .3595
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3407
HT FLOW CONVERGENCE VALUE= .1573 CRITERION= .2003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 63
*** TIME = .742503E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1394E-05 OSCILLATION LIMIT = .3104
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
HT FLOW CONVERGENCE VALUE= .1572 CRITERION= .2000 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 64
*** TIME = .764772E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1569E-05 OSCILLATION LIMIT = .3494
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3407
HT FLOW CONVERGENCE VALUE= .1552 CRITERION= .2001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 65
*** TIME = .787042E+07 TIME INC = 222695.
*** RESPONSE EIGENVALUE = .1400E-05 OSCILLATION LIMIT = .3118
*** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
 HT FLOW CONVERGENCE VALUE= .1542 CRITERION= .1998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 66
 *** TIME = .809312E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1540E-05 OSCILLATION LIMIT = .3429
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3404
 HT FLOW CONVERGENCE VALUE= .1542 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 67
 *** TIME = .831581E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1400E-05 OSCILLATION LIMIT = .3117
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
 HT FLOW CONVERGENCE VALUE= .1547 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 68
 *** TIME = .853851E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1518E-05 OSCILLATION LIMIT = .3380
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.3 CRITERION= .2445
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3403
 HT FLOW CONVERGENCE VALUE= .1531 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 69
 *** TIME = .876120E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1395E-05 OSCILLATION LIMIT = .3107
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2445
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3381
 HT FLOW CONVERGENCE VALUE= .1555 CRITERION= .1994 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 70
 *** TIME = .898390E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1500E-05 OSCILLATION LIMIT = .3340
 *** AUTO STEP TIME: NEXT TIME INC = .22270E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.2 CRITERION= .2444
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3403
 HT FLOW CONVERGENCE VALUE= .1553 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 71
 *** TIME = .920659E+07 TIME INC = 222695.
 *** RESPONSE EIGENVALUE = .1392E-05 OSCILLATION LIMIT = .3100
 *** AUTO STEP TIME: NEXT TIME INC = .13036E+06 DECREASED (FACTOR = .5854)

HT FLOW CONVERGENCE VALUE= 82.62 CRITERION= .2159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1979
 HT FLOW CONVERGENCE VALUE= .8948E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 72
 *** TIME = .933695E+07 TIME INC = 130359.
 *** RESPONSE EIGENVALUE = .2915E-05 OSCILLATION LIMIT = .3799
 *** AUTO STEP TIME: NEXT TIME INC = .13036E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.70 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1995
 HT FLOW CONVERGENCE VALUE= .9223E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 73
 *** TIME = .946731E+07 TIME INC = 130359.
 *** RESPONSE EIGENVALUE = .1802E-05 OSCILLATION LIMIT = .2349

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:50:54 SEP 07, 1995 CP= 2462.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 63.45 CRITERION= .2092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1521
 HT FLOW CONVERGENCE VALUE= .7232E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 74
 *** TIME = .959767E+07 TIME INC = 130359.
 *** RESPONSE EIGENVALUE = .1433E-05 OSCILLATION LIMIT = .1868
 *** AUTO STEP TIME: NEXT TIME INC = .13036E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.52 CRITERION= .2091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1532
 HT FLOW CONVERGENCE VALUE= .6975E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 75
 *** TIME = .972803E+07 TIME INC = 130359.
 *** RESPONSE EIGENVALUE = .2701E-05 OSCILLATION LIMIT = .3520
 *** AUTO STEP TIME: NEXT TIME INC = .13036E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.45 CRITERION= .2091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1521
 HT FLOW CONVERGENCE VALUE= .7153E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 76
 *** TIME = .985839E+07 TIME INC = 130359.
 *** RESPONSE EIGENVALUE = .1476E-05 OSCILLATION LIMIT = .1925
 *** AUTO TIME STEP: NEXT TIME INC = .33864E+06 INCREASED (FACTOR = 2.5977)

HT FLOW CONVERGENCE VALUE= 164.9 CRITERION= .2585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3963
 HT FLOW CONVERGENCE VALUE= .1815 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 77
 *** TIME = .101970E+08 TIME INC = 338639.
 *** RESPONSE EIGENVALUE = .8654E-06 OSCILLATION LIMIT = .2931
 *** AUTO TIME STEP: NEXT TIME INC = .57777E+06 INCREASED (FACTOR = 1.7062)

HT FLOW CONVERGENCE VALUE= 281.3 CRITERION= .3446
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6740
 HT FLOW CONVERGENCE VALUE= .3187 CRITERION= .1987
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1040
 HT FLOW CONVERGENCE VALUE= .1938E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 79
 *** TIME = .107748E+08 TIME INC = 577771.
 *** RESPONSE EIGENVALUE = .2752E-05 OSCILLATION LIMIT = 1.590
 *** AUTO TIME STEP: NEXT TIME INC = .19259E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 93.81 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2253
 HT FLOW CONVERGENCE VALUE= .1112 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 80
 *** TIME = .109674E+08 TIME INC = 192590.
 *** RESPONSE EIGENVALUE = .8737E-06 OSCILLATION LIMIT = .1683
 *** AUTO STEP TIME: NEXT TIME INC = .19259E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.73 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2247
 HT FLOW CONVERGENCE VALUE= .1125 CRITERION= .1986 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 81
*** TIME = .111600E+08 TIME INC = 192590.
*** RESPONSE EIGENVALUE = .9977E-06 OSCILLATION LIMIT = .1921
*** AUTO TIME STEP: NEXT TIME INC = .50115E+06 INCREASED (FACTOR = 2.6022)

HT FLOW CONVERGENCE VALUE= 244.0 CRITERION= .3146
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5858
HT FLOW CONVERGENCE VALUE= .2825 CRITERION= .1985
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8876E-01
HT FLOW CONVERGENCE VALUE= .1663E-01 CRITERION= .1985 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 83
*** TIME = .116611E+08 TIME INC = 501154.
*** RESPONSE EIGENVALUE = .2756E-05 OSCILLATION LIMIT = 1.381
*** AUTO TIME STEP: NEXT TIME INC = .18142E+06 DECREASED (FACTOR = .3620)

HT FLOW CONVERGENCE VALUE= 88.29 CRITERION= .2172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2116
HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .1983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 84
*** TIME = .118426E+08 TIME INC = 181421.
*** RESPONSE EIGENVALUE = .3086E-06 OSCILLATION LIMIT = .5599E-01
*** AUTO STEP TIME: NEXT TIME INC = .18142E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.36 CRITERION= .2171
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2133
HT FLOW CONVERGENCE VALUE= .1049 CRITERION= .1983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 85
*** TIME = .120240E+08 TIME INC = 181421.
*** RESPONSE EIGENVALUE = .1535E-05 OSCILLATION LIMIT = .2784
*** AUTO TIME STEP: NEXT TIME INC = .32577E+06 INCREASED (FACTOR = 1.7957)

HT FLOW CONVERGENCE VALUE= 158.6 CRITERION= .2539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3800
HT FLOW CONVERGENCE VALUE= .1882 CRITERION= .1981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 86
*** TIME = .123497E+08 TIME INC = 325772.
*** RESPONSE EIGENVALUE = .1093E-05 OSCILLATION LIMIT = .3561
*** AUTO TIME STEP: NEXT TIME INC = .27332E+06 DECREASED (FACTOR = .8390)

HT FLOW CONVERGENCE VALUE= 133.1 CRITERION= .2386
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3207
HT FLOW CONVERGENCE VALUE= .1547 CRITERION= .1981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 87
*** TIME = .126231E+08 TIME INC = 273324.
*** RESPONSE EIGENVALUE = .1719E-05 OSCILLATION LIMIT = .4700

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:06:25 SEP 07, 1995 CP= 2986.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 108.4 CRITERION= .2259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
HT FLOW CONVERGENCE VALUE= .1222 CRITERION= .1979 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 88
*** TIME = .128964E+08 TIME INC = 273324.
*** RESPONSE EIGENVALUE = .2376E-05 OSCILLATION LIMIT = .6495
*** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 108.5 CRITERION= .2257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2609
 HT FLOW CONVERGENCE VALUE= .1238 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 89
 *** TIME = .131697E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1927E-05 OSCILLATION LIMIT = .5268
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.4 CRITERION= .2257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1241 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 90
 *** TIME = .134430E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1851E-05 OSCILLATION LIMIT = .5060
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.5 CRITERION= .2255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2610
 HT FLOW CONVERGENCE VALUE= .1245 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 91
 *** TIME = .137164E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1915E-05 OSCILLATION LIMIT = .5235
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.4 CRITERION= .2255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1227 CRITERION= .1975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 92
 *** TIME = .139897E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1883E-05 OSCILLATION LIMIT = .5147
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.5 CRITERION= .2254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2609
 HT FLOW CONVERGENCE VALUE= .1160 CRITERION= .1976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 93
 *** TIME = .142630E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1885E-05 OSCILLATION LIMIT = .5151
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.5 CRITERION= .2254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1152 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 94
 *** TIME = .145363E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1906E-05 OSCILLATION LIMIT = .5208
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.6 CRITERION= .2252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2607
 HT FLOW CONVERGENCE VALUE= .1109 CRITERION= .1974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 95
 *** TIME = .148097E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1866E-05 OSCILLATION LIMIT = .5101
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.5 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1062 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 96
 *** TIME = .150830E+08 TIME INC = 273324.

*** RESPONSE EIGENVALUE = .1916E-05 OSCILLATION LIMIT = .5237
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.6 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2605
 HT FLOW CONVERGENCE VALUE= .1056 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 97
 *** TIME = .153563E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1851E-05 OSCILLATION LIMIT = .5060
 *** AUTO STEP TIME: NEXT TIME INC = .27332E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.6 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2599
 HT FLOW CONVERGENCE VALUE= .1057 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 98
 *** TIME = .156296E+08 TIME INC = 273324.
 *** RESPONSE EIGENVALUE = .1917E-05 OSCILLATION LIMIT = .5240
 *** AUTO TIME STEP: NEXT TIME INC = .14920E+06 DECREASED (FACTOR = .5459)

HT FLOW CONVERGENCE VALUE= 59.37 CRITERION= .2058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1426
 HT FLOW CONVERGENCE VALUE= .5621E-01 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 99
 *** TIME = .157788E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .3530E-05 OSCILLATION LIMIT = .5267

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:21:16 SEP 07, 1995 CP= 3468.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 50.01 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4806E-01 CRITERION= .1969 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 100
 *** TIME = .159280E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2718E-05 OSCILLATION LIMIT = .4056
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.08 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4868E-01 CRITERION= .1969 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 101
 *** TIME = .160772E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2240E-05 OSCILLATION LIMIT = .3342
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.03 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4938E-01 CRITERION= .1968 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 102
 *** TIME = .162264E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2339E-05 OSCILLATION LIMIT = .3489
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.10 CRITERION= .2030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1203
 HT FLOW CONVERGENCE VALUE= .4923E-01 CRITERION= .1968 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 103
 *** TIME = .163756E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2211E-05 OSCILLATION LIMIT = .3298
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.05 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4932E-01 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 104
 *** TIME = .165248E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2346E-05 OSCILLATION LIMIT = .3501
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.12 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1203
 HT FLOW CONVERGENCE VALUE= .4927E-01 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 105
 *** TIME = .166740E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2183E-05 OSCILLATION LIMIT = .3257
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.07 CRITERION= .2030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4927E-01 CRITERION= .1966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 106
 *** TIME = .168232E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2336E-05 OSCILLATION LIMIT = .3485
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4926E-01 CRITERION= .1966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 107
 *** TIME = .169724E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2168E-05 OSCILLATION LIMIT = .3235
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.09 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4922E-01 CRITERION= .1965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 108
 *** TIME = .171216E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2320E-05 OSCILLATION LIMIT = .3461
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.16 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4927E-01 CRITERION= .1965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 109
 *** TIME = .172708E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2159E-05 OSCILLATION LIMIT = .3221
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.11 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4921E-01 CRITERION= .1964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 110
 *** TIME = .174200E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2304E-05 OSCILLATION LIMIT = .3437
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.17 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202

HT FLOW CONVERGENCE VALUE= .4928E-01 CRITERION= .1964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 111
 *** TIME = .175692E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2151E-05 OSCILLATION LIMIT = .3209
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.13 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4918E-01 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 112
 *** TIME = .177184E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2287E-05 OSCILLATION LIMIT = .3413
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.19 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4927E-01 CRITERION= .1963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 113
 *** TIME = .178676E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2144E-05 OSCILLATION LIMIT = .3198
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4915E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 114
 *** TIME = .180168E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2272E-05 OSCILLATION LIMIT = .3389
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.21 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4926E-01 CRITERION= .1962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 115
 *** TIME = .181660E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2137E-05 OSCILLATION LIMIT = .3189
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.16 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4913E-01 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 116
 *** TIME = .183152E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2258E-05 OSCILLATION LIMIT = .3368
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.23 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4926E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 117
 *** TIME = .184643E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2131E-05 OSCILLATION LIMIT = .3180
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.18 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1196
 HT FLOW CONVERGENCE VALUE= .4909E-01 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 118
 *** TIME = .186135E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2244E-05 OSCILLATION LIMIT = .3348
 *** AUTO STEP TIME: NEXT TIME INC = .14920E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.25 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .4923E-01 CRITERION= .1960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 119
 *** TIME = .187627E+08 TIME INC = 149195.
 *** RESPONSE EIGENVALUE = .2126E-05 OSCILLATION LIMIT = .3172
 *** AUTO TIME STEP: NEXT TIME INC = 85926. DECREASED (FACTOR = .5759)

HT FLOW CONVERGENCE VALUE= 28.91 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6891E-01
 HT FLOW CONVERGENCE VALUE= .2766E-01 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 120
 *** TIME = .188487E+08 TIME INC = 85926.0
 *** RESPONSE EIGENVALUE = .3915E-05 OSCILLATION LIMIT = .3364
 *** AUTO STEP TIME: NEXT TIME INC = 85926. UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.97 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6945E-01
 HT FLOW CONVERGENCE VALUE= .2808E-01 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 121
 *** TIME = .189346E+08 TIME INC = 85926.0
 *** RESPONSE EIGENVALUE = .2847E-05 OSCILLATION LIMIT = .2446

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:48:15 SEP 07, 1995 CP= 4352.560
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 25.05 CRITERION= .1975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5970E-01
 HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 122
 *** TIME = .190205E+08 TIME INC = 85926.0
 *** RESPONSE EIGENVALUE = .2107E-05 OSCILLATION LIMIT = .1811
 *** AUTO STEP TIME: NEXT TIME INC = 85926. UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.11 CRITERION= .1974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6018E-01
 HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 123
 *** TIME = .191064E+08 TIME INC = 85926.0
 *** RESPONSE EIGENVALUE = .3240E-05 OSCILLATION LIMIT = .2784
 *** AUTO TIME STEP: NEXT TIME INC = .15434E+06 INCREASED (FACTOR = 1.7962)

HT FLOW CONVERGENCE VALUE= 45.02 CRITERION= .2010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1072
 HT FLOW CONVERGENCE VALUE= .4443E-01 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 124
 *** TIME = .192608E+08 TIME INC = 154342.
 *** RESPONSE EIGENVALUE = .1634E-05 OSCILLATION LIMIT = .2522
 *** AUTO TIME STEP: NEXT TIME INC = .30593E+06 INCREASED (FACTOR = 1.9822)

HT FLOW CONVERGENCE VALUE= 89.33 CRITERION= .2151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128
 HT FLOW CONVERGENCE VALUE= .8977E-01 CRITERION= .1958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 125
 *** TIME = .195667E+08 TIME INC = 305934.
 *** RESPONSE EIGENVALUE = .1434E-05 OSCILLATION LIMIT = .4388

*** AUTO STEP TIME: NEXT TIME INC = .30593E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.31 CRITERION= .2152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2126
 HT FLOW CONVERGENCE VALUE= .9043E-01 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 126
 *** TIME = .198727E+08 TIME INC = 305934.
 *** RESPONSE EIGENVALUE = .2348E-05 OSCILLATION LIMIT = .7184
 *** AUTO TIME STEP: NEXT TIME INC = .21292E+06 DECREASED (FACTOR = .6960)

HT FLOW CONVERGENCE VALUE= 62.23 CRITERION= .2052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1482
 HT FLOW CONVERGENCE VALUE= .6186E-01 CRITERION= .1956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 127
 *** TIME = .200856E+08 TIME INC = 212917.
 *** RESPONSE EIGENVALUE = .3421E-05 OSCILLATION LIMIT = .7283
 *** AUTO TIME STEP: NEXT TIME INC = .14616E+06 DECREASED (FACTOR = .6865)

HT FLOW CONVERGENCE VALUE= 42.68 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
 HT FLOW CONVERGENCE VALUE= .4235E-01 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 128
 *** TIME = .202317E+08 TIME INC = 146164.
 *** RESPONSE EIGENVALUE = .3543E-05 OSCILLATION LIMIT = .5178
 *** AUTO STEP TIME: NEXT TIME INC = .14616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.75 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
 HT FLOW CONVERGENCE VALUE= .4350E-01 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 129
 *** TIME = .203779E+08 TIME INC = 146164.
 *** RESPONSE EIGENVALUE = .2503E-05 OSCILLATION LIMIT = .3659
 *** AUTO STEP TIME: NEXT TIME INC = .14616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.70 CRITERION= .2001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 130
 *** TIME = .205241E+08 TIME INC = 146164.
 *** RESPONSE EIGENVALUE = .2362E-05 OSCILLATION LIMIT = .3452
 *** AUTO STEP TIME: NEXT TIME INC = .14616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.76 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
 HT FLOW CONVERGENCE VALUE= .4386E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 131
 *** TIME = .206702E+08 TIME INC = 146164.
 *** RESPONSE EIGENVALUE = .2468E-05 OSCILLATION LIMIT = .3608
 *** AUTO STEP TIME: NEXT TIME INC = .14616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.71 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
 HT FLOW CONVERGENCE VALUE= .4373E-01 CRITERION= .1952 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 132
 *** TIME = .208164E+08 TIME INC = 146164.
 *** RESPONSE EIGENVALUE = .2428E-05 OSCILLATION LIMIT = .3549
 *** AUTO STEP TIME: NEXT TIME INC = .14616E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.77 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
 HT FLOW CONVERGENCE VALUE= .4386E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 133

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*** TIME = .209626E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2416E-05    OSCILLATION LIMIT = .3531
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.73    CRITERION= .1999
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
    HT FLOW CONVERGENCE VALUE= .4369E-01    CRITERION= .1951    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 134
*** TIME = .211087E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2446E-05    OSCILLATION LIMIT = .3576
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.79    CRITERION= .1998
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
    HT FLOW CONVERGENCE VALUE= .4385E-01    CRITERION= .1952    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 135
*** TIME = .212549E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2395E-05    OSCILLATION LIMIT = .3501
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.74    CRITERION= .1998
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
    HT FLOW CONVERGENCE VALUE= .4366E-01    CRITERION= .1950    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 136
*** TIME = .214010E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2448E-05    OSCILLATION LIMIT = .3578
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.80    CRITERION= .1997
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
    HT FLOW CONVERGENCE VALUE= .4384E-01    CRITERION= .1951    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 137
*** TIME = .215472E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2385E-05    OSCILLATION LIMIT = .3486
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.76    CRITERION= .1997
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
    HT FLOW CONVERGENCE VALUE= .4363E-01    CRITERION= .1949    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 138
*** TIME = .216934E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2444E-05    OSCILLATION LIMIT = .3572
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.82    CRITERION= .1996
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1019
    HT FLOW CONVERGENCE VALUE= .4383E-01    CRITERION= .1950    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 139
*** TIME = .218395E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2377E-05    OSCILLATION LIMIT = .3475
*** AUTO STEP TIME: NEXT TIME INC = .14616E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.77    CRITERION= .1996
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1016
    HT FLOW CONVERGENCE VALUE= .4361E-01    CRITERION= .1948    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 140
*** TIME = .219857E+08    TIME INC = 146164.
*** RESPONSE EIGENVALUE = .2438E-05    OSCILLATION LIMIT = .3563
*** AUTO TIME STEP: NEXT TIME INC = .10465E+06    DECREASED (FACTOR = .7159)

    HT FLOW CONVERGENCE VALUE= 30.68    CRITERION= .1972
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7311E-01
    HT FLOW CONVERGENCE VALUE= .3106E-01    CRITERION= .1949    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 141
*** TIME = .220904E+08 TIME INC = 104646.
*** RESPONSE EIGENVALUE = .3162E-05 OSCILLATION LIMIT = .3309
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***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
383Q3 VERSION=HP 9000/7XX 12:12:40 SEP 07, 1995 CP= 5156.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```

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

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HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6418E-01
HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 142
*** TIME = .221950E+08 TIME INC = 104646.
*** RESPONSE EIGENVALUE = .2861E-05 OSCILLATION LIMIT = .2994
*** AUTO STEP TIME: NEXT TIME INC = .10465E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 27.07 CRITERION= .1966
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6450E-01
HT FLOW CONVERGENCE VALUE= .2747E-01 CRITERION= .1948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 143
*** TIME = .222996E+08 TIME INC = 104646.
*** RESPONSE EIGENVALUE = .2929E-05 OSCILLATION LIMIT = .3065
*** AUTO STEP TIME: NEXT TIME INC = .10465E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6418E-01
HT FLOW CONVERGENCE VALUE= .2744E-01 CRITERION= .1947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 144
*** TIME = .224043E+08 TIME INC = 104646.
*** RESPONSE EIGENVALUE = .2729E-05 OSCILLATION LIMIT = .2856
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 INCREASED (FACTOR = 1.7509)
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HT FLOW CONVERGENCE VALUE= 47.38 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1126
HT FLOW CONVERGENCE VALUE= .4879E-01 CRITERION= .1947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 145
*** TIME = .225875E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .1895E-05 OSCILLATION LIMIT = .3472
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.34 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
HT FLOW CONVERGENCE VALUE= .4817E-01 CRITERION= .1946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 146
*** TIME = .227707E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2458E-05 OSCILLATION LIMIT = .4504
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.40 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
HT FLOW CONVERGENCE VALUE= .4796E-01 CRITERION= .1946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 147
*** TIME = .229539E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2807E-05 OSCILLATION LIMIT = .5142
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.36 CRITERION= .2003

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
HT FLOW CONVERGENCE VALUE= .4803E-01 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 148
*** TIME = .231372E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2527E-05 OSCILLATION LIMIT = .4630
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.42 CRITERION= .2002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
HT FLOW CONVERGENCE VALUE= .4802E-01 CRITERION= .1945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 149
*** TIME = .233204E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2688E-05 OSCILLATION LIMIT = .4925
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.38 CRITERION= .2002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
HT FLOW CONVERGENCE VALUE= .4795E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 150
*** TIME = .235036E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2596E-05 OSCILLATION LIMIT = .4756
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.43 CRITERION= .2001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
HT FLOW CONVERGENCE VALUE= .4804E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 151
*** TIME = .236868E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2636E-05 OSCILLATION LIMIT = .4829
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.39 CRITERION= .2001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
HT FLOW CONVERGENCE VALUE= .4790E-01 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 152
*** TIME = .238700E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2621E-05 OSCILLATION LIMIT = .4803
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.45 CRITERION= .2000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
HT FLOW CONVERGENCE VALUE= .4803E-01 CRITERION= .1943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 153
*** TIME = .240533E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2611E-05 OSCILLATION LIMIT = .4784
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.41 CRITERION= .2000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
HT FLOW CONVERGENCE VALUE= .4786E-01 CRITERION= .1941 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 154
*** TIME = .242365E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2630E-05 OSCILLATION LIMIT = .4819
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.47 CRITERION= .1999
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
HT FLOW CONVERGENCE VALUE= .4793E-01 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 155
*** TIME = .244197E+08 TIME INC = 183220.
*** RESPONSE EIGENVALUE = .2599E-05 OSCILLATION LIMIT = .4761
*** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 47.43 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
 HT FLOW CONVERGENCE VALUE= .4787E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 156
 *** TIME = .246029E+08 TIME INC = 183220.
 *** RESPONSE EIGENVALUE = .2630E-05 OSCILLATION LIMIT = .4818
 *** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.49 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
 HT FLOW CONVERGENCE VALUE= .4905E-01 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 157
 *** TIME = .247861E+08 TIME INC = 183220.
 *** RESPONSE EIGENVALUE = .2589E-05 OSCILLATION LIMIT = .4744
 *** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.44 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1124
 HT FLOW CONVERGENCE VALUE= .4915E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 158
 *** TIME = .249694E+08 TIME INC = 183220.
 *** RESPONSE EIGENVALUE = .2630E-05 OSCILLATION LIMIT = .4819
 *** AUTO STEP TIME: NEXT TIME INC = .18322E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.50 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1125
 HT FLOW CONVERGENCE VALUE= .4931E-01 CRITERION= .1939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 159
 *** TIME = .251526E+08 TIME INC = 183220.
 *** RESPONSE EIGENVALUE = .2588E-05 OSCILLATION LIMIT = .4743
 *** AUTO TIME STEP: NEXT TIME INC = 93523. DECREASED (FACTOR = .5104)

HT FLOW CONVERGENCE VALUE= 24.22 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5736E-01
 HT FLOW CONVERGENCE VALUE= .2443E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 160
 *** TIME = .252461E+08 TIME INC = 93523.4
 *** RESPONSE EIGENVALUE = .4851E-05 OSCILLATION LIMIT = .4537

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:35:42 SEP 07, 1995 CP= 5918.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 21.65 CRITERION= .1950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5145E-01
 HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 161
 *** TIME = .253396E+08 TIME INC = 93523.4
 *** RESPONSE EIGENVALUE = .3583E-05 OSCILLATION LIMIT = .3351
 *** AUTO STEP TIME: NEXT TIME INC = 93523. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.60 CRITERION= .1950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5115E-01
 HT FLOW CONVERGENCE VALUE= .2220E-01 CRITERION= .1938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 162
 *** TIME = .254332E+08 TIME INC = 93523.4

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*** RESPONSE EIGENVALUE = .3059E-05  OSCILLATION LIMIT = .2861
*** AUTO TIME STEP: NEXT TIME INC = .16347E+06  INCREASED (FACTOR = 1.7479)

  HT FLOW CONVERGENCE VALUE= 37.83  CRITERION= .1974
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8964E-01
  HT FLOW CONVERGENCE VALUE= .3955E-01  CRITERION= .1938  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 163
*** TIME = .255966E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2161E-05  OSCILLATION LIMIT = .3533
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.78  CRITERION= .1974
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
  HT FLOW CONVERGENCE VALUE= .3898E-01  CRITERION= .1937  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 164
*** TIME = .257601E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2729E-05  OSCILLATION LIMIT = .4461
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.84  CRITERION= .1973
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8959E-01
  HT FLOW CONVERGENCE VALUE= .3892E-01  CRITERION= .1937  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 165
*** TIME = .259236E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .3124E-05  OSCILLATION LIMIT = .5106
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.80  CRITERION= .1973
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
  HT FLOW CONVERGENCE VALUE= .3886E-01  CRITERION= .1936  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 166
*** TIME = .260871E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2824E-05  OSCILLATION LIMIT = .4616
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.85  CRITERION= .1972
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8959E-01
  HT FLOW CONVERGENCE VALUE= .3897E-01  CRITERION= .1936  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 167
*** TIME = .262505E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2989E-05  OSCILLATION LIMIT = .4887
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.81  CRITERION= .1972
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
  HT FLOW CONVERGENCE VALUE= .3879E-01  CRITERION= .1935  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 168
*** TIME = .264140E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2898E-05  OSCILLATION LIMIT = .4738
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.86  CRITERION= .1971
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8959E-01
  HT FLOW CONVERGENCE VALUE= .3897E-01  CRITERION= .1935  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 169
*** TIME = .265775E+08  TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2935E-05  OSCILLATION LIMIT = .4798
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 37.82  CRITERION= .1971
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
  HT FLOW CONVERGENCE VALUE= .3876E-01  CRITERION= .1934  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 170
*** TIME = .267409E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2923E-05 OSCILLATION LIMIT = .4779
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.87 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8959E-01
HT FLOW CONVERGENCE VALUE= .3896E-01 CRITERION= .1934 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 171
*** TIME = .269044E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2912E-05 OSCILLATION LIMIT = .4760
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
HT FLOW CONVERGENCE VALUE= .3874E-01 CRITERION= .1933 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 172
*** TIME = .270679E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2930E-05 OSCILLATION LIMIT = .4789
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.89 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8958E-01
HT FLOW CONVERGENCE VALUE= .3895E-01 CRITERION= .1933 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 173
*** TIME = .272314E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2899E-05 OSCILLATION LIMIT = .4739
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.84 CRITERION= .1970
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
HT FLOW CONVERGENCE VALUE= .3872E-01 CRITERION= .1932 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 174
*** TIME = .273948E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2929E-05 OSCILLATION LIMIT = .4789
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.90 CRITERION= .1968
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8958E-01
HT FLOW CONVERGENCE VALUE= .3893E-01 CRITERION= .1932 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 175
*** TIME = .275583E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2890E-05 OSCILLATION LIMIT = .4725
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.85 CRITERION= .1969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
HT FLOW CONVERGENCE VALUE= .3869E-01 CRITERION= .1931 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 176
*** TIME = .277218E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2926E-05 OSCILLATION LIMIT = .4783
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.91 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8957E-01
HT FLOW CONVERGENCE VALUE= .3890E-01 CRITERION= .1931 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 177
*** TIME = .278853E+08 TIME INC = 163473.
*** RESPONSE EIGENVALUE = .2884E-05 OSCILLATION LIMIT = .4714
*** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.86 CRITERION= .1968
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01

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HT FLOW CONVERGENCE VALUE= .3867E-01 CRITERION= .1930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 178
 *** TIME = .280487E+08 TIME INC = 163473.
 *** RESPONSE EIGENVALUE = .2922E-05 OSCILLATION LIMIT = .4776
 *** AUTO STEP TIME: NEXT TIME INC = .16347E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.92 CRITERION= .1967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8956E-01
 HT FLOW CONVERGENCE VALUE= .3888E-01 CRITERION= .1930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 179
 *** TIME = .282122E+08 TIME INC = 163473.
 *** RESPONSE EIGENVALUE = .2878E-05 OSCILLATION LIMIT = .4704
 *** AUTO TIME STEP: NEXT TIME INC = 94833. DECREASED (FACTOR = .5801)

HT FLOW CONVERGENCE VALUE= 21.96 CRITERION= .1942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5187E-01
 HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .1929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 180
 *** TIME = .283070E+08 TIME INC = 94833.1
 *** RESPONSE EIGENVALUE = .4602E-05 OSCILLATION LIMIT = .4364
 *** AUTO STEP TIME: NEXT TIME INC = 94833. UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.02 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5209E-01
 HT FLOW CONVERGENCE VALUE= .2239E-01 CRITERION= .1929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 181
 *** TIME = .284019E+08 TIME INC = 94833.1
 *** RESPONSE EIGENVALUE = .3568E-05 OSCILLATION LIMIT = .3384
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 110.46 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 111.11 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 112.60 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 6765.450 TIME= 13:01:57
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 13:01:57 SEP 07, 1995 CP= 6765.450
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 19.84 CRITERION= .1939
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4686E-01
HT FLOW CONVERGENCE VALUE= .2034E-01 CRITERION= .1928 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 182
*** TIME = .284967E+08 TIME INC = 94833.1
*** RESPONSE EIGENVALUE = .2724E-05 OSCILLATION LIMIT = .2583
*** AUTO STEP TIME: NEXT TIME INC = 94833. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .1938
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4707E-01
HT FLOW CONVERGENCE VALUE= .2015E-01 CRITERION= .1929 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 183
*** TIME = .285915E+08 TIME INC = 94833.1
*** RESPONSE EIGENVALUE = .3879E-05 OSCILLATION LIMIT = .3679
*** AUTO STEP TIME: NEXT TIME INC = 94833. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.84 CRITERION= .1939
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4686E-01
HT FLOW CONVERGENCE VALUE= .2019E-01 CRITERION= .1928 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 184
*** TIME = .286864E+08 TIME INC = 94833.1
*** RESPONSE EIGENVALUE = .3149E-05 OSCILLATION LIMIT = .2986
*** AUTO TIME STEP: NEXT TIME INC = .15879E+06 INCREASED (FACTOR = 1.6745)

HT FLOW CONVERGENCE VALUE= 33.28 CRITERION= .1956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7860E-01
 HT FLOW CONVERGENCE VALUE= .3428E-01 CRITERION= .1928 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 185
 *** TIME = .288452E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .2487E-05 OSCILLATION LIMIT = .3948
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.24 CRITERION= .1956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
 HT FLOW CONVERGENCE VALUE= .3423E-01 CRITERION= .1927 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 186
 *** TIME = .290040E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .2965E-05 OSCILLATION LIMIT = .4708
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.29 CRITERION= .1955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7857E-01
 HT FLOW CONVERGENCE VALUE= .3541E-01 CRITERION= .1927 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 187
 *** TIME = .291628E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .3416E-05 OSCILLATION LIMIT = .5424
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.25 CRITERION= .1955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
 HT FLOW CONVERGENCE VALUE= .3538E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 188
 *** TIME = .293215E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .3089E-05 OSCILLATION LIMIT = .4906
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.30 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7857E-01
 HT FLOW CONVERGENCE VALUE= .3545E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 189
 *** TIME = .294803E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .3279E-05 OSCILLATION LIMIT = .5207
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.26 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
 HT FLOW CONVERGENCE VALUE= .3534E-01 CRITERION= .1925 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 190
 *** TIME = .296391E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .3171E-05 OSCILLATION LIMIT = .5035
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.31 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7857E-01
 HT FLOW CONVERGENCE VALUE= .3533E-01 CRITERION= .1925 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 191
 *** TIME = .297979E+08 TIME INC = 158794.
 *** RESPONSE EIGENVALUE = .3222E-05 OSCILLATION LIMIT = .5116
 *** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.27 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
 HT FLOW CONVERGENCE VALUE= .3521E-01 CRITERION= .1924 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 192
 *** TIME = .299567E+08 TIME INC = 158794.

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*** RESPONSE EIGENVALUE = .3200E-05  OSCILLATION LIMIT = .5082.
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.32  CRITERION= .1953
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7857E-01
  HT FLOW CONVERGENCE VALUE= .3535E-01 CRITERION= .1924  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 193
*** TIME = .301155E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3201E-05  OSCILLATION LIMIT = .5083
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.27  CRITERION= .1953
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
  HT FLOW CONVERGENCE VALUE= .3560E-01 CRITERION= .1923  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 194
*** TIME = .302743E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3212E-05  OSCILLATION LIMIT = .5100
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.33  CRITERION= .1952
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7857E-01
  HT FLOW CONVERGENCE VALUE= .3613E-01 CRITERION= .1923  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 195
*** TIME = .304331E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3190E-05  OSCILLATION LIMIT = .5066
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.28  CRITERION= .1952
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
  HT FLOW CONVERGENCE VALUE= .3594E-01 CRITERION= .1922  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 196
*** TIME = .305919E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3217E-05  OSCILLATION LIMIT = .5109
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.33  CRITERION= .1951
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7856E-01
  HT FLOW CONVERGENCE VALUE= .3603E-01 CRITERION= .1922  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 197
*** TIME = .307507E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3185E-05  OSCILLATION LIMIT = .5057
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.29  CRITERION= .1951
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
  HT FLOW CONVERGENCE VALUE= .3595E-01 CRITERION= .1921  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 198
*** TIME = .309095E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3214E-05  OSCILLATION LIMIT = .5104
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.34  CRITERION= .1950
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7856E-01
  HT FLOW CONVERGENCE VALUE= .3605E-01 CRITERION= .1921  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 199
*** TIME = .310683E+08  TIME INC = 158794.
*** RESPONSE EIGENVALUE = .3176E-05  OSCILLATION LIMIT = .5043
*** AUTO STEP TIME:  NEXT TIME INC = .15879E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 33.30  CRITERION= .1950
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7847E-01
  HT FLOW CONVERGENCE VALUE= .3585E-01 CRITERION= .1920  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 200
*** TIME = .312271E+08 TIME INC = .158794.
*** RESPONSE EIGENVALUE = .3212E-05 OSCILLATION LIMIT = .5100
*** AUTO STEP TIME: NEXT TIME INC = .15879E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.35 CRITERION= .1949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7856E-01
HT FLOW CONVERGENCE VALUE= .3605E-01 CRITERION= .1920 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 201
*** TIME = .313859E+08 TIME INC = .158794.
*** RESPONSE EIGENVALUE = .3172E-05 OSCILLATION LIMIT = .5037
*** AUTO STEP TIME: NEXT TIME INC = 85878. DECREASED (FACTOR = .5408)

HT FLOW CONVERGENCE VALUE= 18.01 CRITERION= .1929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4244E-01
HT FLOW CONVERGENCE VALUE= .1895E-01 CRITERION= .1919 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 202
*** TIME = .314718E+08 TIME INC = 85878.4
*** RESPONSE EIGENVALUE = .5242E-05 OSCILLATION LIMIT = .4502
*** AUTO STEP TIME: NEXT TIME INC = 85878. UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.05 CRITERION= .1928
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4260E-01
HT FLOW CONVERGENCE VALUE= .1933E-01 CRITERION= .1920 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 203
*** TIME = .315576E+08 TIME INC = 85878.4
*** RESPONSE EIGENVALUE = .4056E-05 OSCILLATION LIMIT = .3483

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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 13:29:04 SEP 07, 1995 CP= 7653.680
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 102.5 CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1121 CRITERION= .1918 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 204
*** TIME = .323466E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2204E-05 OSCILLATION LIMIT = 1.739
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.6 CRITERION= .2175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1078 CRITERION= .1917 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 205
*** TIME = .331355E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5373E-05 OSCILLATION LIMIT = 4.239
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.6 CRITERION= .2174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1088 CRITERION= .1914 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 206
*** TIME = .339245E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4265E-05 OSCILLATION LIMIT = 3.365
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 102.6 CRITERION= .2172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1078 CRITERION= .1913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 207
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5077E-05 OSCILLATION LIMIT = 4.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.6 CRITERION= .2171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1081 CRITERION= .1911 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 208
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-05 OSCILLATION LIMIT = 3.418
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.7 CRITERION= .2169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1069 CRITERION= .1909 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 209
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4993E-05 OSCILLATION LIMIT = 3.939
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.7 CRITERION= .2168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1075 CRITERION= .1907 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 210.
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4385E-05 OSCILLATION LIMIT = 3.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.8 CRITERION= .2166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .1905 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 211
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4923E-05 OSCILLATION LIMIT = 3.884
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.8 CRITERION= .2165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1073 CRITERION= .1903 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 212
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4423E-05 OSCILLATION LIMIT = 3.489
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.9 CRITERION= .2163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1067 CRITERION= .1901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 213
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4863E-05 OSCILLATION LIMIT = 3.837
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 102.9 CRITERION= .2162
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1073 CRITERION= .1899 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 214
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4452E-05 OSCILLATION LIMIT = 3.513

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.0 CRITERION= .2160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .1898 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 215
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4813E-05 OSCILLATION LIMIT = 3.797
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.0 CRITERION= .2159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1065 CRITERION= .1895 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 216
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4475E-05 OSCILLATION LIMIT = 3.531
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.0 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1040 CRITERION= .1894 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 217
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4768E-05 OSCILLATION LIMIT = 3.762
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.0 CRITERION= .2156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1045 CRITERION= .1892 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 218
 *** TIME = .433917E+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= 103.1 CRITERION= .2154
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1035 CRITERION= .1890 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 219
 *** TIME = .441807E+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= 103.1 CRITERION= .2153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1035 CRITERION= .1888 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 220
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4501E-05 OSCILLATION LIMIT = 3.551
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.2 CRITERION= .2151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1031 CRITERION= .1886 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 221
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4693E-05 OSCILLATION LIMIT = 3.703
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.2 CRITERION= .2150
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .1033 CRITERION= .1884 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 222

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*** TIME = .465475E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4505E-05    OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.3    CRITERION= .2148
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1030    CRITERION= .1883    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 223
*** TIME = .473364E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4661E-05    OSCILLATION LIMIT = 3.677
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.3    CRITERION= .2147
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1025    CRITERION= .1880    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 224
*** TIME = .481254E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4507E-05    OSCILLATION LIMIT = 3.556
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.4    CRITERION= .2145
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1021    CRITERION= .1879    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 225
*** TIME = .489143E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4634E-05    OSCILLATION LIMIT = 3.656
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.4    CRITERION= .2144
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1021    CRITERION= .1876    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 226
*** TIME = .497033E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4508E-05    OSCILLATION LIMIT = 3.557
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.4    CRITERION= .2143
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1017    CRITERION= .1875    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 227
*** TIME = .504922E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4610E-05    OSCILLATION LIMIT = 3.637
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.4    CRITERION= .2141
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1017    CRITERION= .1873    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 228
*** TIME = .512811E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4507E-05    OSCILLATION LIMIT = 3.556
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.5    CRITERION= .2140
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1016    CRITERION= .1871    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 229
*** TIME = .520701E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4589E-05    OSCILLATION LIMIT = 3.620
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 103.5    CRITERION= .2138
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
    HT FLOW CONVERGENCE VALUE= .1015    CRITERION= .1869    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 230
*** TIME = .528590E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4505E-05 OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.6 CRITERION= .2137
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1012 CRITERION= .1867 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 231
*** TIME = .536480E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4569E-05 OSCILLATION LIMIT = 3.605
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.6 CRITERION= .2135
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1012 CRITERION= .1865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 232
*** TIME = .544369E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4499E-05 OSCILLATION LIMIT = 3.549
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.7 CRITERION= .2134
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1011 CRITERION= .1864 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 233
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4547E-05 OSCILLATION LIMIT = 3.587
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.7 CRITERION= .2133
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1007 CRITERION= .1861 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 234
*** TIME = .560148E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4490E-05 OSCILLATION LIMIT = 3.542
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.8 CRITERION= .2131
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .1860 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 235
*** TIME = .568037E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4529E-05 OSCILLATION LIMIT = 3.573
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.8 CRITERION= .2130
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .9967E-01 CRITERION= .1858 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 236
*** TIME = .575927E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4483E-05 OSCILLATION LIMIT = 3.537
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.8 CRITERION= .2128
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
HT FLOW CONVERGENCE VALUE= .9905E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 237
*** TIME = .583816E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4512E-05 OSCILLATION LIMIT = 3.560
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.8 CRITERION= .2127

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9853E-01 CRITERION= .1854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 238
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4475E-05 OSCILLATION LIMIT = 3.530
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.9 CRITERION= .2125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9788E-01 CRITERION= .1852 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 239
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4497E-05 OSCILLATION LIMIT = 3.548
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.9 CRITERION= .2124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9720E-01 CRITERION= .1850 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 240
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4467E-05 OSCILLATION LIMIT = 3.524
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.0 CRITERION= .2122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9697E-01 CRITERION= .1849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 241
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4481E-05 OSCILLATION LIMIT = 3.535
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.0 CRITERION= .2121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9664E-01 CRITERION= .1846 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 242
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4456E-05 OSCILLATION LIMIT = 3.516
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.1 CRITERION= .2119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2411
 HT FLOW CONVERGENCE VALUE= .9640E-01 CRITERION= .1845 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 243
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4465E-05 OSCILLATION LIMIT = 3.522

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:18:55 SEP 07, 1995 CP= 9265.940
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 54.65 CRITERION= .1924
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4760E-01 CRITERION= .1843 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 244
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 10.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.70 CRITERION= .1922
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4793E-01 CRITERION= .1841 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 245
*** TIME = .646931E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1139E-04 OSCILLATION LIMIT = 8.982
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.67 CRITERION= .1921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4892E-01 CRITERION= .1839 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 246
*** TIME = .654821E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8278E-05 OSCILLATION LIMIT = 6.531
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.72 CRITERION= .1919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4797E-01 CRITERION= .1838 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 247
*** TIME = .662710E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1134E-04 OSCILLATION LIMIT = 8.949
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.69 CRITERION= .1918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4878E-01 CRITERION= .1836 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 248
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8513E-05 OSCILLATION LIMIT = 6.716
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.74 CRITERION= .1916
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4804E-01 CRITERION= .1835 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 249
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 8.713
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.71 CRITERION= .1915
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5013E-01 CRITERION= .1833 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 250
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8715E-05 OSCILLATION LIMIT = 6.876
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.76 CRITERION= .1913
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4943E-01 CRITERION= .1832 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 251
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1079E-04 OSCILLATION LIMIT = 8.514
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.74 CRITERION= .1912
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5001E-01 CRITERION= .1830 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 252
*** TIME = .702157E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8877E-05 OSCILLATION LIMIT = 7.003
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.78 CRITERION= .1910
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4939E-01 CRITERION= .1829 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 253
*** TIME = .710046E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1059E-04 OSCILLATION LIMIT = 8.355
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.76 CRITERION= .1909
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5022E-01 CRITERION= .1827 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 254
*** TIME = .717936E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9012E-05 OSCILLATION LIMIT = 7.110
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.81 CRITERION= .1907
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5009E-01 CRITERION= .1826 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 255
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.221
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.78 CRITERION= .1906
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5051E-01 CRITERION= .1824 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 256
*** TIME = .733715E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9121E-05 OSCILLATION LIMIT = 7.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.83 CRITERION= .1904
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5007E-01 CRITERION= .1823 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 257
*** TIME = .741604E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1028E-04 OSCILLATION LIMIT = 8.110
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.80 CRITERION= .1903
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5040E-01 CRITERION= .1821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 258
*** TIME = .749493E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9210E-05 OSCILLATION LIMIT = 7.266
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.85 CRITERION= .1901
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5000E-01 CRITERION= .1819 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 259
*** TIME = .757383E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 8.017
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.83 CRITERION= .1900
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .5028E-01 CRITERION= .1818 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 260
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9281E-05 OSCILLATION LIMIT = 7.322
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.87 CRITERION= .1899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4994E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 261
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 7.938
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.85 CRITERION= .1897
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .5017E-01 CRITERION= .1814 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 262
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9336E-05 OSCILLATION LIMIT = 7.366
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.89 CRITERION= .1896
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4987E-01 CRITERION= .1813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 263
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9977E-05 OSCILLATION LIMIT = 7.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.87 CRITERION= .1894
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .5006E-01 CRITERION= .1811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 264
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9380E-05 OSCILLATION LIMIT = 7.400
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.92 CRITERION= .1893
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4980E-01 CRITERION= .1810 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 265
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9904E-05 OSCILLATION LIMIT = 7.814
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.89 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4996E-01 CRITERION= .1808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 266
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9413E-05 OSCILLATION LIMIT = 7.426
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.94 CRITERION= .1890
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4973E-01 CRITERION= .1807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 267
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9842E-05 OSCILLATION LIMIT = 7.765
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.91 CRITERION= .1889
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270

HT FLOW CONVERGENCE VALUE= .4984E-01 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 268
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9437E-05 OSCILLATION LIMIT = 7.446
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.96 CRITERION= .1887
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4966E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 269
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9787E-05 OSCILLATION LIMIT = 7.721
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.94 CRITERION= .1886
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4978E-01 CRITERION= .1802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 270
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9453E-05 OSCILLATION LIMIT = 7.458
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.98 CRITERION= .1884
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4959E-01 CRITERION= .1801 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 271
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9738E-05 OSCILLATION LIMIT = 7.683
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.96 CRITERION= .1883
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4967E-01 CRITERION= .1799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 272
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9465E-05 OSCILLATION LIMIT = 7.467
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.01 CRITERION= .1881
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4950E-01 CRITERION= .1798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 273
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9696E-05 OSCILLATION LIMIT = 7.650
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.98 CRITERION= .1880
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4961E-01 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 274
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9473E-05 OSCILLATION LIMIT = 7.474
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.03 CRITERION= .1878
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
 HT FLOW CONVERGENCE VALUE= .4933E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 275
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9659E-05 OSCILLATION LIMIT = 7.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.00 CRITERION= .1877
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4874E-01 CRITERION= .1793 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 276
*** TIME = .891503E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9477E-05 OSCILLATION LIMIT = 7.477
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.05 CRITERION= .1875
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4860E-01 CRITERION= .1791 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 277
*** TIME = .899392E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9623E-05 OSCILLATION LIMIT = 7.592
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.02 CRITERION= .1874
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4866E-01 CRITERION= .1790 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 278
*** TIME = .907281E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9473E-05 OSCILLATION LIMIT = 7.474
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.07 CRITERION= .1872
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4852E-01 CRITERION= .1788 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 279
*** TIME = .915171E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9591E-05 OSCILLATION LIMIT = 7.567
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.05 CRITERION= .1871
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4826E-01 CRITERION= .1786 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 280
*** TIME = .923060E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9471E-05 OSCILLATION LIMIT = 7.472
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.09 CRITERION= .1869
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4805E-01 CRITERION= .1785 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 281
*** TIME = .930950E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9562E-05 OSCILLATION LIMIT = 7.544
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.07 CRITERION= .1868
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4811E-01 CRITERION= .1783 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 282
*** TIME = .938839E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9464E-05 OSCILLATION LIMIT = 7.467
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.12 CRITERION= .1866
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1270
HT FLOW CONVERGENCE VALUE= .4799E-01 CRITERION= .1782 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 283
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9535E-05 OSCILLATION LIMIT = 7.522

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:07:58 SEP 07, 1995 CP= 10874.630
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 36.31 CRITERION= .1819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3051E-01 CRITERION= .1780 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 284
 *** TIME = .954618E+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= 36.35 CRITERION= .1817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3054E-01 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 285
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1655E-04 OSCILLATION LIMIT = 13.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.32 CRITERION= .1816
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3087E-01 CRITERION= .1778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 286
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1436E-04 OSCILLATION LIMIT = 11.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.36 CRITERION= .1814
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3051E-01 CRITERION= .1777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 287
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1650E-04 OSCILLATION LIMIT = 13.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.33 CRITERION= .1813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3080E-01 CRITERION= .1775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 288
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1453E-04 OSCILLATION LIMIT = 11.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.37 CRITERION= .1812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3049E-01 CRITERION= .1774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 289
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1630E-04 OSCILLATION LIMIT = 12.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.34 CRITERION= .1811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3073E-01 CRITERION= .1772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 290

*** TIME = .100195E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1467E-04 OSCILLATION LIMIT = 11.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.38 CRITERION= .1809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3046E-01 CRITERION= .1771 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 291
*** TIME = .100984E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1613E-04 OSCILLATION LIMIT = 12.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.35 CRITERION= .1808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3067E-01 CRITERION= .1770 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 292
*** TIME = .101773E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1479E-04 OSCILLATION LIMIT = 11.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.39 CRITERION= .1807
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3043E-01 CRITERION= .1769 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 293
*** TIME = .102562E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1599E-04 OSCILLATION LIMIT = 12.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.36 CRITERION= .1806
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3059E-01 CRITERION= .1767 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 294
*** TIME = .103351E+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= 36.40 CRITERION= .1804
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3039E-01 CRITERION= .1766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 295
*** TIME = .104140E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1586E-04 OSCILLATION LIMIT = 12.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.37 CRITERION= .1803
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3054E-01 CRITERION= .1765 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 296
*** TIME = .104929E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1496E-04 OSCILLATION LIMIT = 11.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.41 CRITERION= .1802
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .1764 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 297
*** TIME = .105718E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1576E-04 OSCILLATION LIMIT = 12.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.38 CRITERION= .1801
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3049E-01 CRITERION= .1762 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 298
*** TIME = .106507E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1502E-04 OSCILLATION LIMIT = 11.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.42 CRITERION= .1799
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3032E-01 CRITERION= .1761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 299
*** TIME = .107296E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1567E-04 OSCILLATION LIMIT = 12.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.39 CRITERION= .1798
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .1759 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 300
*** TIME = .108085E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1506E-04 OSCILLATION LIMIT = 11.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.43 CRITERION= .1797
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3029E-01 CRITERION= .1758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 301
*** TIME = .108874E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1560E-04 OSCILLATION LIMIT = 12.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.40 CRITERION= .1795
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3041E-01 CRITERION= .1757 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 302
*** TIME = .109663E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1510E-04 OSCILLATION LIMIT = 11.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.44 CRITERION= .1794
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3026E-01 CRITERION= .1756 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 303
*** TIME = .110452E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1553E-04 OSCILLATION LIMIT = 12.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.41 CRITERION= .1793
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .1754 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 304
*** TIME = .111241E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1513E-04 OSCILLATION LIMIT = 11.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.45 CRITERION= .1791
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3014E-01 CRITERION= .1753 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 305
*** TIME = .112030E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1548E-04 OSCILLATION LIMIT = 12.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.42 CRITERION= .1790

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3031E-01 CRITERION= .1751 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 306
*** TIME = .112818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1515E-04 OSCILLATION LIMIT = 11.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.46 CRITERION= .1789
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .1750 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 307
*** TIME = .113607E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1542E-04 OSCILLATION LIMIT = 12.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.43 CRITERION= .1788
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3027E-01 CRITERION= .1749 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 308
*** TIME = .114396E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 11.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.46 CRITERION= .1786
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3016E-01 CRITERION= .1748 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 309
*** TIME = .115185E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1538E-04 OSCILLATION LIMIT = 12.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.43 CRITERION= .1785
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3022E-01 CRITERION= .1746 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 310
*** TIME = .115974E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 11.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.47 CRITERION= .1784
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3011E-01 CRITERION= .1745 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 311
*** TIME = .116763E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1534E-04 OSCILLATION LIMIT = 12.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.44 CRITERION= .1783
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3014E-01 CRITERION= .1744 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 312
*** TIME = .117552E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 11.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.48 CRITERION= .1781
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
HT FLOW CONVERGENCE VALUE= .3008E-01 CRITERION= .1742 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 313
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1530E-04 OSCILLATION LIMIT = 12.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.45 CRITERION= .1780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3015E-01 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 314
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 11.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.49 CRITERION= .1779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3006E-01 CRITERION= .1740 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 315
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1527E-04 OSCILLATION LIMIT = 12.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.46 CRITERION= .1778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3011E-01 CRITERION= .1738 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 316
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 11.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.50 CRITERION= .1776
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .1737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 317
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1524E-04 OSCILLATION LIMIT = 12.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.47 CRITERION= .1775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3006E-01 CRITERION= .1736 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 318
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 11.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.51 CRITERION= .1774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .1735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 319
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1521E-04 OSCILLATION LIMIT = 12.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.48 CRITERION= .1772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .1733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 320
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 11.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.52 CRITERION= .1771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .2993E-01 CRITERION= .1732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 321
 *** TIME = .124653E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1519E-04 OSCILLATION LIMIT = 11.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.49 CRITERION= .1770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .1730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 322
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1515E-04 OSCILLATION LIMIT = 11.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.53 CRITERION= .1768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8380E-01
 HT FLOW CONVERGENCE VALUE= .2990E-01 CRITERION= .1729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 323
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 11.96

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:56:51 SEP 07, 1995 CP= 12481.460
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 26.70 CRITERION= .1750
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2150E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 324
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2036E-04 OSCILLATION LIMIT = 16.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .1748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2150E-01 CRITERION= .1727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 325
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1950E-04 OSCILLATION LIMIT = 15.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.71 CRITERION= .1748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .1726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 326
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1821E-04 OSCILLATION LIMIT = 14.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.74 CRITERION= .1746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2148E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 327
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1949E-04 OSCILLATION LIMIT = 15.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.71 CRITERION= .1745
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2162E-01 CRITERION= .1724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 328
*** TIME = .130175E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1831E-04 OSCILLATION LIMIT = 14.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .1744
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2153E-01 CRITERION= .1723 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 329
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1936E-04 OSCILLATION LIMIT = 15.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.72 CRITERION= .1743
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2206E-01 CRITERION= .1722 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 330
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1839E-04 OSCILLATION LIMIT = 14.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .1742
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2192E-01 CRITERION= .1721 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 331
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1925E-04 OSCILLATION LIMIT = 15.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.72 CRITERION= .1741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2203E-01 CRITERION= .1719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 332
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1846E-04 OSCILLATION LIMIT = 14.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.76 CRITERION= .1740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2190E-01 CRITERION= .1719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 333
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1915E-04 OSCILLATION LIMIT = 15.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .1739
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2200E-01 CRITERION= .1717 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 334
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1852E-04 OSCILLATION LIMIT = 14.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.76 CRITERION= .1738
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2188E-01 CRITERION= .1716 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 335
*** TIME = .135698E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1907E-04 OSCILLATION LIMIT = 15.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.73 CRITERION= .1737
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01

HT FLOW CONVERGENCE VALUE= .2197E-01 CRITERION= .1715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 336
*** TIME = .136487E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1856E-04 OSCILLATION LIMIT = 14.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .1736
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2186E-01 CRITERION= .1714 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 337
*** TIME = .137276E+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= 26.74 CRITERION= .1735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2194E-01 CRITERION= .1713 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 338
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1860E-04 OSCILLATION LIMIT = 14.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .1734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2184E-01 CRITERION= .1712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 339
*** TIME = .138853E+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= 26.74 CRITERION= .1733
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2191E-01 CRITERION= .1711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 340
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1862E-04 OSCILLATION LIMIT = 14.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .1732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .1710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 341
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1890E-04 OSCILLATION LIMIT = 14.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .1731
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .1709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 342
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1864E-04 OSCILLATION LIMIT = 14.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .1729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2180E-01 CRITERION= .1708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 343
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1885E-04 OSCILLATION LIMIT = 14.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.75 CRITERION= .1729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2186E-01 CRITERION= .1707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 344
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1865E-04 OSCILLATION LIMIT = 14.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .1727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2178E-01 CRITERION= .1706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 345
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1881E-04 OSCILLATION LIMIT = 14.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.76 CRITERION= .1727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2184E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 346
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1866E-04 OSCILLATION LIMIT = 14.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .1725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 347
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1877E-04 OSCILLATION LIMIT = 14.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.76 CRITERION= .1724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2181E-01 CRITERION= .1702 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 348
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1866E-04 OSCILLATION LIMIT = 14.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .1723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2173E-01 CRITERION= .1701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 349
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1874E-04 OSCILLATION LIMIT = 14.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .1722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2178E-01 CRITERION= .1700 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 350
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1867E-04 OSCILLATION LIMIT = 14.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .1721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
 HT FLOW CONVERGENCE VALUE= .2170E-01 CRITERION= .1699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 351
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1871E-04 OSCILLATION LIMIT = 14.76

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.77 CRITERION= .1720
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2173E-01 CRITERION= .1698 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 352
*** TIME = .149110E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1867E-04 OSCILLATION LIMIT = 14.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .1719
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2167E-01 CRITERION= .1697 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 353
*** TIME = .149899E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1869E-04 OSCILLATION LIMIT = 14.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .1718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2171E-01 CRITERION= .1696 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 354
*** TIME = .150688E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1866E-04 OSCILLATION LIMIT = 14.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.81 CRITERION= .1717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .1695 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 355
*** TIME = .151477E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1866E-04 OSCILLATION LIMIT = 14.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.78 CRITERION= .1716
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2169E-01 CRITERION= .1694 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 356
*** TIME = .152265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1865E-04 OSCILLATION LIMIT = 14.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.82 CRITERION= .1715
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2162E-01 CRITERION= .1693 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 357
*** TIME = .153054E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1864E-04 OSCILLATION LIMIT = 14.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .1714
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2166E-01 CRITERION= .1692 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 358
*** TIME = .153843E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1865E-04 OSCILLATION LIMIT = 14.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.82 CRITERION= .1713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2159E-01 CRITERION= .1691 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 359

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*** TIME = .154632E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1862E-04 OSCILLATION LIMIT = 14.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.79 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .1689 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 360
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1864E-04 OSCILLATION LIMIT = 14.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 26.83 CRITERION= .1711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2157E-01 CRITERION= .1689 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 361
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1859E-04 OSCILLATION LIMIT = 14.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 26.80 CRITERION= .1710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2161E-01 CRITERION= .1687 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 362
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1863E-04 OSCILLATION LIMIT = 14.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 26.84 CRITERION= .1708
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6149E-01
HT FLOW CONVERGENCE VALUE= .2154E-01 CRITERION= .1686 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 363
*** TIME = .157788E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1858E-04 OSCILLATION LIMIT = 14.65
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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:49:50 SEP 07, 1995 CP= 14116.580
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 20.16 CRITERION= .1698
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1537E-01 CRITERION= .1685 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 364
*** TIME = .158577E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4659E-04 OSCILLATION LIMIT = 36.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 20.20 CRITERION= .1697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1532E-01 CRITERION= .1684 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 365
*** TIME = .159366E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4626E-04 OSCILLATION LIMIT = 36.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 20.17 CRITERION= .1696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1540E-01 CRITERION= .1682 <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 366
*** TIME = .160155E+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= 20.20 CRITERION= .1694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1530E-01 CRITERION= .1681 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 367
*** TIME = .160944E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4610E-04 OSCILLATION LIMIT = 36.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.17 CRITERION= .1693
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1537E-01 CRITERION= .1680 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 368
*** TIME = .161733E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4321E-04 OSCILLATION LIMIT = 34.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.20 CRITERION= .1692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1528E-01 CRITERION= .1679 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 369
*** TIME = .162522E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4580E-04 OSCILLATION LIMIT = 36.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.17 CRITERION= .1691
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1534E-01 CRITERION= .1677 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 370
*** TIME = .163311E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4345E-04 OSCILLATION LIMIT = 34.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1526E-01 CRITERION= .1676 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 371
*** TIME = .164100E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4555E-04 OSCILLATION LIMIT = 35.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.18 CRITERION= .1688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1532E-01 CRITERION= .1675 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 372
*** TIME = .164888E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4364E-04 OSCILLATION LIMIT = 34.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1687
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1524E-01 CRITERION= .1674 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 373
*** TIME = .165677E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4535E-04 OSCILLATION LIMIT = 35.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.18 CRITERION= .1686
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1529E-01 CRITERION= .1672 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 374
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4380E-04 OSCILLATION LIMIT = 34.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1522E-01 CRITERION= .1671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 375
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4517E-04 OSCILLATION LIMIT = 35.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.18 CRITERION= .1684
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1527E-01 CRITERION= .1670 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 376
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4392E-04 OSCILLATION LIMIT = 34.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .1682
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1521E-01 CRITERION= .1669 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 377
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4502E-04 OSCILLATION LIMIT = 35.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.18 CRITERION= .1681
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1524E-01 CRITERION= .1668 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 378
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4402E-04 OSCILLATION LIMIT = 34.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1519E-01 CRITERION= .1666 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 379
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4490E-04 OSCILLATION LIMIT = 35.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.19 CRITERION= .1679
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1522E-01 CRITERION= .1665 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 380
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4411E-04 OSCILLATION LIMIT = 34.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .1677
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1516E-01 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 381
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4479E-04 OSCILLATION LIMIT = 35.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.19 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1519E-01 CRITERION= .1663 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 382
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4417E-04 OSCILLATION LIMIT = 34.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .1675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1514E-01 CRITERION= .1662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 383
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4470E-04 OSCILLATION LIMIT = 35.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.19 CRITERION= .1674
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1660 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 384
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4422E-04 OSCILLATION LIMIT = 34.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .1672
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1512E-01 CRITERION= .1659 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 385
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4462E-04 OSCILLATION LIMIT = 35.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.20 CRITERION= .1671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1515E-01 CRITERION= .1658 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 386
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4426E-04 OSCILLATION LIMIT = 34.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .1670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1510E-01 CRITERION= .1657 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 387
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4455E-04 OSCILLATION LIMIT = 35.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.20 CRITERION= .1669
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1512E-01 CRITERION= .1655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 388
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4429E-04 OSCILLATION LIMIT = 34.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .1667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1508E-01 CRITERION= .1654 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 389
 *** TIME = .178300E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4449E-04 OSCILLATION LIMIT = 35.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.20 CRITERION= .1666
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1510E-01 CRITERION= .1653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 390
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4431E-04 OSCILLATION LIMIT = 34.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .1665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1506E-01 CRITERION= .1652 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 391
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4444E-04 OSCILLATION LIMIT = 35.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1507E-01 CRITERION= .1650 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 392
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4433E-04 OSCILLATION LIMIT = 34.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .1662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1503E-01 CRITERION= .1649 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 393
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4439E-04 OSCILLATION LIMIT = 35.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1555E-01 CRITERION= .1648 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 394
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4433E-04 OSCILLATION LIMIT = 34.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .1660
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1556E-01 CRITERION= .1647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 395
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4434E-04 OSCILLATION LIMIT = 34.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1559E-01 CRITERION= .1645 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 396
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4433E-04 OSCILLATION LIMIT = 34.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
 HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .1644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 397
*** TIME = .184612E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4430E-04 OSCILLATION LIMIT = 34.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .1656
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1556E-01 CRITERION= .1643 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 398
*** TIME = .185401E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4434E-04 OSCILLATION LIMIT = 34.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .1655
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .1642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 399
*** TIME = .186190E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4427E-04 OSCILLATION LIMIT = 34.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .1654
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .1640 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 400
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4433E-04 OSCILLATION LIMIT = 34.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .1652
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .1639 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 401
*** TIME = .187768E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4424E-04 OSCILLATION LIMIT = 34.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .1651
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .1638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 402
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4433E-04 OSCILLATION LIMIT = 34.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .1650
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4626E-01
HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .1637 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 403
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4420E-04 OSCILLATION LIMIT = 34.87
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:37:42 SEP 07, 1995 CP= 15719.560
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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12 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 15.30 CRITERION= .1644
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
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HT FLOW CONVERGENCE VALUE= .1166E-01 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 404
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4800E-04 OSCILLATION LIMIT = 37.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1166E-01 CRITERION= .1635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 405
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4646E-04 OSCILLATION LIMIT = 36.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.30 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1170E-01 CRITERION= .1633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 406
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4620E-04 OSCILLATION LIMIT = 36.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1165E-01 CRITERION= .1633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 407
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4650E-04 OSCILLATION LIMIT = 36.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1168E-01 CRITERION= .1632 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 408
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4623E-04 OSCILLATION LIMIT = 36.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1183E-01 CRITERION= .1631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 409
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4644E-04 OSCILLATION LIMIT = 36.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1187E-01 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 410
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4626E-04 OSCILLATION LIMIT = 36.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .1629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 411
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4638E-04 OSCILLATION LIMIT = 36.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1186E-01 CRITERION= .1628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 412
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4628E-04 OSCILLATION LIMIT = 36.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1635
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1181E-01 CRITERION= .1627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 413
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4634E-04 OSCILLATION LIMIT = 36.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1184E-01 CRITERION= .1626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 414
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4630E-04 OSCILLATION LIMIT = 36.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.34 CRITERION= .1633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1180E-01 CRITERION= .1625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 415
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4630E-04 OSCILLATION LIMIT = 36.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1183E-01 CRITERION= .1624 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 416
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4631E-04 OSCILLATION LIMIT = 36.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1178E-01 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 417
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4626E-04 OSCILLATION LIMIT = 36.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.31 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1181E-01 CRITERION= .1622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 418
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4632E-04 OSCILLATION LIMIT = 36.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
 HT FLOW CONVERGENCE VALUE= .1177E-01 CRITERION= .1621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 419
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4622E-04 OSCILLATION LIMIT = 36.47

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.32 CRITERION= .1628
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1180E-01 CRITERION= .1620 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 420

*** TIME = .202758E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4632E-04 OSCILLATION LIMIT = 36.54

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1627
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .1619 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 421

*** TIME = .203547E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4619E-04 OSCILLATION LIMIT = 36.44

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.32 CRITERION= .1626
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1178E-01 CRITERION= .1618 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 422

*** TIME = .204335E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4632E-04 OSCILLATION LIMIT = 36.55

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1625
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1174E-01 CRITERION= .1617 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 423

*** TIME = .205124E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4617E-04 OSCILLATION LIMIT = 36.42

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.32 CRITERION= .1624
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1177E-01 CRITERION= .1616 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 424

*** TIME = .205913E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4632E-04 OSCILLATION LIMIT = 36.54

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1623
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1173E-01 CRITERION= .1615 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 425

*** TIME = .206702E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4614E-04 OSCILLATION LIMIT = 36.40

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.32 CRITERION= .1623
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1176E-01 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 426

*** TIME = .207491E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4632E-04 OSCILLATION LIMIT = 36.54

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.35 CRITERION= .1621
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1172E-01 CRITERION= .1613 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 427

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*** TIME = .208280E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4612E-04    OSCILLATION LIMIT = 36.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.32    CRITERION= .1621
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1174E-01    CRITERION= .1612    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 428
*** TIME = .209069E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4631E-04    OSCILLATION LIMIT = 36.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.36    CRITERION= .1619
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1170E-01    CRITERION= .1611    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 429
*** TIME = .209858E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4610E-04    OSCILLATION LIMIT = 36.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.32    CRITERION= .1619
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1173E-01    CRITERION= .1610    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 430
*** TIME = .210647E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4631E-04    OSCILLATION LIMIT = 36.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.36    CRITERION= .1618
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1169E-01    CRITERION= .1610    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 431
*** TIME = .211436E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4607E-04    OSCILLATION LIMIT = 36.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.33    CRITERION= .1617
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1172E-01    CRITERION= .1608    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 432
*** TIME = .212225E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4630E-04    OSCILLATION LIMIT = 36.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.36    CRITERION= .1616
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1168E-01    CRITERION= .1608    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 433
*** TIME = .213014E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4606E-04    OSCILLATION LIMIT = 36.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.33    CRITERION= .1615
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1170E-01    CRITERION= .1606    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 434
*** TIME = .213803E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4629E-04    OSCILLATION LIMIT = 36.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.36    CRITERION= .1614
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
    HT FLOW CONVERGENCE VALUE= .1166E-01    CRITERION= .1606    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 435
*** TIME = .214592E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4604E-04 OSCILLATION LIMIT = 36.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.33 CRITERION= .1613
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1169E-01 CRITERION= .1604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 436
*** TIME = .215381E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4628E-04 OSCILLATION LIMIT = 36.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.36 CRITERION= .1612
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1165E-01 CRITERION= .1604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 437
*** TIME = .216170E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4602E-04 OSCILLATION LIMIT = 36.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.33 CRITERION= .1611
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1167E-01 CRITERION= .1603 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 438
*** TIME = .216959E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4627E-04 OSCILLATION LIMIT = 36.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.36 CRITERION= .1610
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1164E-01 CRITERION= .1602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 439
*** TIME = .217747E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4600E-04 OSCILLATION LIMIT = 36.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.33 CRITERION= .1609
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1166E-01 CRITERION= .1601 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 440
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4626E-04 OSCILLATION LIMIT = 36.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.36 CRITERION= .1608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1162E-01 CRITERION= .1600 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 441
*** TIME = .219325E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4598E-04 OSCILLATION LIMIT = 36.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.33 CRITERION= .1607
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1164E-01 CRITERION= .1599 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 442
*** TIME = .220114E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4625E-04 OSCILLATION LIMIT = 36.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.37 CRITERION= .1606

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3505E-01
HT FLOW CONVERGENCE VALUE= .1161E-01 CRITERION= .1598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 443
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4597E-04 OSCILLATION LIMIT = 36.27

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 18:25:13 SEP 07, 1995 CP= 17321.780
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 13.24 CRITERION= .1603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9938E-02 CRITERION= .1597 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 444
*** TIME = .221692E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5508E-04 OSCILLATION LIMIT = 43.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.27 CRITERION= .1602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9915E-02 CRITERION= .1596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 445
*** TIME = .222481E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5432E-04 OSCILLATION LIMIT = 42.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.24 CRITERION= .1602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9944E-02 CRITERION= .1595 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 446
*** TIME = .223270E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5392E-04 OSCILLATION LIMIT = 42.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.27 CRITERION= .1600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9905E-02 CRITERION= .1594 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 447
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5430E-04 OSCILLATION LIMIT = 42.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.24 CRITERION= .1600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9932E-02 CRITERION= .1593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 448
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5398E-04 OSCILLATION LIMIT = 42.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.27 CRITERION= .1599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9895E-02 CRITERION= .1592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 449
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5423E-04 OSCILLATION LIMIT = 42.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.24 CRITERION= .1598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9920E-02 CRITERION= .1591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 450
 *** TIME = .226426E+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= 13.27 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9884E-02 CRITERION= .1591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 451
 *** TIME = .227215E+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= 13.24 CRITERION= .1596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9908E-02 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 452
 *** TIME = .228004E+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= 13.27 CRITERION= .1595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9873E-02 CRITERION= .1589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 453
 *** TIME = .228793E+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= 13.24 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9896E-02 CRITERION= .1588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 454
 *** TIME = .229582E+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= 13.27 CRITERION= .1593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9862E-02 CRITERION= .1587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 455
 *** TIME = .230371E+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= 13.24 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9884E-02 CRITERION= .1586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 456
 *** TIME = .231159E+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= 13.28 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9851E-02 CRITERION= .1585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 457
 *** TIME = .231948E+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= 13.24 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9873E-02 CRITERION= .1584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 458
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5412E-04 OSCILLATION LIMIT = 42.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.28 CRITERION= .1590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9841E-02 CRITERION= .1583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 459
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5398E-04 OSCILLATION LIMIT = 42.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.24 CRITERION= .1589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9861E-02 CRITERION= .1582 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 460
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5413E-04 OSCILLATION LIMIT = 42.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.28 CRITERION= .1588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9829E-02 CRITERION= .1582 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 461
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5395E-04 OSCILLATION LIMIT = 42.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9849E-02 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 462
 *** TIME = .235893E+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= 13.28 CRITERION= .1586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9818E-02 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 463
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5392E-04 OSCILLATION LIMIT = 42.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9838E-02 CRITERION= .1579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 464
 *** TIME = .237471E+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= 13.28 CRITERION= .1584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9807E-02 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 465
*** TIME = .238260E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5390E-04 OSCILLATION LIMIT = 42.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1583
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9827E-02 CRITERION= .1577 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 466
*** TIME = .239049E+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= 13.28 CRITERION= .1582
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9797E-02 CRITERION= .1576 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 467
*** TIME = .239838E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5387E-04 OSCILLATION LIMIT = 42.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1582
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9816E-02 CRITERION= .1575 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 468
*** TIME = .240627E+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= 13.28 CRITERION= .1580
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9786E-02 CRITERION= .1574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 469
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5385E-04 OSCILLATION LIMIT = 42.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1580
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9804E-02 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 470
*** TIME = .242205E+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= 13.28 CRITERION= .1579
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9775E-02 CRITERION= .1572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 471
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5383E-04 OSCILLATION LIMIT = 42.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1578
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
HT FLOW CONVERGENCE VALUE= .9793E-02 CRITERION= .1571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 472
*** TIME = .243782E+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= 13.29 CRITERION= .1577
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01

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HT FLOW CONVERGENCE VALUE= .9764E-02 CRITERION= .1571 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 473
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5381E-04 OSCILLATION LIMIT = 42.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9781E-02 CRITERION= .1569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 474
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5413E-04 OSCILLATION LIMIT = 42.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.29 CRITERION= .1575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9754E-02 CRITERION= .1569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 475
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5380E-04 OSCILLATION LIMIT = 42.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.25 CRITERION= .1574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9771E-02 CRITERION= .1568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 476
 *** TIME = .246938E+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= 13.29 CRITERION= .1573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9743E-02 CRITERION= .1567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 477
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5378E-04 OSCILLATION LIMIT = 42.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.26 CRITERION= .1572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9760E-02 CRITERION= .1566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 478
 *** TIME = .248516E+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= 13.29 CRITERION= .1571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9732E-02 CRITERION= .1565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 479
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5377E-04 OSCILLATION LIMIT = 42.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.26 CRITERION= .1571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9748E-02 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 480
 *** TIME = .250094E+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= 13.29 CRITERION= .1570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9721E-02 CRITERION= .1563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 481
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5375E-04 OSCILLATION LIMIT = 42.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.26 CRITERION= .1569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9737E-02 CRITERION= .1562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 482
 *** TIME = .251672E+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= 13.29 CRITERION= .1568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3029E-01
 HT FLOW CONVERGENCE VALUE= .9710E-02 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 483
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5374E-04 OSCILLATION LIMIT = 42.39

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:13:27 SEP 07, 1995 CP= 18922.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 4.612 CRITERION= .1562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3093E-01
 HT FLOW CONVERGENCE VALUE= .4726E-02 CRITERION= .1560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 484
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8844E-04 OSCILLATION LIMIT = 69.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.643 CRITERION= .1561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3059E-01
 HT FLOW CONVERGENCE VALUE= .4732E-02 CRITERION= .1560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 485
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8767E-04 OSCILLATION LIMIT = 69.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.612 CRITERION= .1560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2854E-01
 HT FLOW CONVERGENCE VALUE= .4486E-02 CRITERION= .1559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 486
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8997E-04 OSCILLATION LIMIT = 70.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.643 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3059E-01
 HT FLOW CONVERGENCE VALUE= .4714E-02 CRITERION= .1558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 487
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8779E-04 OSCILLATION LIMIT = 69.26

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.612 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2873E-01
 HT FLOW CONVERGENCE VALUE= .4499E-02 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 488
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8980E-04 OSCILLATION LIMIT = 70.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.643 CRITERION= .1558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3042E-01
 HT FLOW CONVERGENCE VALUE= .4693E-02 CRITERION= .1556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 489
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8793E-04 OSCILLATION LIMIT = 69.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.612 CRITERION= .1557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2889E-01
 HT FLOW CONVERGENCE VALUE= .4509E-02 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 490
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8967E-04 OSCILLATION LIMIT = 70.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.644 CRITERION= .1556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3028E-01
 HT FLOW CONVERGENCE VALUE= .4674E-02 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 491
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8805E-04 OSCILLATION LIMIT = 69.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.612 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2902E-01
 HT FLOW CONVERGENCE VALUE= .4516E-02 CRITERION= .1554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 492
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8955E-04 OSCILLATION LIMIT = 70.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.644 CRITERION= .1554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3017E-01
 HT FLOW CONVERGENCE VALUE= .4659E-02 CRITERION= .1553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 493
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8814E-04 OSCILLATION LIMIT = 69.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.613 CRITERION= .1554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2913E-01
 HT FLOW CONVERGENCE VALUE= .4523E-02 CRITERION= .1552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 494
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8946E-04 OSCILLATION LIMIT = 70.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.644 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3008E-01
 HT FLOW CONVERGENCE VALUE= .4645E-02 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 495

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*** TIME = .261928E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8822E-04    OSCILLATION LIMIT = 69.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.613    CRITERION= .1552
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2922E-01
    HT FLOW CONVERGENCE VALUE= .4526E-02    CRITERION= .1550    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 496
*** TIME = .262717E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8938E-04    OSCILLATION LIMIT = 70.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.644    CRITERION= .1551
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3000E-01
    HT FLOW CONVERGENCE VALUE= .4635E-02    CRITERION= .1550    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 497
*** TIME = .263506E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8828E-04    OSCILLATION LIMIT = 69.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.613    CRITERION= .1550
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2930E-01
    HT FLOW CONVERGENCE VALUE= .4531E-02    CRITERION= .1549    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 498
*** TIME = .264295E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8932E-04    OSCILLATION LIMIT = 70.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.644    CRITERION= .1549
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2994E-01
    HT FLOW CONVERGENCE VALUE= .4624E-02    CRITERION= .1548    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 499
*** TIME = .265084E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8833E-04    OSCILLATION LIMIT = 69.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.613    CRITERION= .1549
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2936E-01
    HT FLOW CONVERGENCE VALUE= .4532E-02    CRITERION= .1547    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 500
*** TIME = .265873E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8926E-04    OSCILLATION LIMIT = 70.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.644    CRITERION= .1548
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2989E-01
    HT FLOW CONVERGENCE VALUE= .4614E-02    CRITERION= .1546    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 501
*** TIME = .266662E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8838E-04    OSCILLATION LIMIT = 69.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.613    CRITERION= .1547
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2941E-01
    HT FLOW CONVERGENCE VALUE= .4532E-02    CRITERION= .1545    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 502
*** TIME = .267451E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8922E-04    OSCILLATION LIMIT = 70.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.644    CRITERION= .1546
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2986E-01
    HT FLOW CONVERGENCE VALUE= .4604E-02    CRITERION= .1545    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 503
*** TIME = .268240E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8841E-04 OSCILLATION LIMIT = 69.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.613 CRITERION= .1545
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2945E-01
HT FLOW CONVERGENCE VALUE= .4531E-02 CRITERION= .1544 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 504
*** TIME = .269029E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8918E-04 OSCILLATION LIMIT = 70.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .1544
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982E-01
HT FLOW CONVERGENCE VALUE= .4595E-02 CRITERION= .1543 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 505
*** TIME = .269818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8844E-04 OSCILLATION LIMIT = 69.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.613 CRITERION= .1543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2949E-01
HT FLOW CONVERGENCE VALUE= .4530E-02 CRITERION= .1542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 506
*** TIME = .270606E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8915E-04 OSCILLATION LIMIT = 70.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .1542
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2980E-01
HT FLOW CONVERGENCE VALUE= .4587E-02 CRITERION= .1541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 507
*** TIME = .271395E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8846E-04 OSCILLATION LIMIT = 69.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1542
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2952E-01
HT FLOW CONVERGENCE VALUE= .4528E-02 CRITERION= .1540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 508
*** TIME = .272184E+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= 4.645 CRITERION= .1541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2978E-01
HT FLOW CONVERGENCE VALUE= .4580E-02 CRITERION= .1539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 509
*** TIME = .272973E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8847E-04 OSCILLATION LIMIT = 69.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2954E-01
HT FLOW CONVERGENCE VALUE= .4525E-02 CRITERION= .1538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 510
*** TIME = .273762E+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= 4.645 CRITERION= .1539

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2977E-01
HT FLOW CONVERGENCE VALUE= .4574E-02 CRITERION= .1538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 511
*** TIME = .274551E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8849E-04 OSCILLATION LIMIT = 69.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2956E-01
HT FLOW CONVERGENCE VALUE= .4524E-02 CRITERION= .1537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 512
*** TIME = .275340E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8908E-04 OSCILLATION LIMIT = 70.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2976E-01
HT FLOW CONVERGENCE VALUE= .4567E-02 CRITERION= .1536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 513
*** TIME = .276129E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8850E-04 OSCILLATION LIMIT = 69.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2958E-01
HT FLOW CONVERGENCE VALUE= .4520E-02 CRITERION= .1535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 514
*** TIME = .276918E+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= 4.645 CRITERION= .1536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2975E-01
HT FLOW CONVERGENCE VALUE= .4561E-02 CRITERION= .1534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 515
*** TIME = .277707E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8851E-04 OSCILLATION LIMIT = 69.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2960E-01
HT FLOW CONVERGENCE VALUE= .4517E-02 CRITERION= .1533 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 516
*** TIME = .278496E+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= 4.645 CRITERION= .1534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2975E-01
HT FLOW CONVERGENCE VALUE= .4555E-02 CRITERION= .1533 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 517
*** TIME = .279285E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8851E-04 OSCILLATION LIMIT = 69.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.614 CRITERION= .1533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2961E-01
HT FLOW CONVERGENCE VALUE= .4514E-02 CRITERION= .1532 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 518
*** TIME = .280074E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8904E-04 OSCILLATION LIMIT = 70.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .1532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
 HT FLOW CONVERGENCE VALUE= .4549E-02 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 519
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8852E-04 OSCILLATION LIMIT = 69.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.615 CRITERION= .1532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2962E-01
 HT FLOW CONVERGENCE VALUE= .4510E-02 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 520
 *** TIME = .281652E+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= 4.646 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
 HT FLOW CONVERGENCE VALUE= .4543E-02 CRITERION= .1529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 521
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8852E-04 OSCILLATION LIMIT = 69.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.615 CRITERION= .1530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2962E-01
 HT FLOW CONVERGENCE VALUE= .4506E-02 CRITERION= .1528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 522
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8902E-04 OSCILLATION LIMIT = 70.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .1529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2974E-01
 HT FLOW CONVERGENCE VALUE= .4538E-02 CRITERION= .1528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 523
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8852E-04 OSCILLATION LIMIT = 69.84
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP
VALUES = 136.20 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 136.70 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 137.91 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 20525.880 TIME= 20:00:35
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 20:00:35 SEP 07, 1995 CP= 20525.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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= 3.160 CRITERION= .1528
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2449E-01
HT FLOW CONVERGENCE VALUE= .3566E-02 CRITERION= .1527 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 524
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8406E-04 OSCILLATION LIMIT = 66.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.191 CRITERION= .1527
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2440E-01
HT FLOW CONVERGENCE VALUE= .3550E-02 CRITERION= .1526 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 525


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*** TIME = .285596E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8414E-04    OSCILLATION LIMIT = 66.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.160    CRITERION= .1527
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2466E-01
    HT FLOW CONVERGENCE VALUE= .3540E-02    CRITERION= .1525    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 526
*** TIME = .286385E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8432E-04    OSCILLATION LIMIT = 66.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.192    CRITERION= .1526
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2443E-01
    HT FLOW CONVERGENCE VALUE= .3549E-02    CRITERION= .1525    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 527
*** TIME = .287174E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8410E-04    OSCILLATION LIMIT = 66.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.161    CRITERION= .1525
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2463E-01
    HT FLOW CONVERGENCE VALUE= .3535E-02    CRITERION= .1524    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 528
*** TIME = .287963E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8435E-04    OSCILLATION LIMIT = 66.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.192    CRITERION= .1524
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2446E-01
    HT FLOW CONVERGENCE VALUE= .3548E-02    CRITERION= .1524    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 529
*** TIME = .288752E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8408E-04    OSCILLATION LIMIT = 66.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.161    CRITERION= .1524
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2461E-01
    HT FLOW CONVERGENCE VALUE= .3531E-02    CRITERION= .1523    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 530
*** TIME = .289541E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8436E-04    OSCILLATION LIMIT = 66.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.192    CRITERION= .1523
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2448E-01
    HT FLOW CONVERGENCE VALUE= .3547E-02    CRITERION= .1522    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 531
*** TIME = .290330E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8405E-04    OSCILLATION LIMIT = 66.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.161    CRITERION= .1523
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2460E-01
    HT FLOW CONVERGENCE VALUE= .3527E-02    CRITERION= .1521    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 532
*** TIME = .291119E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8438E-04    OSCILLATION LIMIT = 66.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.192    CRITERION= .1522
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2450E-01
    HT FLOW CONVERGENCE VALUE= .3545E-02    CRITERION= .1521    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 533
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8403E-04 OSCILLATION LIMIT = 66.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2459E-01
HT FLOW CONVERGENCE VALUE= .3523E-02 CRITERION= .1520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 534
*** TIME = .292697E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8439E-04 OSCILLATION LIMIT = 66.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2452E-01
HT FLOW CONVERGENCE VALUE= .3543E-02 CRITERION= .1520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 535
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8402E-04 OSCILLATION LIMIT = 66.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2458E-01
HT FLOW CONVERGENCE VALUE= .3519E-02 CRITERION= .1519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 536
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8440E-04 OSCILLATION LIMIT = 66.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2453E-01
HT FLOW CONVERGENCE VALUE= .3541E-02 CRITERION= .1518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 537
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8400E-04 OSCILLATION LIMIT = 66.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2457E-01
HT FLOW CONVERGENCE VALUE= .3516E-02 CRITERION= .1517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 538
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8440E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2455E-01
HT FLOW CONVERGENCE VALUE= .3538E-02 CRITERION= .1517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 539
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8399E-04 OSCILLATION LIMIT = 66.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2456E-01
HT FLOW CONVERGENCE VALUE= .3512E-02 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 540
*** TIME = .297430E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1516

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2456E-01
HT FLOW CONVERGENCE VALUE= .3536E-02 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 541
*** TIME = .298219E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8398E-04 OSCILLATION LIMIT = 66.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1516
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2455E-01
HT FLOW CONVERGENCE VALUE= .3509E-02 CRITERION= .1515 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 542
*** TIME = .299008E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2457E-01
HT FLOW CONVERGENCE VALUE= .3533E-02 CRITERION= .1514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 543
*** TIME = .299797E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8397E-04 OSCILLATION LIMIT = 66.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2455E-01
HT FLOW CONVERGENCE VALUE= .3506E-02 CRITERION= .1513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 544
*** TIME = .300586E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2458E-01
HT FLOW CONVERGENCE VALUE= .3531E-02 CRITERION= .1513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 545
*** TIME = .301375E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8396E-04 OSCILLATION LIMIT = 66.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2455E-01
HT FLOW CONVERGENCE VALUE= .3503E-02 CRITERION= .1512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 546
*** TIME = .302164E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2458E-01
HT FLOW CONVERGENCE VALUE= .3528E-02 CRITERION= .1512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 547
*** TIME = .302953E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8395E-04 OSCILLATION LIMIT = 66.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
HT FLOW CONVERGENCE VALUE= .3500E-02 CRITERION= .1511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 548
*** TIME = .303742E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2459E-01
 HT FLOW CONVERGENCE VALUE= .3525E-02 CRITERION= .1510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 549
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8395E-04 OSCILLATION LIMIT = 66.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
 HT FLOW CONVERGENCE VALUE= .3497E-02 CRITERION= .1509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 550
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2460E-01
 HT FLOW CONVERGENCE VALUE= .3522E-02 CRITERION= .1509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 551
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8394E-04 OSCILLATION LIMIT = 66.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.161 CRITERION= .1509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
 HT FLOW CONVERGENCE VALUE= .3494E-02 CRITERION= .1508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 552
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2460E-01
 HT FLOW CONVERGENCE VALUE= .3520E-02 CRITERION= .1508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 553
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8393E-04 OSCILLATION LIMIT = 66.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.162 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
 HT FLOW CONVERGENCE VALUE= .3492E-02 CRITERION= .1507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 554
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.192 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2461E-01
 HT FLOW CONVERGENCE VALUE= .3517E-02 CRITERION= .1506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 555
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8393E-04 OSCILLATION LIMIT = 66.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.162 CRITERION= .1506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
 HT FLOW CONVERGENCE VALUE= .3489E-02 CRITERION= .1505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 556
 *** TIME = .310053E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8440E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.193 CRITERION= .1506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2461E-01
HT FLOW CONVERGENCE VALUE= .3514E-02 CRITERION= .1505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 557
*** TIME = .310842E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8392E-04 OSCILLATION LIMIT = 66.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.162 CRITERION= .1505
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
HT FLOW CONVERGENCE VALUE= .3486E-02 CRITERION= .1504 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 558
*** TIME = .311631E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8440E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.193 CRITERION= .1504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2462E-01
HT FLOW CONVERGENCE VALUE= .3511E-02 CRITERION= .1503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 559
*** TIME = .312420E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8392E-04 OSCILLATION LIMIT = 66.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.162 CRITERION= .1504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
HT FLOW CONVERGENCE VALUE= .3483E-02 CRITERION= .1503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 560
*** TIME = .313209E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8440E-04 OSCILLATION LIMIT = 66.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.193 CRITERION= .1503
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2462E-01
HT FLOW CONVERGENCE VALUE= .3508E-02 CRITERION= .1502 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 561
*** TIME = .313998E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8392E-04 OSCILLATION LIMIT = 66.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.162 CRITERION= .1502
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2454E-01
HT FLOW CONVERGENCE VALUE= .3480E-02 CRITERION= .1501 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 562
*** TIME = .314787E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8439E-04 OSCILLATION LIMIT = 66.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.193 CRITERION= .1502
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2463E-01
HT FLOW CONVERGENCE VALUE= .3505E-02 CRITERION= .1501 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 563
*** TIME = .315576E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8391E-04 OSCILLATION LIMIT = 66.20

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:47:45 SEP 07, 1995 CP= 22129.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 17.49 CRITERION= .1511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3591
 HT FLOW CONVERGENCE VALUE= .5537E-01 CRITERION= .1494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 564
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3390E-04 OSCILLATION LIMIT = 267.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3332
 HT FLOW CONVERGENCE VALUE= .5379E-01 CRITERION= .1488 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 565
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.49 CRITERION= .1498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3331
 HT FLOW CONVERGENCE VALUE= .5337E-01 CRITERION= .1481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 566
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1491
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3350
 HT FLOW CONVERGENCE VALUE= .5344E-01 CRITERION= .1475 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 567
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.48 CRITERION= .1485
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3336
 HT FLOW CONVERGENCE VALUE= .5299E-01 CRITERION= .1468 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 568
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1478
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3355
 HT FLOW CONVERGENCE VALUE= .5308E-01 CRITERION= .1462 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 569
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.48 CRITERION= .1472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3342
 HT FLOW CONVERGENCE VALUE= .5267E-01 CRITERION= .1455 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 570
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1465
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3361
 HT FLOW CONVERGENCE VALUE= .5273E-01 CRITERION= .1449 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 571
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3276E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.48 CRITERION= .1459
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3348
 HT FLOW CONVERGENCE VALUE= .5231E-01 CRITERION= .1442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 572
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3271E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1452
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3366
 HT FLOW CONVERGENCE VALUE= .5237E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 573
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.48 CRITERION= .1446
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3353
 HT FLOW CONVERGENCE VALUE= .5187E-01 CRITERION= .1429 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 574
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1439
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3372
 HT FLOW CONVERGENCE VALUE= .5197E-01 CRITERION= .1423 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 575
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.47 CRITERION= .1433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3359
 HT FLOW CONVERGENCE VALUE= .5167E-01 CRITERION= .1416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 576
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3377
 HT FLOW CONVERGENCE VALUE= .5184E-01 CRITERION= .1410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 577
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.47 CRITERION= .1420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3364
 HT FLOW CONVERGENCE VALUE= .5157E-01 CRITERION= .1403 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 578
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.1

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3382
 HT FLOW CONVERGENCE VALUE= .5163E-01 CRITERION= .1397 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 579
 *** TIME = .441806E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.47 CRITERION= .1407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3370
 HT FLOW CONVERGENCE VALUE= .5120E-01 CRITERION= .1390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 580
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.1
 *** 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= -.3387
 HT FLOW CONVERGENCE VALUE= .5089E-01 CRITERION= .1384 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 581
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.47 CRITERION= .1394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3376
 HT FLOW CONVERGENCE VALUE= .5047E-01 CRITERION= .1377 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 582
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3393
 HT FLOW CONVERGENCE VALUE= .5051E-01 CRITERION= .1371 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 583
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.47 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3382
 HT FLOW CONVERGENCE VALUE= .4978E-01 CRITERION= .1364 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 584
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.43 CRITERION= .1375
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3398
 HT FLOW CONVERGENCE VALUE= .4938E-01 CRITERION= .1358 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 585
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1368
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3387
 HT FLOW CONVERGENCE VALUE= .4897E-01 CRITERION= .1351 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 586

*** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.43 CRITERION= .1362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3404
 HT FLOW CONVERGENCE VALUE= .4899E-01 CRITERION= .1345 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 587
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3392
 HT FLOW CONVERGENCE VALUE= .4856E-01 CRITERION= .1338 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 588
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.43 CRITERION= .1349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3409
 HT FLOW CONVERGENCE VALUE= .4855E-01 CRITERION= .1332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 589
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3398
 HT FLOW CONVERGENCE VALUE= .4810E-01 CRITERION= .1325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 590
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3272E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.43 CRITERION= .1336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3415
 HT FLOW CONVERGENCE VALUE= .4812E-01 CRITERION= .1319 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 591
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3276E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1330
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3405
 HT FLOW CONVERGENCE VALUE= .4774E-01 CRITERION= .1312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 592
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.43 CRITERION= .1323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3421
 HT FLOW CONVERGENCE VALUE= .4773E-01 CRITERION= .1306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 593
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3276E-04 OSCILLATION LIMIT = 258.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.46 CRITERION= .1317
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3411
 HT FLOW CONVERGENCE VALUE= .4724E-01 CRITERION= .1299 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 594
*** TIME = .560147E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.42 CRITERION= .1310
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3426
HT FLOW CONVERGENCE VALUE= .4718E-01 CRITERION= .1292 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 595
*** TIME = .568037E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3276E-04 OSCILLATION LIMIT = 258.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1304
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3416
HT FLOW CONVERGENCE VALUE= .4683E-01 CRITERION= .1286 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 596
*** TIME = .575926E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.42 CRITERION= .1297
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3432
HT FLOW CONVERGENCE VALUE= .4682E-01 CRITERION= .1279 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 597
*** TIME = .583816E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1291
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3422
HT FLOW CONVERGENCE VALUE= .4628E-01 CRITERION= .1273 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 598
*** TIME = .591705E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.42 CRITERION= .1284
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3437
HT FLOW CONVERGENCE VALUE= .4626E-01 CRITERION= .1266 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 599
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1278
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3427
HT FLOW CONVERGENCE VALUE= .4589E-01 CRITERION= .1260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 600
*** TIME = .607484E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.42 CRITERION= .1271
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3442
HT FLOW CONVERGENCE VALUE= .4586E-01 CRITERION= .1253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 601
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3275E-04 OSCILLATION LIMIT = 258.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1265

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3432
 HT FLOW CONVERGENCE VALUE= .4537E-01 CRITERION= .1247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 602
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3273E-04 OSCILLATION LIMIT = 258.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.41 CRITERION= .1258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3447
 HT FLOW CONVERGENCE VALUE= .4495E-01 CRITERION= .1240 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 603
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3276E-04 OSCILLATION LIMIT = 258.4

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:35:19 SEP 07, 1995 CP= 23731.030
 FOR SUPPORT CALL ROBERT BAHNEY , PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 53.87 CRITERION= .1352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3416
 HT FLOW CONVERGENCE VALUE= .5816E-01 CRITERION= .1235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 604
 *** TIME = .639041E+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= 53.83 CRITERION= .1347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3389
 HT FLOW CONVERGENCE VALUE= .5740E-01 CRITERION= .1230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 605
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1213E-04 OSCILLATION LIMIT = 95.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.85 CRITERION= .1343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3379
 HT FLOW CONVERGENCE VALUE= .5703E-01 CRITERION= .1225 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 606
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1208E-04 OSCILLATION LIMIT = 95.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.81 CRITERION= .1338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3396
 HT FLOW CONVERGENCE VALUE= .5704E-01 CRITERION= .1221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 607
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 95.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.83 CRITERION= .1334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3384
 HT FLOW CONVERGENCE VALUE= .5664E-01 CRITERION= .1216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 608
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1209E-04 OSCILLATION LIMIT = 95.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.79 CRITERION= .1329
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3400
 HT FLOW CONVERGENCE VALUE= .5675E-01 CRITERION= .1211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 609
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 96.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.81 CRITERION= .1325
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3388
 HT FLOW CONVERGENCE VALUE= .5638E-01 CRITERION= .1206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 610
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = 95.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.77 CRITERION= .1320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3404
 HT FLOW CONVERGENCE VALUE= .5640E-01 CRITERION= .1201 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 611
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1219E-04 OSCILLATION LIMIT = 96.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.79 CRITERION= .1316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3392
 HT FLOW CONVERGENCE VALUE= .5614E-01 CRITERION= .1196 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 612
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 95.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.75 CRITERION= .1311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3408
 HT FLOW CONVERGENCE VALUE= .5620E-01 CRITERION= .1192 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 613
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1220E-04 OSCILLATION LIMIT = 96.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.77 CRITERION= .1307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3397
 HT FLOW CONVERGENCE VALUE= .5589E-01 CRITERION= .1187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 614
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 95.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3413
 HT FLOW CONVERGENCE VALUE= .5611E-01 CRITERION= .1182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 615
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 96.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.75 CRITERION= .1298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3401
 HT FLOW CONVERGENCE VALUE= .5586E-01 CRITERION= .1177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 616
 *** TIME = .733714E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1215E-04 OSCILLATION LIMIT = 95.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.71 CRITERION= .1293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3417
 HT FLOW CONVERGENCE VALUE= .5638E-01 CRITERION= .1172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 617
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 96.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3406
 HT FLOW CONVERGENCE VALUE= .5601E-01 CRITERION= .1167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 618
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 95.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.68 CRITERION= .1285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3421
 HT FLOW CONVERGENCE VALUE= .5595E-01 CRITERION= .1163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 619
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1224E-04 OSCILLATION LIMIT = 96.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.70 CRITERION= .1280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3410
 HT FLOW CONVERGENCE VALUE= .5563E-01 CRITERION= .1158 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 620
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1218E-04 OSCILLATION LIMIT = 96.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.66 CRITERION= .1276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3425
 HT FLOW CONVERGENCE VALUE= .5559E-01 CRITERION= .1153 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 621
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1225E-04 OSCILLATION LIMIT = 96.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.68 CRITERION= .1271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3415
 HT FLOW CONVERGENCE VALUE= .5522E-01 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 622
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1220E-04 OSCILLATION LIMIT = 96.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.64 CRITERION= .1267
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3429
 HT FLOW CONVERGENCE VALUE= .5515E-01 CRITERION= .1143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 623
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1227E-04 OSCILLATION LIMIT = 96.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.66 CRITERION= .1263
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3419
 HT FLOW CONVERGENCE VALUE= .5455E-01 CRITERION= .1138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 624
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 96.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.62 CRITERION= .1258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3434
 HT FLOW CONVERGENCE VALUE= .5396E-01 CRITERION= .1133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 625
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1228E-04 OSCILLATION LIMIT = 96.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.64 CRITERION= .1254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3424
 HT FLOW CONVERGENCE VALUE= .5346E-01 CRITERION= .1128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 626
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 96.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.60 CRITERION= .1249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3438
 HT FLOW CONVERGENCE VALUE= .5323E-01 CRITERION= .1124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 627
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1229E-04 OSCILLATION LIMIT = 96.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.62 CRITERION= .1245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428
 HT FLOW CONVERGENCE VALUE= .5278E-01 CRITERION= .1119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 628
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1224E-04 OSCILLATION LIMIT = 96.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.58 CRITERION= .1240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3442
 HT FLOW CONVERGENCE VALUE= .5274E-01 CRITERION= .1114 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 629
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1230E-04 OSCILLATION LIMIT = 97.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.60 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3432
 HT FLOW CONVERGENCE VALUE= .5241E-01 CRITERION= .1109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 630
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1225E-04 OSCILLATION LIMIT = 96.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.56 CRITERION= .1231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3446
 HT FLOW CONVERGENCE VALUE= .5234E-01 CRITERION= .1104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 631
 *** TIME = .852055E+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= 53.58 CRITERION= .1227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3437

HT FLOW CONVERGENCE VALUE= .5199E-01 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 632
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1227E-04 OSCILLATION LIMIT = 96.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.54 CRITERION= .1222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3451
 HT FLOW CONVERGENCE VALUE= .5186E-01 CRITERION= .1095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 633
 *** TIME = .867834E+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= 53.56 CRITERION= .1218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3441
 HT FLOW CONVERGENCE VALUE= .5127E-01 CRITERION= .1090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 634
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1228E-04 OSCILLATION LIMIT = 96.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.52 CRITERION= .1214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3455
 HT FLOW CONVERGENCE VALUE= .5138E-01 CRITERION= .1085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 635
 *** TIME = .883613E+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= 53.54 CRITERION= .1209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3445
 HT FLOW CONVERGENCE VALUE= .5107E-01 CRITERION= .1080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 636
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1229E-04 OSCILLATION LIMIT = 96.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.50 CRITERION= .1205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3459
 HT FLOW CONVERGENCE VALUE= .5100E-01 CRITERION= .1075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 637
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = 97.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.52 CRITERION= .1201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3450
 HT FLOW CONVERGENCE VALUE= .5064E-01 CRITERION= .1070 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 638
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.48 CRITERION= .1196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3463
 HT FLOW CONVERGENCE VALUE= .5056E-01 CRITERION= .1065 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 639
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1237E-04 OSCILLATION LIMIT = 97.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.50 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3455
 HT FLOW CONVERGENCE VALUE= .5020E-01 CRITERION= .1060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 640
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1232E-04 OSCILLATION LIMIT = 97.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.46 CRITERION= .1187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3468
 HT FLOW CONVERGENCE VALUE= .5002E-01 CRITERION= .1056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 641
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1238E-04 OSCILLATION LIMIT = 97.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.48 CRITERION= .1183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3459
 HT FLOW CONVERGENCE VALUE= .4943E-01 CRITERION= .1051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 642
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1234E-04 OSCILLATION LIMIT = 97.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.44 CRITERION= .1178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3472
 HT FLOW CONVERGENCE VALUE= .4960E-01 CRITERION= .1046 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 643
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1239E-04 OSCILLATION LIMIT = 97.78

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:22:48 SEP 07, 1995 CP= 25333.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 64.51 CRITERION= .1229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3119
 HT FLOW CONVERGENCE VALUE= .5040E-01 CRITERION= .1042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 644
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6878E-05 OSCILLATION LIMIT = 54.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.47 CRITERION= .1225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3134
 HT FLOW CONVERGENCE VALUE= .5022E-01 CRITERION= .1038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 645
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6914E-05 OSCILLATION LIMIT = 54.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.48 CRITERION= .1222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3129
 HT FLOW CONVERGENCE VALUE= .4994E-01 CRITERION= .1035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 646
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6886E-05 OSCILLATION LIMIT = 54.33

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.44 CRITERION= .1219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3138
 HT FLOW CONVERGENCE VALUE= .4988E-01 CRITERION= .1031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 647
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6928E-05 OSCILLATION LIMIT = 54.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.45 CRITERION= .1216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3132
 HT FLOW CONVERGENCE VALUE= .4956E-01 CRITERION= .1027 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 648
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6898E-05 OSCILLATION LIMIT = 54.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.41 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3141
 HT FLOW CONVERGENCE VALUE= .4940E-01 CRITERION= .1024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 649
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6938E-05 OSCILLATION LIMIT = 54.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.42 CRITERION= .1209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3135
 HT FLOW CONVERGENCE VALUE= .4915E-01 CRITERION= .1020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 650
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6908E-05 OSCILLATION LIMIT = 54.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.38 CRITERION= .1206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3144
 HT FLOW CONVERGENCE VALUE= .4903E-01 CRITERION= .1016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 651
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6946E-05 OSCILLATION LIMIT = 54.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.39 CRITERION= .1203
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3138
 HT FLOW CONVERGENCE VALUE= .4873E-01 CRITERION= .1012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 652
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6919E-05 OSCILLATION LIMIT = 54.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.35 CRITERION= .1199
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3147
 HT FLOW CONVERGENCE VALUE= .4867E-01 CRITERION= .1009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 653
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6959E-05 OSCILLATION LIMIT = 54.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.36 CRITERION= .1196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .4841E-01 CRITERION= .1005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 654

*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6932E-05 OSCILLATION LIMIT = 54.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.32 CRITERION= .1193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3150
HT FLOW CONVERGENCE VALUE= .4825E-01 CRITERION= .1001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 655
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6971E-05 OSCILLATION LIMIT = 54.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.33 CRITERION= .1190
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3145
HT FLOW CONVERGENCE VALUE= .4775E-01 CRITERION= .9975E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 656
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6944E-05 OSCILLATION LIMIT = 54.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.29 CRITERION= .1187
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3153
HT FLOW CONVERGENCE VALUE= .4796E-01 CRITERION= .9940E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 657
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6981E-05 OSCILLATION LIMIT = 55.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.30 CRITERION= .1184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3148
HT FLOW CONVERGENCE VALUE= .4765E-01 CRITERION= .9901E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 658
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6954E-05 OSCILLATION LIMIT = 54.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.26 CRITERION= .1180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3157
HT FLOW CONVERGENCE VALUE= .4755E-01 CRITERION= .9866E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 659
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6992E-05 OSCILLATION LIMIT = 55.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.27 CRITERION= .1177
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3152
HT FLOW CONVERGENCE VALUE= .4727E-01 CRITERION= .9827E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 660
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6967E-05 OSCILLATION LIMIT = 54.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.23 CRITERION= .1174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3160
HT FLOW CONVERGENCE VALUE= .4718E-01 CRITERION= .9792E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 661
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7004E-05 OSCILLATION LIMIT = 55.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.24 CRITERION= .1171
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3155
HT FLOW CONVERGENCE VALUE= .4676E-01 CRITERION= .9753E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 662
*** TIME = .109663E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6980E-05 OSCILLATION LIMIT = 55.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.20 CRITERION= .1167
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3163
HT FLOW CONVERGENCE VALUE= .4686E-01 CRITERION= .9717E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 663
*** TIME = .110452E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7014E-05 OSCILLATION LIMIT = 55.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.21 CRITERION= .1164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3158
HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .9679E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 664
*** TIME = .111241E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6989E-05 OSCILLATION LIMIT = 55.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.17 CRITERION= .1161
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3166
HT FLOW CONVERGENCE VALUE= .4652E-01 CRITERION= .9643E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 665
*** TIME = .112029E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7025E-05 OSCILLATION LIMIT = 55.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.18 CRITERION= .1158
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
HT FLOW CONVERGENCE VALUE= .4623E-01 CRITERION= .9604E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 666
*** TIME = .112818E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7003E-05 OSCILLATION LIMIT = 55.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.14 CRITERION= .1155
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
HT FLOW CONVERGENCE VALUE= .4603E-01 CRITERION= .9569E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 667
*** TIME = .113607E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7038E-05 OSCILLATION LIMIT = 55.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.15 CRITERION= .1152
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3165
HT FLOW CONVERGENCE VALUE= .4563E-01 CRITERION= .9530E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 668
*** TIME = .114396E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7016E-05 OSCILLATION LIMIT = 55.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.11 CRITERION= .1148
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3173
HT FLOW CONVERGENCE VALUE= .4575E-01 CRITERION= .9494E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 669
*** TIME = .115185E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7048E-05 OSCILLATION LIMIT = 55.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.12 CRITERION= .1145
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3168
 HT FLOW CONVERGENCE VALUE= .4552E-01 CRITERION= .9456E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 670
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7026E-05 OSCILLATION LIMIT = 55.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.08 CRITERION= .1142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3176
 HT FLOW CONVERGENCE VALUE= .4545E-01 CRITERION= .9420E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 671
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7059E-05 OSCILLATION LIMIT = 55.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.09 CRITERION= .1139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3172
 HT FLOW CONVERGENCE VALUE= .4513E-01 CRITERION= .9381E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 672
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7039E-05 OSCILLATION LIMIT = 55.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.05 CRITERION= .1136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3180
 HT FLOW CONVERGENCE VALUE= .4479E-01 CRITERION= .9346E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 673
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7072E-05 OSCILLATION LIMIT = 55.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.06 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3175
 HT FLOW CONVERGENCE VALUE= .4469E-01 CRITERION= .9307E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 674
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7052E-05 OSCILLATION LIMIT = 55.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.02 CRITERION= .1129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3183
 HT FLOW CONVERGENCE VALUE= .4462E-01 CRITERION= .9271E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 675
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7083E-05 OSCILLATION LIMIT = 55.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.03 CRITERION= .1127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3179
 HT FLOW CONVERGENCE VALUE= .4439E-01 CRITERION= .9232E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 676
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7064E-05 OSCILLATION LIMIT = 55.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.99 CRITERION= .1123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3186
 HT FLOW CONVERGENCE VALUE= .4423E-01 CRITERION= .9197E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 677
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7095E-05 OSCILLATION LIMIT = 55.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.00 CRITERION= .1120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3183
 HT FLOW CONVERGENCE VALUE= .4381E-01 CRITERION= .9158E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 678
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7077E-05 OSCILLATION LIMIT = 55.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.96 CRITERION= .1117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3190
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .9122E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 679
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7106E-05 OSCILLATION LIMIT = 56.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.97 CRITERION= .1114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3186
 HT FLOW CONVERGENCE VALUE= .4358E-01 CRITERION= .9084E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 680
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7088E-05 OSCILLATION LIMIT = 55.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.93 CRITERION= .1111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3193
 HT FLOW CONVERGENCE VALUE= .4348E-01 CRITERION= .9048E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 681
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7119E-05 OSCILLATION LIMIT = 56.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.94 CRITERION= .1108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3189
 HT FLOW CONVERGENCE VALUE= .4305E-01 CRITERION= .9009E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 682
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7102E-05 OSCILLATION LIMIT = 56.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.90 CRITERION= .1104
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3196
 HT FLOW CONVERGENCE VALUE= .4306E-01 CRITERION= .8973E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 683
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7131E-05 OSCILLATION LIMIT = 56.26

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:10:06 SEP 07, 1995 CP= 26934.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 57.72 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2696
 HT FLOW CONVERGENCE VALUE= .3747E-01 CRITERION= .8941E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 684
 *** TIME = .127019E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6039E-05 OSCILLATION LIMIT = 47.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.67 CRITERION= .1064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2728
 HT FLOW CONVERGENCE VALUE= .3750E-01 CRITERION= .8913E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 685
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6181E-05 OSCILLATION LIMIT = 48.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.69 CRITERION= .1061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2729
 HT FLOW CONVERGENCE VALUE= .3726E-01 CRITERION= .8881E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 686
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6190E-05 OSCILLATION LIMIT = 48.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.65 CRITERION= .1059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2729
 HT FLOW CONVERGENCE VALUE= .3710E-01 CRITERION= .8852E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 687
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6188E-05 OSCILLATION LIMIT = 48.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.67 CRITERION= .1056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2731
 HT FLOW CONVERGENCE VALUE= .3704E-01 CRITERION= .8820E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 688
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6200E-05 OSCILLATION LIMIT = 48.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.62 CRITERION= .1053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2732
 HT FLOW CONVERGENCE VALUE= .3696E-01 CRITERION= .8791E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 689
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6197E-05 OSCILLATION LIMIT = 48.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.64 CRITERION= .1051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2734
 HT FLOW CONVERGENCE VALUE= .3677E-01 CRITERION= .8759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 690
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6210E-05 OSCILLATION LIMIT = 48.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.60 CRITERION= .1048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2734
 HT FLOW CONVERGENCE VALUE= .3656E-01 CRITERION= .8730E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 691
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6208E-05 OSCILLATION LIMIT = 48.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.62 CRITERION= .1046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2736
 HT FLOW CONVERGENCE VALUE= .3650E-01 CRITERION= .8698E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 692
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6220E-05 OSCILLATION LIMIT = 49.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.58 CRITERION= .1043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2737
 HT FLOW CONVERGENCE VALUE= .3642E-01 CRITERION= .8669E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 693
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6218E-05 OSCILLATION LIMIT = 49.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.59 CRITERION= .1041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2739
 HT FLOW CONVERGENCE VALUE= .3622E-01 CRITERION= .8637E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 694
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6231E-05 OSCILLATION LIMIT = 49.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.55 CRITERION= .1038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2739
 HT FLOW CONVERGENCE VALUE= .3592E-01 CRITERION= .8608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 695
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6229E-05 OSCILLATION LIMIT = 49.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.57 CRITERION= .1035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2741
 HT FLOW CONVERGENCE VALUE= .3577E-01 CRITERION= .8576E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 696
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6240E-05 OSCILLATION LIMIT = 49.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.53 CRITERION= .1033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2742
 HT FLOW CONVERGENCE VALUE= .3567E-01 CRITERION= .8547E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 697
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6237E-05 OSCILLATION LIMIT = 49.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.55 CRITERION= .1030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2744
 HT FLOW CONVERGENCE VALUE= .3542E-01 CRITERION= .8515E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 698
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6251E-05 OSCILLATION LIMIT = 49.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.50 CRITERION= .1027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2744
 HT FLOW CONVERGENCE VALUE= .3519E-01 CRITERION= .8486E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 699
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6249E-05 OSCILLATION LIMIT = 49.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.52 CRITERION= .1025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2746

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HT FLOW CONVERGENCE VALUE= .3507E-01 CRITERION= .8454E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 700
*** TIME = .139642E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6261E-05 OSCILLATION LIMIT = 49.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.48 CRITERION= .1022
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2747
HT FLOW CONVERGENCE VALUE= .3492E-01 CRITERION= .8425E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 701
*** TIME = .140431E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6259E-05 OSCILLATION LIMIT = 49.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.50 CRITERION= .1020
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2749
HT FLOW CONVERGENCE VALUE= .3477E-01 CRITERION= .8393E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 702
*** TIME = .141220E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6272E-05 OSCILLATION LIMIT = 49.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.45 CRITERION= .1017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2749
HT FLOW CONVERGENCE VALUE= .3468E-01 CRITERION= .8364E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 703
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6269E-05 OSCILLATION LIMIT = 49.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.47 CRITERION= .1015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2751
HT FLOW CONVERGENCE VALUE= .3456E-01 CRITERION= .8331E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 704
*** TIME = .142798E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6282E-05 OSCILLATION LIMIT = 49.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.43 CRITERION= .1012
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2752
HT FLOW CONVERGENCE VALUE= .3449E-01 CRITERION= .8303E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 705
*** TIME = .143587E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6279E-05 OSCILLATION LIMIT = 49.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.45 CRITERION= .1009
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2754
HT FLOW CONVERGENCE VALUE= .3429E-01 CRITERION= .8270E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 706
*** TIME = .144376E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6291E-05 OSCILLATION LIMIT = 49.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.41 CRITERION= .1007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2754
HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .8241E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 707
*** TIME = .145165E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6288E-05 OSCILLATION LIMIT = 49.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.42 CRITERION= .1004
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2756
 HT FLOW CONVERGENCE VALUE= .3412E-01 CRITERION= .8209E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 708
 *** TIME = .145954E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6302E-05 OSCILLATION LIMIT = 49.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.38 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2757
 HT FLOW CONVERGENCE VALUE= .3405E-01 CRITERION= .8180E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 709
 *** TIME = .146743E+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= 57.40 CRITERION= .9991E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2759
 HT FLOW CONVERGENCE VALUE= .3391E-01 CRITERION= .8148E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 710
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6312E-05 OSCILLATION LIMIT = 49.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.36 CRITERION= .9963E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2760
 HT FLOW CONVERGENCE VALUE= .3377E-01 CRITERION= .8119E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 711
 *** TIME = .148321E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6309E-05 OSCILLATION LIMIT = 49.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.37 CRITERION= .9940E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2761
 HT FLOW CONVERGENCE VALUE= .3364E-01 CRITERION= .8087E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 712
 *** TIME = .149110E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6322E-05 OSCILLATION LIMIT = 49.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.33 CRITERION= .9912E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2762
 HT FLOW CONVERGENCE VALUE= .3366E-01 CRITERION= .8058E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 713
 *** TIME = .149899E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6319E-05 OSCILLATION LIMIT = 49.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.35 CRITERION= .9888E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2764
 HT FLOW CONVERGENCE VALUE= .3368E-01 CRITERION= .8026E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 714
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6332E-05 OSCILLATION LIMIT = 49.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.31 CRITERION= .9861E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2765
 HT FLOW CONVERGENCE VALUE= .3369E-01 CRITERION= .7997E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 715
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6331E-05 OSCILLATION LIMIT = 49.95

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.33 CRITERION= .9837E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2767
HT FLOW CONVERGENCE VALUE= .3363E-01 CRITERION= .7965E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 716
*** TIME = .152265E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6344E-05 OSCILLATION LIMIT = 50.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.28 CRITERION= .9810E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2768
HT FLOW CONVERGENCE VALUE= .3372E-01 CRITERION= .7936E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 717
*** TIME = .153054E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6343E-05 OSCILLATION LIMIT = 50.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.30 CRITERION= .9786E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2770
HT FLOW CONVERGENCE VALUE= .3362E-01 CRITERION= .7903E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 718
*** TIME = .153843E+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= 57.26 CRITERION= .9758E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2771
HT FLOW CONVERGENCE VALUE= .3348E-01 CRITERION= .7874E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 719
*** TIME = .154632E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6354E-05 OSCILLATION LIMIT = 50.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.28 CRITERION= .9735E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2773
HT FLOW CONVERGENCE VALUE= .3326E-01 CRITERION= .7842E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 720
*** TIME = .155421E+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= 57.23 CRITERION= .9707E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2774
HT FLOW CONVERGENCE VALUE= .3304E-01 CRITERION= .7813E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 721
*** TIME = .156210E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6365E-05 OSCILLATION LIMIT = 50.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.25 CRITERION= .9684E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2776
HT FLOW CONVERGENCE VALUE= .3279E-01 CRITERION= .7781E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 722
*** TIME = .156999E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6380E-05 OSCILLATION LIMIT = 50.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.21 CRITERION= .9657E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2778
HT FLOW CONVERGENCE VALUE= .3275E-01 CRITERION= .7752E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 723

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*** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6379E-05 OSCILLATION LIMIT = 50.33

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:57:53 SEP 07, 1995 CP= 28537.180
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 48.48 CRITERION= .9141E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2228
 HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .7726E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 724
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5563E-05 OSCILLATION LIMIT = 43.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.44 CRITERION= .9118E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2255
 HT FLOW CONVERGENCE VALUE= .2709E-01 CRITERION= .7704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 725
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5695E-05 OSCILLATION LIMIT = 44.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.46 CRITERION= .9100E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2262
 HT FLOW CONVERGENCE VALUE= .2710E-01 CRITERION= .7678E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 726
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5747E-05 OSCILLATION LIMIT = 45.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.42 CRITERION= .9077E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2256
 HT FLOW CONVERGENCE VALUE= .2701E-01 CRITERION= .7656E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 727
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5700E-05 OSCILLATION LIMIT = 44.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.44 CRITERION= .9058E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2264
 HT FLOW CONVERGENCE VALUE= .2693E-01 CRITERION= .7630E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 728
 *** TIME = .161733E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5755E-05 OSCILLATION LIMIT = 45.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.40 CRITERION= .9035E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2258
 HT FLOW CONVERGENCE VALUE= .2694E-01 CRITERION= .7608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 729
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5709E-05 OSCILLATION LIMIT = 45.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.42 CRITERION= .9017E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2266
 HT FLOW CONVERGENCE VALUE= .2689E-01 CRITERION= .7582E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 730
*** TIME = .163311E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5764E-05 OSCILLATION LIMIT = 45.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.39 CRITERION= .8994E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2260
HT FLOW CONVERGENCE VALUE= .2694E-01 CRITERION= .7560E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 731
*** TIME = .164100E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5718E-05 OSCILLATION LIMIT = 45.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.41 CRITERION= .8975E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2268
HT FLOW CONVERGENCE VALUE= .2709E-01 CRITERION= .7534E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 732
*** TIME = .164888E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5773E-05 OSCILLATION LIMIT = 45.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.37 CRITERION= .8952E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2262
HT FLOW CONVERGENCE VALUE= .2699E-01 CRITERION= .7512E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 733
*** TIME = .165677E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5729E-05 OSCILLATION LIMIT = 45.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.39 CRITERION= .8934E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2270
HT FLOW CONVERGENCE VALUE= .2687E-01 CRITERION= .7486E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 734
*** TIME = .166466E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5782E-05 OSCILLATION LIMIT = 45.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.35 CRITERION= .8911E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2265
HT FLOW CONVERGENCE VALUE= .2672E-01 CRITERION= .7463E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 735
*** TIME = .167255E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5739E-05 OSCILLATION LIMIT = 45.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.37 CRITERION= .8892E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2272
HT FLOW CONVERGENCE VALUE= .2659E-01 CRITERION= .7438E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 736
*** TIME = .168044E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5792E-05 OSCILLATION LIMIT = 45.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .8869E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2267
HT FLOW CONVERGENCE VALUE= .2649E-01 CRITERION= .7415E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 737
*** TIME = .168833E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5750E-05 OSCILLATION LIMIT = 45.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.35 CRITERION= .8851E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2275
HT FLOW CONVERGENCE VALUE= .2650E-01 CRITERION= .7390E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 738
*** TIME = .169622E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5802E-05 OSCILLATION LIMIT = 45.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .8828E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2270
HT FLOW CONVERGENCE VALUE= .2648E-01 CRITERION= .7367E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 739
*** TIME = .170411E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5760E-05 OSCILLATION LIMIT = 45.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.34 CRITERION= .8810E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2277
HT FLOW CONVERGENCE VALUE= .2639E-01 CRITERION= .7341E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 740
*** TIME = .171200E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5811E-05 OSCILLATION LIMIT = 45.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.30 CRITERION= .8787E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2272
HT FLOW CONVERGENCE VALUE= .2632E-01 CRITERION= .7319E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 741
*** TIME = .171989E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5769E-05 OSCILLATION LIMIT = 45.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .8768E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2279
HT FLOW CONVERGENCE VALUE= .2611E-01 CRITERION= .7293E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 742
*** TIME = .172778E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5819E-05 OSCILLATION LIMIT = 45.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.28 CRITERION= .8746E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2274
HT FLOW CONVERGENCE VALUE= .2573E-01 CRITERION= .7271E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 743
*** TIME = .173567E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5779E-05 OSCILLATION LIMIT = 45.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.30 CRITERION= .8727E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2281
HT FLOW CONVERGENCE VALUE= .2541E-01 CRITERION= .7245E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 744
*** TIME = .174356E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5829E-05 OSCILLATION LIMIT = 45.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.26 CRITERION= .8705E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2276
HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .7223E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 745
*** TIME = .175145E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5790E-05 OSCILLATION LIMIT = 45.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 48.28 CRITERION= .8686E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2283
 HT FLOW CONVERGENCE VALUE= .2468E-01 CRITERION= .7197E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 746
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5840E-05 OSCILLATION LIMIT = 46.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.25 CRITERION= .8664E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2279
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .7174E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 747
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5800E-05 OSCILLATION LIMIT = 45.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.27 CRITERION= .8645E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2286
 HT FLOW CONVERGENCE VALUE= .2453E-01 CRITERION= .7149E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 748
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5849E-05 OSCILLATION LIMIT = 46.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.23 CRITERION= .8623E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2282
 HT FLOW CONVERGENCE VALUE= .2446E-01 CRITERION= .7126E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 749
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5810E-05 OSCILLATION LIMIT = 45.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.25 CRITERION= .8604E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2288
 HT FLOW CONVERGENCE VALUE= .2438E-01 CRITERION= .7100E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 750
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5857E-05 OSCILLATION LIMIT = 46.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .8582E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2284
 HT FLOW CONVERGENCE VALUE= .2427E-01 CRITERION= .7078E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 751
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5819E-05 OSCILLATION LIMIT = 45.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.23 CRITERION= .8563E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2290
 HT FLOW CONVERGENCE VALUE= .2374E-01 CRITERION= .7052E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 752
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5867E-05 OSCILLATION LIMIT = 46.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.19 CRITERION= .8541E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2286
 HT FLOW CONVERGENCE VALUE= .2366E-01 CRITERION= .7030E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 753
 *** TIME = .181456E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .5829E-05 OSCILLATION LIMIT = 45.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .8523E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2293
 HT FLOW CONVERGENCE VALUE= .2360E-01 CRITERION= .7004E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 754
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5876E-05 OSCILLATION LIMIT = 46.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.18 CRITERION= .8500E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2288
 HT FLOW CONVERGENCE VALUE= .2352E-01 CRITERION= .6982E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 755
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5839E-05 OSCILLATION LIMIT = 46.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .8482E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2295
 HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .6956E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 756
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5885E-05 OSCILLATION LIMIT = 46.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.16 CRITERION= .8459E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2291
 HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .6933E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 757
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5848E-05 OSCILLATION LIMIT = 46.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.18 CRITERION= .8441E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2297
 HT FLOW CONVERGENCE VALUE= .2304E-01 CRITERION= .6908E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 758
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5893E-05 OSCILLATION LIMIT = 46.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.14 CRITERION= .8419E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2293
 HT FLOW CONVERGENCE VALUE= .2288E-01 CRITERION= .6885E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 759
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5857E-05 OSCILLATION LIMIT = 46.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.16 CRITERION= .8401E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2299
 HT FLOW CONVERGENCE VALUE= .2203E-01 CRITERION= .6859E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 760
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5902E-05 OSCILLATION LIMIT = 46.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.12 CRITERION= .8378E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2296
 HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .6837E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 761
*** TIME = .187768E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5868E-05 OSCILLATION LIMIT = 46.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.14 CRITERION= .8360E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2302
HT FLOW CONVERGENCE VALUE= .2189E-01 CRITERION= .6811E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 762
*** TIME = .188557E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5911E-05 OSCILLATION LIMIT = 46.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.11 CRITERION= .8338E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2298
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .6789E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 763
*** TIME = .189346E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5877E-05 OSCILLATION LIMIT = 46.36

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:45:24 SEP 08, 1995 CP= 30137.980
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 40.55 CRITERION= .7906E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1878
HT FLOW CONVERGENCE VALUE= .1809E-01 CRITERION= .6767E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 764
*** TIME = .190135E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5437E-05 OSCILLATION LIMIT = 42.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.51 CRITERION= .7887E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1891
HT FLOW CONVERGENCE VALUE= .1809E-01 CRITERION= .6750E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 765
*** TIME = .190923E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5506E-05 OSCILLATION LIMIT = 43.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.54 CRITERION= .7872E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1901
HT FLOW CONVERGENCE VALUE= .1806E-01 CRITERION= .6728E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 766
*** TIME = .191712E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5592E-05 OSCILLATION LIMIT = 44.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.50 CRITERION= .7853E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1892
HT FLOW CONVERGENCE VALUE= .1791E-01 CRITERION= .6711E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 767
*** TIME = .192501E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5511E-05 OSCILLATION LIMIT = 43.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 40.53 CRITERION= .7838E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1903

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HT FLOW CONVERGENCE VALUE= .1766E-01 CRITERION= .6689E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 768
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5599E-05 OSCILLATION LIMIT = 44.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.49 CRITERION= .7819E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1894
 HT FLOW CONVERGENCE VALUE= .1759E-01 CRITERION= .6672E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 769
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5519E-05 OSCILLATION LIMIT = 43.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.51 CRITERION= .7804E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1904
 HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .6650E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 770
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5605E-05 OSCILLATION LIMIT = 44.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.48 CRITERION= .7785E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1896
 HT FLOW CONVERGENCE VALUE= .1750E-01 CRITERION= .6633E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 771
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5527E-05 OSCILLATION LIMIT = 43.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.50 CRITERION= .7770E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1906
 HT FLOW CONVERGENCE VALUE= .1748E-01 CRITERION= .6611E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 772
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5611E-05 OSCILLATION LIMIT = 44.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.47 CRITERION= .7751E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1897
 HT FLOW CONVERGENCE VALUE= .1741E-01 CRITERION= .6594E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 773
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5534E-05 OSCILLATION LIMIT = 43.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.49 CRITERION= .7736E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1907
 HT FLOW CONVERGENCE VALUE= .1739E-01 CRITERION= .6572E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 774
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5617E-05 OSCILLATION LIMIT = 44.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.45 CRITERION= .7717E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1899
 HT FLOW CONVERGENCE VALUE= .1732E-01 CRITERION= .6555E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 775
 *** TIME = .198813E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5541E-05 OSCILLATION LIMIT = 43.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.48 CRITERION= .7702E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1908
 HT FLOW CONVERGENCE VALUE= .1730E-01 CRITERION= .6533E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 776
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5623E-05 OSCILLATION LIMIT = 44.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.44 CRITERION= .7683E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1900
 HT FLOW CONVERGENCE VALUE= .1723E-01 CRITERION= .6516E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 777
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5549E-05 OSCILLATION LIMIT = 43.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.46 CRITERION= .7668E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1909
 HT FLOW CONVERGENCE VALUE= .1721E-01 CRITERION= .6494E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 778
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5629E-05 OSCILLATION LIMIT = 44.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.43 CRITERION= .7649E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1901
 HT FLOW CONVERGENCE VALUE= .1714E-01 CRITERION= .6477E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 779
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5556E-05 OSCILLATION LIMIT = 43.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.45 CRITERION= .7635E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1910
 HT FLOW CONVERGENCE VALUE= .1712E-01 CRITERION= .6455E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 780
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5636E-05 OSCILLATION LIMIT = 44.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.42 CRITERION= .7615E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1903
 HT FLOW CONVERGENCE VALUE= .1705E-01 CRITERION= .6438E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 781
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5564E-05 OSCILLATION LIMIT = 43.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.44 CRITERION= .7601E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1912
 HT FLOW CONVERGENCE VALUE= .1703E-01 CRITERION= .6416E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 782
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5642E-05 OSCILLATION LIMIT = 44.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.40 CRITERION= .7582E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1904
 HT FLOW CONVERGENCE VALUE= .1696E-01 CRITERION= .6399E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 783
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5571E-05 OSCILLATION LIMIT = 43.96

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.43 CRITERION= .7567E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1913
 HT FLOW CONVERGENCE VALUE= .1693E-01 CRITERION= .6377E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 784
 *** TIME = .205913E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5648E-05 OSCILLATION LIMIT = 44.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.39 CRITERION= .7548E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1905
 HT FLOW CONVERGENCE VALUE= .1687E-01 CRITERION= .6359E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 785
 *** TIME = .206702E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5579E-05 OSCILLATION LIMIT = 44.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.41 CRITERION= .7534E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1914
 HT FLOW CONVERGENCE VALUE= .1684E-01 CRITERION= .6338E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 786
 *** TIME = .207491E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5654E-05 OSCILLATION LIMIT = 44.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.38 CRITERION= .7514E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1907
 HT FLOW CONVERGENCE VALUE= .1678E-01 CRITERION= .6320E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 787
 *** TIME = .208280E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5586E-05 OSCILLATION LIMIT = 44.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.40 CRITERION= .7500E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1915
 HT FLOW CONVERGENCE VALUE= .1675E-01 CRITERION= .6299E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 788
 *** TIME = .209069E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5661E-05 OSCILLATION LIMIT = 44.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.37 CRITERION= .7481E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1908
 HT FLOW CONVERGENCE VALUE= .1669E-01 CRITERION= .6281E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 789
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5594E-05 OSCILLATION LIMIT = 44.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.39 CRITERION= .7466E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1916
 HT FLOW CONVERGENCE VALUE= .1666E-01 CRITERION= .6260E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 790
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5667E-05 OSCILLATION LIMIT = 44.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.35 CRITERION= .7447E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1909
 HT FLOW CONVERGENCE VALUE= .1660E-01 CRITERION= .6242E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 791

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*** TIME = .211436E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5601E-05    OSCILLATION LIMIT = 44.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.38    CRITERION= .7433E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1917
    HT FLOW CONVERGENCE VALUE= .1657E-01    CRITERION= .6221E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 792
*** TIME = .212225E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5673E-05    OSCILLATION LIMIT = 44.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.34    CRITERION= .7414E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1911
    HT FLOW CONVERGENCE VALUE= .1651E-01    CRITERION= .6203E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 793
*** TIME = .213014E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5609E-05    OSCILLATION LIMIT = 44.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.36    CRITERION= .7399E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1919
    HT FLOW CONVERGENCE VALUE= .1648E-01    CRITERION= .6182E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 794
*** TIME = .213803E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5680E-05    OSCILLATION LIMIT = 44.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.33    CRITERION= .7380E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1912
    HT FLOW CONVERGENCE VALUE= .1642E-01    CRITERION= .6164E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 795
*** TIME = .214592E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5616E-05    OSCILLATION LIMIT = 44.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.35    CRITERION= .7366E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1920
    HT FLOW CONVERGENCE VALUE= .1639E-01    CRITERION= .6143E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 796
*** TIME = .215381E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5686E-05    OSCILLATION LIMIT = 44.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.32    CRITERION= .7347E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1913
    HT FLOW CONVERGENCE VALUE= .1633E-01    CRITERION= .6125E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 797
*** TIME = .216170E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5624E-05    OSCILLATION LIMIT = 44.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.34    CRITERION= .7332E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1921
    HT FLOW CONVERGENCE VALUE= .1629E-01    CRITERION= .6104E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 798
*** TIME = .216959E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5693E-05    OSCILLATION LIMIT = 44.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.30    CRITERION= .7314E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1915
    HT FLOW CONVERGENCE VALUE= .1624E-01    CRITERION= .6086E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 799
*** TIME = .217747E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5631E-05 OSCILLATION LIMIT = 44.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.33 CRITERION= .7299E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1922
HT FLOW CONVERGENCE VALUE= .1620E-01 CRITERION= .6064E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 800
*** TIME = .218536E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5699E-05 OSCILLATION LIMIT = 44.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.29 CRITERION= .7280E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1916
HT FLOW CONVERGENCE VALUE= .1615E-01 CRITERION= .6047E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 801
*** TIME = .219325E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5639E-05 OSCILLATION LIMIT = 44.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.32 CRITERION= .7266E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1923
HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .6025E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 802
*** TIME = .220114E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5705E-05 OSCILLATION LIMIT = 45.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.28 CRITERION= .7247E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1917
HT FLOW CONVERGENCE VALUE= .1606E-01 CRITERION= .6007E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 803
*** TIME = .220903E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5647E-05 OSCILLATION LIMIT = 44.55

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:33:10 SEP 08, 1995 CP= 31740.760
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 38.78 CRITERION= .7149E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1689
HT FLOW CONVERGENCE VALUE= .1480E-01 CRITERION= .5990E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 804
*** TIME = .221692E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4374E-05 OSCILLATION LIMIT = 34.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.75 CRITERION= .7133E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1689
HT FLOW CONVERGENCE VALUE= .1476E-01 CRITERION= .5976E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 805
*** TIME = .222481E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4352E-05 OSCILLATION LIMIT = 34.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.77 CRITERION= .7122E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1699
 HT FLOW CONVERGENCE VALUE= .1474E-01 CRITERION= .5958E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 806
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4436E-05 OSCILLATION LIMIT = 35.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.74 CRITERION= .7106E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1690
 HT FLOW CONVERGENCE VALUE= .1469E-01 CRITERION= .5944E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 807
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4357E-05 OSCILLATION LIMIT = 34.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.76 CRITERION= .7095E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1700
 HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .5926E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 808
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4441E-05 OSCILLATION LIMIT = 35.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.72 CRITERION= .7079E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1691
 HT FLOW CONVERGENCE VALUE= .1462E-01 CRITERION= .5912E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 809
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4363E-05 OSCILLATION LIMIT = 34.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.75 CRITERION= .7067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1700
 HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .5894E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 810
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4445E-05 OSCILLATION LIMIT = 35.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.71 CRITERION= .7052E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1692
 HT FLOW CONVERGENCE VALUE= .1456E-01 CRITERION= .5880E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 811
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4369E-05 OSCILLATION LIMIT = 34.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.74 CRITERION= .7040E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1701
 HT FLOW CONVERGENCE VALUE= .1454E-01 CRITERION= .5863E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 812
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4450E-05 OSCILLATION LIMIT = 35.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.70 CRITERION= .7024E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1693
 HT FLOW CONVERGENCE VALUE= .1449E-01 CRITERION= .5849E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 813
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4376E-05 OSCILLATION LIMIT = 34.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.73 CRITERION= .7013E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1702
 HT FLOW CONVERGENCE VALUE= .1447E-01 CRITERION= .5831E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 814
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4455E-05 OSCILLATION LIMIT = 35.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.69 CRITERION= .6997E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1694
 HT FLOW CONVERGENCE VALUE= .1442E-01 CRITERION= .5817E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 815
 *** TIME = .230370E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4382E-05 OSCILLATION LIMIT = 34.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.71 CRITERION= .6986E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1703
 HT FLOW CONVERGENCE VALUE= .1440E-01 CRITERION= .5799E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 816
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4460E-05 OSCILLATION LIMIT = 35.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.68 CRITERION= .6970E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1695
 HT FLOW CONVERGENCE VALUE= .1435E-01 CRITERION= .5785E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 817
 *** TIME = .231948E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4388E-05 OSCILLATION LIMIT = 34.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.70 CRITERION= .6959E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1704
 HT FLOW CONVERGENCE VALUE= .1433E-01 CRITERION= .5767E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 818
 *** TIME = .232737E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4464E-05 OSCILLATION LIMIT = 35.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.67 CRITERION= .6943E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1696
 HT FLOW CONVERGENCE VALUE= .1429E-01 CRITERION= .5753E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 819
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4394E-05 OSCILLATION LIMIT = 34.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.69 CRITERION= .6932E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1705
 HT FLOW CONVERGENCE VALUE= .1427E-01 CRITERION= .5735E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 820
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4469E-05 OSCILLATION LIMIT = 35.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.65 CRITERION= .6916E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1698
 HT FLOW CONVERGENCE VALUE= .1423E-01 CRITERION= .5721E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 821
 *** TIME = .235104E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .4400E-05 OSCILLATION LIMIT = 34.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.68 CRITERION= .6905E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1706
 HT FLOW CONVERGENCE VALUE= .1420E-01 CRITERION= .5704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 822
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4474E-05 OSCILLATION LIMIT = 35.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.64 CRITERION= .6889E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1699
 HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .5689E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 823
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4406E-05 OSCILLATION LIMIT = 34.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.67 CRITERION= .6878E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1706
 HT FLOW CONVERGENCE VALUE= .1413E-01 CRITERION= .5672E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 824
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4479E-05 OSCILLATION LIMIT = 35.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.63 CRITERION= .6862E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1700
 HT FLOW CONVERGENCE VALUE= .1409E-01 CRITERION= .5658E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 825
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4412E-05 OSCILLATION LIMIT = 34.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.66 CRITERION= .6851E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1707
 HT FLOW CONVERGENCE VALUE= .1406E-01 CRITERION= .5640E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 826
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4484E-05 OSCILLATION LIMIT = 35.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.62 CRITERION= .6835E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1701
 HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .5626E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 827
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4418E-05 OSCILLATION LIMIT = 34.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.64 CRITERION= .6824E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1708
 HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .5608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 828
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4489E-05 OSCILLATION LIMIT = 35.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.61 CRITERION= .6808E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1702
 HT FLOW CONVERGENCE VALUE= .1396E-01 CRITERION= .5594E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 829
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4424E-05 OSCILLATION LIMIT = 34.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.63 CRITERION= .6797E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1709
 HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .5576E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 830
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4494E-05 OSCILLATION LIMIT = 35.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.60 CRITERION= .6781E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1703
 HT FLOW CONVERGENCE VALUE= .1389E-01 CRITERION= .5562E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 831
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4431E-05 OSCILLATION LIMIT = 34.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.62 CRITERION= .6770E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1710
 HT FLOW CONVERGENCE VALUE= .1386E-01 CRITERION= .5544E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 832
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4499E-05 OSCILLATION LIMIT = 35.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.59 CRITERION= .6755E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1704
 HT FLOW CONVERGENCE VALUE= .1382E-01 CRITERION= .5530E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 833
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4437E-05 OSCILLATION LIMIT = 35.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.61 CRITERION= .6743E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1711
 HT FLOW CONVERGENCE VALUE= .1379E-01 CRITERION= .5513E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 834
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4504E-05 OSCILLATION LIMIT = 35.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.57 CRITERION= .6728E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1705
 HT FLOW CONVERGENCE VALUE= .1376E-01 CRITERION= .5498E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 835
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4443E-05 OSCILLATION LIMIT = 35.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.60 CRITERION= .6717E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1712
 HT FLOW CONVERGENCE VALUE= .1373E-01 CRITERION= .5481E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 836
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4509E-05 OSCILLATION LIMIT = 35.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.56 CRITERION= .6701E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1706

HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .5467E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 837
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4449E-05 OSCILLATION LIMIT = 35.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.59 CRITERION= .6690E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1713
 HT FLOW CONVERGENCE VALUE= .1366E-01 CRITERION= .5449E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 838
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4514E-05 OSCILLATION LIMIT = 35.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.55 CRITERION= .6674E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1707
 HT FLOW CONVERGENCE VALUE= .1362E-01 CRITERION= .5435E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 839
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4455E-05 OSCILLATION LIMIT = 35.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.58 CRITERION= .6663E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1714
 HT FLOW CONVERGENCE VALUE= .1359E-01 CRITERION= .5417E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 840
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4519E-05 OSCILLATION LIMIT = 35.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.54 CRITERION= .6648E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1708
 HT FLOW CONVERGENCE VALUE= .1355E-01 CRITERION= .5403E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 841
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4461E-05 OSCILLATION LIMIT = 35.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.56 CRITERION= .6637E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1715
 HT FLOW CONVERGENCE VALUE= .1352E-01 CRITERION= .5385E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 842
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4524E-05 OSCILLATION LIMIT = 35.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.53 CRITERION= .6621E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1709
 HT FLOW CONVERGENCE VALUE= .1349E-01 CRITERION= .5371E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 843
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4467E-05 OSCILLATION LIMIT = 35.24

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:21:22 SEP 08, 1995 CP= 33343.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 30.28 CRITERION= .6164E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1335
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .5357E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 844
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4431E-05 OSCILLATION LIMIT = 34.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.24 CRITERION= .6151E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .5346E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 845
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4466E-05 OSCILLATION LIMIT = 35.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.27 CRITERION= .6142E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1352
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .5332E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 846
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4589E-05 OSCILLATION LIMIT = 36.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.24 CRITERION= .6129E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
 HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .5321E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 847
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4469E-05 OSCILLATION LIMIT = 35.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.26 CRITERION= .6120E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
 HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .5306E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 848
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4592E-05 OSCILLATION LIMIT = 36.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.23 CRITERION= .6107E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
 HT FLOW CONVERGENCE VALUE= .1047E-01 CRITERION= .5296E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 849
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4474E-05 OSCILLATION LIMIT = 35.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.26 CRITERION= .6098E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
 HT FLOW CONVERGENCE VALUE= .1047E-01 CRITERION= .5281E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 850
 *** TIME = .257983E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4595E-05 OSCILLATION LIMIT = 36.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.22 CRITERION= .6085E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1344
 HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .5270E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 851
 *** TIME = .258772E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4480E-05 OSCILLATION LIMIT = 35.34

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.25 CRITERION= .6076E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1354
 HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .5256E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 852
 *** TIME = .259561E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4599E-05 OSCILLATION LIMIT = 36.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.21 CRITERION= .6062E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1345
 HT FLOW CONVERGENCE VALUE= .1039E-01 CRITERION= .5245E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 853
 *** TIME = .260350E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4485E-05 OSCILLATION LIMIT = 35.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.24 CRITERION= .6054E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1355
 HT FLOW CONVERGENCE VALUE= .1039E-01 CRITERION= .5231E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 854
 *** TIME = .261139E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4602E-05 OSCILLATION LIMIT = 36.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.21 CRITERION= .6040E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1345
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .5220E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 855
 *** TIME = .261928E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4491E-05 OSCILLATION LIMIT = 35.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.23 CRITERION= .6031E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1355
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .5206E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 856
 *** TIME = .262717E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4606E-05 OSCILLATION LIMIT = 36.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.20 CRITERION= .6018E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1346
 HT FLOW CONVERGENCE VALUE= .1030E-01 CRITERION= .5195E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 857
 *** TIME = .263506E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4497E-05 OSCILLATION LIMIT = 35.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.23 CRITERION= .6009E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1356
 HT FLOW CONVERGENCE VALUE= .1030E-01 CRITERION= .5181E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 858
 *** TIME = .264295E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4609E-05 OSCILLATION LIMIT = 36.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.19 CRITERION= .5996E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1347
 HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .5170E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 859

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*** TIME = .265084E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4502E-05    OSCILLATION LIMIT = 35.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.22    CRITERION= .5987E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1356
    HT FLOW CONVERGENCE VALUE= .1026E-01    CRITERION= .5156E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 860
*** TIME = .265873E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4613E-05    OSCILLATION LIMIT = 36.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.19    CRITERION= .5974E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1347
    HT FLOW CONVERGENCE VALUE= .1022E-01    CRITERION= .5145E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 861
*** TIME = .266662E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4508E-05    OSCILLATION LIMIT = 35.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.21    CRITERION= .5965E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1357
    HT FLOW CONVERGENCE VALUE= .1022E-01    CRITERION= .5130E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 862
*** TIME = .267451E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4616E-05    OSCILLATION LIMIT = 36.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.18    CRITERION= .5952E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1348
    HT FLOW CONVERGENCE VALUE= .1018E-01    CRITERION= .5120E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 863
*** TIME = .268240E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4513E-05    OSCILLATION LIMIT = 35.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.21    CRITERION= .5943E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1357
    HT FLOW CONVERGENCE VALUE= .1017E-01    CRITERION= .5105E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 864
*** TIME = .269029E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4620E-05    OSCILLATION LIMIT = 36.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.17    CRITERION= .5930E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1349
    HT FLOW CONVERGENCE VALUE= .1013E-01    CRITERION= .5094E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 865
*** TIME = .269817E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4519E-05    OSCILLATION LIMIT = 35.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.20    CRITERION= .5921E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1358
    HT FLOW CONVERGENCE VALUE= .1013E-01    CRITERION= .5080E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 866
*** TIME = .270606E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4624E-05    OSCILLATION LIMIT = 36.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.16    CRITERION= .5908E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1350
    HT FLOW CONVERGENCE VALUE= .1009E-01    CRITERION= .5069E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 867
*** TIME = .271395E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4524E-05 OSCILLATION LIMIT = 35.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.19 CRITERION= .5899E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1358
HT FLOW CONVERGENCE VALUE= .1010E-01 CRITERION= .5055E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 868
*** TIME = .272184E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4627E-05 OSCILLATION LIMIT = 36.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.16 CRITERION= .5886E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1350
HT FLOW CONVERGENCE VALUE= .1006E-01 CRITERION= .5044E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 869
*** TIME = .272973E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4530E-05 OSCILLATION LIMIT = 35.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.18 CRITERION= .5877E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1359
HT FLOW CONVERGENCE VALUE= .1007E-01 CRITERION= .5030E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 870
*** TIME = .273762E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4631E-05 OSCILLATION LIMIT = 36.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .5864E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1351
HT FLOW CONVERGENCE VALUE= .1002E-01 CRITERION= .5019E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 871
*** TIME = .274551E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4535E-05 OSCILLATION LIMIT = 35.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.18 CRITERION= .5855E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1359
HT FLOW CONVERGENCE VALUE= .1002E-01 CRITERION= .5004E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 872
*** TIME = .275340E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4635E-05 OSCILLATION LIMIT = 36.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .5842E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1352
HT FLOW CONVERGENCE VALUE= .9976E-02 CRITERION= .4994E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 873
*** TIME = .276129E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4541E-05 OSCILLATION LIMIT = 35.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.17 CRITERION= .5833E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1360
HT FLOW CONVERGENCE VALUE= .9967E-02 CRITERION= .4979E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 874
*** TIME = .276918E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4639E-05 OSCILLATION LIMIT = 36.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .5820E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
HT FLOW CONVERGENCE VALUE= .9931E-02 CRITERION= .4968E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 875
*** TIME = .277707E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4546E-05 OSCILLATION LIMIT = 35.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.16 CRITERION= .5811E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1360
HT FLOW CONVERGENCE VALUE= .9922E-02 CRITERION= .4954E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 876
*** TIME = .278496E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4642E-05 OSCILLATION LIMIT = 36.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.13 CRITERION= .5798E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
HT FLOW CONVERGENCE VALUE= .9886E-02 CRITERION= .4943E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 877
*** TIME = .279285E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4551E-05 OSCILLATION LIMIT = 35.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.16 CRITERION= .5789E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1361
HT FLOW CONVERGENCE VALUE= .9876E-02 CRITERION= .4929E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 878
*** TIME = .280074E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4646E-05 OSCILLATION LIMIT = 36.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .5776E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1354
HT FLOW CONVERGENCE VALUE= .9841E-02 CRITERION= .4918E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 879
*** TIME = .280863E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4557E-05 OSCILLATION LIMIT = 35.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .5768E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1361
HT FLOW CONVERGENCE VALUE= .9831E-02 CRITERION= .4904E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 880
*** TIME = .281652E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4650E-05 OSCILLATION LIMIT = 36.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .5754E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1355
HT FLOW CONVERGENCE VALUE= .9796E-02 CRITERION= .4893E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 881
*** TIME = .282441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4562E-05 OSCILLATION LIMIT = 35.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .5746E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1362
HT FLOW CONVERGENCE VALUE= .9785E-02 CRITERION= .4878E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 882
*** TIME = .283229E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4653E-05 OSCILLATION LIMIT = 36.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .5733E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1355
 HT FLOW CONVERGENCE VALUE= .9751E-02 CRITERION= .4868E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 883
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4567E-05 OSCILLATION LIMIT = 36.03
 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

6 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1176 ELEMENTS (OF 3306 DEFINED) SELECTED FROM
 6 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 56 STEP 1

56 AREAS (OF 56 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 101.86 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 102.06 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 102.52 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 109

*** NOTE *** CP= 34947.680 TIME= 03:09:16
 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 03:09:16 SEP 08, 1995 CP= 34947.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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


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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= 24.90 CRITERION= .5467E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1152
HT FLOW CONVERGENCE VALUE= .8146E-02 CRITERION= .4855E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 884
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5004E-05 OSCILLATION LIMIT = 39.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.87 CRITERION= .5455E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1152
HT FLOW CONVERGENCE VALUE= .8131E-02 CRITERION= .4846E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 885
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4970E-05 OSCILLATION LIMIT = 39.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.90 CRITERION= .5447E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
HT FLOW CONVERGENCE VALUE= .8134E-02 CRITERION= .4833E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 886
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5110E-05 OSCILLATION LIMIT = 40.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.87 CRITERION= .5435E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
HT FLOW CONVERGENCE VALUE= .8098E-02 CRITERION= .4824E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 887
*** TIME = .287174E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4974E-05 OSCILLATION LIMIT = 39.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.89 CRITERION= .5427E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
HT FLOW CONVERGENCE VALUE= .8101E-02 CRITERION= .4811E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 888
*** TIME = .287963E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5112E-05 OSCILLATION LIMIT = 40.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.86 CRITERION= .5415E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
HT FLOW CONVERGENCE VALUE= .8065E-02 CRITERION= .4801E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 889

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*** TIME = .288752E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4979E-05    OSCILLATION LIMIT = 39.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.89    CRITERION= .5407E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
    HT FLOW CONVERGENCE VALUE= .8067E-02    CRITERION= .4789E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 7 COMPLETED.    CUM ITER = 890
*** TIME = .289541E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5115E-05    OSCILLATION LIMIT = 40.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.86    CRITERION= .5395E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1154
    HT FLOW CONVERGENCE VALUE= .8032E-02    CRITERION= .4779E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 8 COMPLETED.    CUM ITER = 891
*** TIME = .290330E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4984E-05    OSCILLATION LIMIT = 39.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.88    CRITERION= .5387E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
    HT FLOW CONVERGENCE VALUE= .8033E-02    CRITERION= .4767E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 9 COMPLETED.    CUM ITER = 892
*** TIME = .291119E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5118E-05    OSCILLATION LIMIT = 40.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.85    CRITERION= .5375E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1154
    HT FLOW CONVERGENCE VALUE= .7998E-02    CRITERION= .4757E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 10 COMPLETED.    CUM ITER = 893
*** TIME = .291908E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4990E-05    OSCILLATION LIMIT = 39.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.88    CRITERION= .5368E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
    HT FLOW CONVERGENCE VALUE= .7999E-02    CRITERION= .4744E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 11 COMPLETED.    CUM ITER = 894
*** TIME = .292697E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5121E-05    OSCILLATION LIMIT = 40.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.85    CRITERION= .5355E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
    HT FLOW CONVERGENCE VALUE= .7965E-02    CRITERION= .4735E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 12 COMPLETED.    CUM ITER = 895
*** TIME = .293486E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4995E-05    OSCILLATION LIMIT = 39.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.87    CRITERION= .5348E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
    HT FLOW CONVERGENCE VALUE= .7965E-02    CRITERION= .4722E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 13 COMPLETED.    CUM ITER = 896
*** TIME = .294275E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5124E-05    OSCILLATION LIMIT = 40.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.84    CRITERION= .5336E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
    HT FLOW CONVERGENCE VALUE= .7932E-02    CRITERION= .4713E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 897
*** TIME = .295064E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5000E-05 OSCILLATION LIMIT = 39.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.87 CRITERION= .5328E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
HT FLOW CONVERGENCE VALUE= .7931E-02 CRITERION= .4700E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 898
*** TIME = .295853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5127E-05 OSCILLATION LIMIT = 40.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .5316E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
HT FLOW CONVERGENCE VALUE= .7899E-02 CRITERION= .4691E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 899
*** TIME = .296641E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5005E-05 OSCILLATION LIMIT = 39.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.86 CRITERION= .5308E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
HT FLOW CONVERGENCE VALUE= .7898E-02 CRITERION= .4678E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 900
*** TIME = .297430E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5129E-05 OSCILLATION LIMIT = 40.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .5296E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
HT FLOW CONVERGENCE VALUE= .7865E-02 CRITERION= .4669E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 901
*** TIME = .298219E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5010E-05 OSCILLATION LIMIT = 39.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.86 CRITERION= .5289E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
HT FLOW CONVERGENCE VALUE= .7864E-02 CRITERION= .4656E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 902
*** TIME = .299008E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5132E-05 OSCILLATION LIMIT = 40.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .5276E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
HT FLOW CONVERGENCE VALUE= .7832E-02 CRITERION= .4647E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 903
*** TIME = .299797E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5015E-05 OSCILLATION LIMIT = 39.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.86 CRITERION= .5269E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
HT FLOW CONVERGENCE VALUE= .7830E-02 CRITERION= .4634E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 904
*** TIME = .300586E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5135E-05 OSCILLATION LIMIT = 40.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .5257E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
 HT FLOW CONVERGENCE VALUE= .7799E-02 CRITERION= .4625E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 905
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5021E-05 OSCILLATION LIMIT = 39.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.85 CRITERION= .5249E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
 HT FLOW CONVERGENCE VALUE= .7796E-02 CRITERION= .4612E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 906
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5138E-05 OSCILLATION LIMIT = 40.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .5237E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
 HT FLOW CONVERGENCE VALUE= .7765E-02 CRITERION= .4603E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 907
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5026E-05 OSCILLATION LIMIT = 39.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.85 CRITERION= .5229E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1166
 HT FLOW CONVERGENCE VALUE= .7762E-02 CRITERION= .4590E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 908
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5142E-05 OSCILLATION LIMIT = 40.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.81 CRITERION= .5217E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
 HT FLOW CONVERGENCE VALUE= .7732E-02 CRITERION= .4580E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 909
 *** TIME = .304531E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5031E-05 OSCILLATION LIMIT = 39.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .5210E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1166
 HT FLOW CONVERGENCE VALUE= .7728E-02 CRITERION= .4568E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 910
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5145E-05 OSCILLATION LIMIT = 40.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.81 CRITERION= .5198E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
 HT FLOW CONVERGENCE VALUE= .7698E-02 CRITERION= .4558E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 911
 *** TIME = .306109E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5036E-05 OSCILLATION LIMIT = 39.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.84 CRITERION= .5190E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1166
 HT FLOW CONVERGENCE VALUE= .7694E-02 CRITERION= .4545E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 912
 *** TIME = .306898E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5148E-05 OSCILLATION LIMIT = 40.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.80 CRITERION= .5178E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1160
 HT FLOW CONVERGENCE VALUE= .7665E-02 CRITERION= .4536E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 913
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5041E-05 OSCILLATION LIMIT = 39.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .5170E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1167
 HT FLOW CONVERGENCE VALUE= .7660E-02 CRITERION= .4523E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 914
 *** TIME = .308476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5151E-05 OSCILLATION LIMIT = 40.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.80 CRITERION= .5158E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .7631E-02 CRITERION= .4514E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 915
 *** TIME = .309264E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5046E-05 OSCILLATION LIMIT = 39.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.83 CRITERION= .5151E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1167
 HT FLOW CONVERGENCE VALUE= .7625E-02 CRITERION= .4501E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 916
 *** TIME = .310053E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5154E-05 OSCILLATION LIMIT = 40.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.79 CRITERION= .5139E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .7598E-02 CRITERION= .4492E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 917
 *** TIME = .310842E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5051E-05 OSCILLATION LIMIT = 39.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .5131E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1168
 HT FLOW CONVERGENCE VALUE= .7591E-02 CRITERION= .4479E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 918
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5157E-05 OSCILLATION LIMIT = 40.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.79 CRITERION= .5119E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .7564E-02 CRITERION= .4470E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 919
 *** TIME = .312420E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5056E-05 OSCILLATION LIMIT = 39.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.82 CRITERION= .5112E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1168
 HT FLOW CONVERGENCE VALUE= .7557E-02 CRITERION= .4457E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 920
 *** TIME = .313209E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .5160E-05 OSCILLATION LIMIT = 40.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.78 CRITERION= .5099E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .7530E-02 CRITERION= .4448E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 921
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5061E-05 OSCILLATION LIMIT = 39.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.81 CRITERION= .5092E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1168
 HT FLOW CONVERGENCE VALUE= .7523E-02 CRITERION= .4435E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 922
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5164E-05 OSCILLATION LIMIT = 40.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.78 CRITERION= .5080E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .7496E-02 CRITERION= .4426E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 923
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5066E-05 OSCILLATION LIMIT = 39.97

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:57:17 SEP 08, 1995 CP= 36550.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 126.5 CRITERION= .1340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5611
 HT FLOW CONVERGENCE VALUE= .3655E-01 CRITERION= .4375E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 924
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 126.4 CRITERION= .1338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5426
 HT FLOW CONVERGENCE VALUE= .3582E-01 CRITERION= .4330E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 925
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 379.1 CRITERION= .3815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.676
 HT FLOW CONVERGENCE VALUE= .1039 CRITERION= .4183E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6398E-01
 HT FLOW CONVERGENCE VALUE= .1692E-02 CRITERION= .4189E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 927
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 378.5 CRITERION= .3808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.701
 HT FLOW CONVERGENCE VALUE= .1014 CRITERION= .4045E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6267E-01
 HT FLOW CONVERGENCE VALUE= .1593E-02 CRITERION= .4050E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 929
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 1008. CRITERION= 1.009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.543
 HT FLOW CONVERGENCE VALUE= .2432 CRITERION= .3671E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1500
 HT FLOW CONVERGENCE VALUE= .3365E-02 CRITERION= .3671E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 931
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1008. CRITERION= 1.009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.563
 HT FLOW CONVERGENCE VALUE= .2221 CRITERION= .3294E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1372
 HT FLOW CONVERGENCE VALUE= .2793E-02 CRITERION= .3295E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 933
 *** TIME = .504922E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1009. CRITERION= 1.009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.585
 HT FLOW CONVERGENCE VALUE= .1904 CRITERION= .2913E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1256
 HT FLOW CONVERGENCE VALUE= .2263E-02 CRITERION= .2913E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 935
 *** TIME = .568037E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1009. CRITERION= 1.009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.605
 HT FLOW CONVERGENCE VALUE= .1599 CRITERION= .2534E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1113
 HT FLOW CONVERGENCE VALUE= .1587E-02 CRITERION= .2534E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 937
 *** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:10:28 SEP 08, 1995 CP= 36985.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 411.8 CRITERION= .4126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.671
 HT FLOW CONVERGENCE VALUE= .6696E-01 CRITERION= .2414E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4018E-01
 HT FLOW CONVERGENCE VALUE= .5397E-03 CRITERION= .2415E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 939
 *** TIME = .694267E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.8 CRITERION= .4125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.671
 HT FLOW CONVERGENCE VALUE= .6414E-01 CRITERION= .2298E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3727E-01

HT FLOW CONVERGENCE VALUE= .4694E-03 CRITERION= .2299E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 941
 *** TIME = .757382E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.9 CRITERION= .4125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.675
 HT FLOW CONVERGENCE VALUE= .6150E-01 CRITERION= .2178E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3426E-01
 HT FLOW CONVERGENCE VALUE= .4187E-03 CRITERION= .2179E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 943
 *** TIME = .820498E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.9 CRITERION= .4124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.675
 HT FLOW CONVERGENCE VALUE= .5909E-01 CRITERION= .2062E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3186E-01
 HT FLOW CONVERGENCE VALUE= .3815E-03 CRITERION= .2062E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 945
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 411.9 CRITERION= .4124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.680
 HT FLOW CONVERGENCE VALUE= .5651E-01 CRITERION= .1942E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2997E-01
 HT FLOW CONVERGENCE VALUE= .3431E-03 CRITERION= .1942E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 947
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1
 ***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:19:00 SEP 08, 1995 CP= 37281.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 233.1 CRITERION= .2339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9422
 HT FLOW CONVERGENCE VALUE= .3135E-01 CRITERION= .1878E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1634E-01
 HT FLOW CONVERGENCE VALUE= .1849E-03 CRITERION= .1878E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 949
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 233.1 CRITERION= .2339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9446
 HT FLOW CONVERGENCE VALUE= .3032E-01 CRITERION= .1811E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1584E-01
 HT FLOW CONVERGENCE VALUE= .1728E-03 CRITERION= .1811E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 951
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 233.1 CRITERION= .2338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9436
 HT FLOW CONVERGENCE VALUE= .2922E-01 CRITERION= .1747E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1530E-01
 HT FLOW CONVERGENCE VALUE= .1610E-03 CRITERION= .1747E-01 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 953
*** TIME = .113607E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 233.1 CRITERION= .2338
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9461
HT FLOW CONVERGENCE VALUE= .2814E-01 CRITERION= .1679E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1480E-01
HT FLOW CONVERGENCE VALUE= .1497E-03 CRITERION= .1679E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 955
*** TIME = .119919E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 233.1 CRITERION= .2337
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9451
HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .1615E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1426E-01
HT FLOW CONVERGENCE VALUE= .1386E-03 CRITERION= .1615E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 957
*** TIME = .126230E+11 TIME INC = .631152E+09
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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:28:11 SEP 08, 1995 CP= 37577.040
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 170.5 CRITERION= .1713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6650
HT FLOW CONVERGENCE VALUE= .1905E-01 CRITERION= .1570E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9938E-02
HT FLOW CONVERGENCE VALUE= .9550E-04 CRITERION= .1570E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 959
*** TIME = .132542E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 170.5 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6635
HT FLOW CONVERGENCE VALUE= .1852E-01 CRITERION= .1528E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9672E-02
HT FLOW CONVERGENCE VALUE= .9050E-04 CRITERION= .1529E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 961
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 170.6 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6657
HT FLOW CONVERGENCE VALUE= .1801E-01 CRITERION= .1483E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9441E-02
HT FLOW CONVERGENCE VALUE= .8568E-04 CRITERION= .1483E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 963
*** TIME = .145165E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 170.5 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6642
HT FLOW CONVERGENCE VALUE= .1747E-01 CRITERION= .1442E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9173E-02
HT FLOW CONVERGENCE VALUE= .8092E-04 CRITERION= .1442E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
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*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 965
*** TIME = .151476E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 170.6 CRITERION= .1712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6664
HT FLOW CONVERGENCE VALUE= .1696E-01 CRITERION= .1396E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8938E-02
HT FLOW CONVERGENCE VALUE= .7633E-04 CRITERION= .1396E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 967
*** TIME = .157788E+11 TIME INC = .631152E+09

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***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:37:08 SEP 08, 1995 CP= 37873.340
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

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HT FLOW CONVERGENCE VALUE= 163.3 CRITERION= .1639
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5942
HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .1364E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7983E-02
HT FLOW CONVERGENCE VALUE= .6821E-04 CRITERION= .1364E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 969
*** TIME = .164100E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 163.3 CRITERION= .1639
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5963
HT FLOW CONVERGENCE VALUE= .1508E-01 CRITERION= .1327E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7817E-02
HT FLOW CONVERGENCE VALUE= .6498E-04 CRITERION= .1327E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 971
*** TIME = .170411E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 163.3 CRITERION= .1638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5948
HT FLOW CONVERGENCE VALUE= .1468E-01 CRITERION= .1295E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7617E-02
HT FLOW CONVERGENCE VALUE= .6177E-04 CRITERION= .1295E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 973
*** TIME = .176723E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 163.3 CRITERION= .1638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5969
HT FLOW CONVERGENCE VALUE= .1430E-01 CRITERION= .1258E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7448E-02
HT FLOW CONVERGENCE VALUE= .5868E-04 CRITERION= .1258E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 975
*** TIME = .183034E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 163.3 CRITERION= .1638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5953
HT FLOW CONVERGENCE VALUE= .1391E-01 CRITERION= .1226E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7247E-02
HT FLOW CONVERGENCE VALUE= .5562E-04 CRITERION= .1226E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 977

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*** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:45:52 SEP 08, 1995 CP= 38168.490
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 137.6 CRITERION= .1382
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4858
 HT FLOW CONVERGENCE VALUE= .1136E-01 CRITERION= .1198E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 978
 *** TIME = .195657E+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= -.4783
 HT FLOW CONVERGENCE VALUE= .1108E-01 CRITERION= .1173E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 979
 *** TIME = .201969E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.7 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4804
 HT FLOW CONVERGENCE VALUE= .1084E-01 CRITERION= .1145E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 980
 *** TIME = .208280E+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= -.4789
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .1121E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 981
 *** TIME = .214592E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.7 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4810
 HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .1093E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 982
 *** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:52:05 SEP 08, 1995 CP= 38370.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 118.7 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4122
 HT FLOW CONVERGENCE VALUE= .8746E-02 CRITERION= .1072E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 983
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.7 CRITERION= .1192

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150
 HT FLOW CONVERGENCE VALUE= .8588E-02 CRITERION= .1048E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 984
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.7 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134
 HT FLOW CONVERGENCE VALUE= .8398E-02 CRITERION= .1027E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 985
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.7 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4155
 HT FLOW CONVERGENCE VALUE= .8225E-02 CRITERION= .1003E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 986
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 118.7 CRITERION= .1191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4138
 HT FLOW CONVERGENCE VALUE= .8034E-02 CRITERION= .9823E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 987
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:57:58 SEP 08, 1995 CP= 38572.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3519
 HT FLOW CONVERGENCE VALUE= .6826E-02 CRITERION= .9624E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 988
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3508
 HT FLOW CONVERGENCE VALUE= .6694E-02 CRITERION= .9464E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 989
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3528
 HT FLOW CONVERGENCE VALUE= .6577E-02 CRITERION= .9265E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 990
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3511
 HT FLOW CONVERGENCE VALUE= .6443E-02 CRITERION= .9104E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 991
 *** TIME = .277707E+11 TIME INC = .631152E+09

*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3531
HT FLOW CONVERGENCE VALUE= .6325E-02 CRITERION= .8905E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 992
*** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:04:00 SEP 08, 1995 CP= 38773.970
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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

HT FLOW CONVERGENCE VALUE= 88.13 CRITERION= .8858E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2957
HT FLOW CONVERGENCE VALUE= .5278E-02 CRITERION= .8776E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 993
*** TIME = .290330E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.16 CRITERION= .8859E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982
HT FLOW CONVERGENCE VALUE= .5199E-02 CRITERION= .8609E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 994
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.13 CRITERION= .8856E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2964
HT FLOW CONVERGENCE VALUE= .5103E-02 CRITERION= .8479E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 995
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.16 CRITERION= .8856E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2984
HT FLOW CONVERGENCE VALUE= .5022E-02 CRITERION= .8312E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 996
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.13 CRITERION= .8853E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2966
HT FLOW CONVERGENCE VALUE= .4925E-02 CRITERION= .8182E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 997
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 38975.740

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12h.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 05:09:57 SEP 08, 1995 CP= 38979.530
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 1298 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 1298 TEMP peakclad 77.97 .3156E+11 215.4 .1578E+09

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 157788032.

***** ROUTINE COMPLETED ***** CP = 38979.810

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:10:02 SEP 08, 1995 CP= 38979.830
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 .76525E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

2845 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+09

SET COMMAND GOT LOAD STEP= 17 SUBSTEP= 40 CUMULATIVE ITERATION= 363
TIME/FREQUENCY= .15779E+09

TITLE=
12 PWR UCF/WP at Time of Peak Temp. (5.000001 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=
12 PWR UCF/WP at Time of Peak Temp. (5.000001 years)

*** WARNING *** CP= 39006.760 TIME= 05:10:50
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= 563
TIME/FREQUENCY= .31558E+09

TITLE=
12 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 131.66 BY .65970 TO 215.44

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 10 years

*** WARNING *** CP= 39040.880 TIME= 05:11:59
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= 723
TIME/FREQUENCY= .15779E+10

TITLE=
12 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 131.66 BY .65970 TO 215.44

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 50 years

*** WARNING *** CP= 39072.640 TIME= 05:12:59
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= 923
TIME/FREQUENCY= .31558E+10

TITLE=
12 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 131.66 BY .65970 TO 215.44

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
12 PWR UCF/WP at 100 years

*** WARNING *** CP= 39103.220 TIME= 05:13:57
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 3530 STEP 1

3306 ELEMENTS (OF 3306 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 39109.420

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 05:14:08 SEP 08, 1995 CP= 39109.430
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 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 lower right (45 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t010045
 VARIABLE 3 IS AT NODE 31 ITEM= TEMP COMP= NAME= s01o145
 VARIABLE 4 IS AT NODE 1105 ITEM= TEMP COMP= NAME= s01i145
 VARIABLE 5 IS AT NODE 1242 ITEM= TEMP COMP= NAME= c01i045
 VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c045
 VARIABLE 7 IS AT NODE 1353 ITEM= TEMP COMP= NAME= c01o045
 VARIABLE 8 IS AT NODE 1063 ITEM= TEMP COMP= NAME= s01ir45
 VARIABLE 9 IS AT NODE 229 ITEM= TEMP COMP= NAME= s01or45
 VARIABLE 10 IS AT NODE 243 ITEM= TEMP COMP= NAME= g01o045
 VARIABLE 11 IS AT NODE 2682 ITEM= TEMP COMP= NAME= i01i045
 VARIABLE 12 IS AT NODE 2631 ITEM= TEMP COMP= NAME= i01o045
 VARIABLE 13 IS AT NODE 2845 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 3 and 5
 VARIABLE 14 IS AT NODE 2309 ITEM= TEMP COMP= NAME= c03c045
 VARIABLE 15 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c045

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	2 TEMP	t010045	76.27	.3156E+11	192.6	.1578E+09
3	NSOL	31 TEMP	s01o145	76.27	.3156E+11	192.6	.1578E+09
4	NSOL	1105 TEMP	s01i145	76.27	.3156E+11	192.6	.1578E+09
5	NSOL	1242 TEMP	c01i045	77.09	.3156E+11	204.0	.1578E+09
6	NSOL	1298 TEMP	c01c045	77.97	.3156E+11	215.4	.1578E+09
7	NSOL	1353 TEMP	c01o045	77.48	.3156E+11	207.4	.1578E+09
8	NSOL	1063 TEMP	s01ir45	76.04	.3156E+11	183.3	.2525E+09
9	NSOL	229 TEMP	s01or45	75.97	.3156E+11	182.1	.2525E+09
10	NSOL	243 TEMP	g01o045	75.85	.3156E+11	179.8	.2525E+09
11	NSOL	2682 TEMP	i01i045	27.59	.1000E-05	138.8	.3156E+09
12	NSOL	2631 TEMP	i01o045	26.87	.1000E-05	138.0	.3156E+09
13	NSOL	2845 TEMP	o08o045	26.14	.1000E-05	137.3	.3156E+09
14	NSOL	2309 TEMP	c03c045	76.87	.3156E+11	196.1	.1578E+09
15	NSOL	1635 TEMP	c05c045	76.84	.3156E+11	195.2	.1578E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:14 SEP 08, 1995 CP= 39110.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP	31 TEMP	1105 TEMP	1242 TEMP	1298 TEMP
	t010045	s01o145	s01i145	c01i045	c01c045
.10000E-05	109.503	109.505	109.516	127.359	145.954
.20000E-05	137.404	137.406	137.417	153.596	170.243
31.558	137.404	137.406	137.417	153.596	170.242
.31558E+07	159.117	159.124	159.139	174.087	189.335
.63116E+07	165.333	165.340	165.356	179.926	194.742
.94673E+07	169.285	169.293	169.308	183.632	198.183
.12623E+08	172.259	172.266	172.281	186.403	200.729
.15779E+08	174.597	174.604	174.619	188.561	202.688
.18935E+08	176.529	176.536	176.551	190.339	204.295
.22090E+08	178.178	178.185	178.200	191.853	205.659
.25246E+08	179.602	179.609	179.624	193.154	206.824
.28402E+08	180.845	180.852	180.866	194.284	207.827
.31558E+08	181.944	181.951	181.965	195.278	208.706
.63115E+08	188.150	188.157	188.171	200.759	213.396
.94673E+08	190.621	190.628	190.642	202.730	214.844
.12623E+09	191.859	191.866	191.879	203.579	215.297
.15779E+09	192.621	192.627	192.641	204.035	215.441
.18935E+09	192.578	192.585	192.598	203.667	214.754
.22090E+09	192.518	192.524	192.536	203.355	214.195
.25246E+09	192.357	192.363	192.375	202.960	213.570
.28402E+09	191.557	191.563	191.575	201.961	212.382
.31558E+09	190.881	190.887	190.899	201.127	211.400
.63115E+09	180.161	180.166	180.176	188.932	197.825
.94673E+09	168.572	168.577	168.585	176.261	184.125
.12623E+10	157.577	157.581	157.588	164.425	171.481
.15779E+10	148.022	148.025	148.032	154.138	160.482
.18935E+10	140.135	140.138	140.144	145.629	151.373
.22090E+10	133.561	133.564	133.569	138.526	143.742
.25246E+10	127.635	127.637	127.642	132.159	136.932
.28402E+10	122.951	122.953	122.957	127.115	131.523
.31558E+10	118.969	118.971	118.975	122.807	126.880
.63115E+10	99.8771	99.8783	99.8806	102.225	104.750
.94673E+10	92.7225	92.7234	92.7252	94.5630	96.5523
.12623E+11	88.6828	88.6835	88.6850	90.2307	91.9071
.15779E+11	85.8121	85.8128	85.8141	87.1638	88.6295
.18935E+11	83.1995	83.2001	83.2012	84.3936	85.6902
.22090E+11	81.0488	81.0493	81.0503	82.1209	83.2857
.25246E+11	79.1965	79.1969	79.1978	80.1637	81.2158
.28402E+11	77.6116	77.6120	77.6128	78.4948	79.4560
.31558E+11	76.2718	76.2722	76.2730	77.0851	77.9708

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:14 SEP 08, 1995 CP= 39110.940
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1353 TEMP	1063 TEMP	229 TEMP	243 TEMP	2682 TEMP
	c01o045	s01ir45	s01or45	g01o045	i01i045
.10000E-05	136.030	103.820	102.254	99.2468	27.5936
.20000E-05	160.580	129.761	128.224	125.250	59.3812
31.558	160.580	129.762	128.224	125.250	59.3812
.31558E+07	179.911	150.306	148.795	145.876	85.0725
.63116E+07	185.384	156.117	154.612	151.709	92.3486
.94673E+07	188.863	159.837	158.339	155.452	97.1426
.12623E+08	191.453	162.648	161.156	158.284	100.819
.15779E+08	193.458	164.862	163.377	160.520	103.810
.18935E+08	195.109	166.702	165.224	162.381	106.328
.22090E+08	196.515	168.281	166.810	163.980	108.509
.25246E+08	197.720	169.650	168.185	165.369	110.432
.28402E+08	198.764	170.849	169.391	166.588	112.147
.31558E+08	199.681	171.916	170.463	167.672	113.694
.63115E+08	204.684	178.073	176.673	173.984	123.254

.94673E+08	206.386	180.672	179.318	176.715	128.237
.12623E+09	207.055	182.079	180.763	178.233	131.508
.15779E+09	207.375	182.996	181.711	179.241	133.892
.18935E+09	206.894	183.190	181.941	179.541	135.667
.22090E+09	206.495	183.315	182.095	179.749	137.009
.25246E+09	206.022	183.337	182.144	179.849	138.163
.28402E+09	204.975	182.736	181.567	179.320	138.534
.31558E+09	204.104	182.219	181.069	178.861	138.784
.63115E+09	191.649	173.214	172.258	170.423	136.876
.94673E+09	178.814	162.981	162.172	160.616	131.760
.12623E+10	166.843	153.022	152.326	150.984	125.692
.15779E+10	156.404	144.274	143.671	142.507	120.235
.18935E+10	147.749	136.990	136.460	135.438	115.622
.22090E+10	140.504	130.885	130.414	129.507	111.741
.25246E+10	134.012	125.330	124.909	124.096	108.019
.28402E+10	128.857	120.927	120.544	119.806	105.098
.31558E+10	124.439	117.180	116.831	116.159	102.682
.63115E+10	103.303	98.9977	98.7959	98.4095	90.3915
.94673E+10	95.4263	92.0844	91.9291	91.6326	85.3980
.12623E+11	90.9642	88.1685	88.0392	87.7931	82.5732
.15779E+11	87.8086	85.3772	85.2652	85.0524	80.5100
.18935E+11	84.9669	82.8258	82.7275	82.5410	78.5381
.22090E+11	82.6377	80.7208	80.6330	80.4666	76.8788
.25246E+11	80.6324	78.9069	78.8281	78.6789	75.4480
.28402E+11	78.9242	77.3527	77.2811	77.1456	74.2018
.31558E+11	77.4822	76.0378	75.9721	75.8479	73.1414

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:14 SEP 08, 1995 CP= 39110.950
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2631 TEMP	2845 TEMP	2309 TEMP	1635 TEMP
	i01o045	o08o045	c03c045	c05c045
.10000E-05	26.8689	26.1413	122.246	120.983
.20000E-05	58.5536	57.7299	147.008	145.602
31.558	58.5536	57.7299	147.007	145.602
.31558E+07	84.1716	83.2794	166.541	165.531
.63116E+07	91.4295	90.5209	172.095	171.079
.94673E+07	96.2168	95.2983	175.660	174.639
.12623E+08	99.8899	98.9657	178.325	177.297
.15779E+08	102.880	101.956	180.399	179.370
.18935E+08	105.397	104.475	182.116	181.087
.22090E+08	107.579	106.659	183.585	182.556
.25246E+08	109.502	108.584	184.852	183.823
.28402E+08	111.219	110.303	185.955	184.927
.31558E+08	112.767	111.854	186.930	185.903
.63115E+08	122.347	121.459	192.410	191.406
.94673E+08	127.355	126.493	194.506	193.523
.12623E+09	130.649	129.809	195.507	194.545
.15779E+09	133.052	132.232	196.099	195.152
.18935E+09	134.851	134.055	195.929	195.007
.22090E+09	136.211	135.433	195.772	194.869
.25246E+09	137.383	136.622	195.529	194.644
.28402E+09	137.771	137.027	194.693	193.823
.31558E+09	138.035	137.305	193.990	193.133
.63115E+09	136.264	135.668	183.188	182.479
.94673E+09	131.253	130.757	171.612	171.020
.12623E+10	125.264	124.845	160.611	160.104
.15779E+10	119.871	119.514	150.959	150.527
.18935E+10	115.308	114.999	142.934	142.564
.22090E+10	111.468	111.197	136.215	135.895
.25246E+10	107.777	107.538	130.157	129.875
.28402E+10	104.881	104.666	125.348	125.098

.31558E+10	102.487	102.293	121.238	121.015
.63115E+10	90.2856	90.1801	101.437	101.321
.94673E+10	85.3189	85.2400	93.9844	93.9001
.12623E+11	82.5085	82.4439	89.7628	89.6948
.15779E+11	80.4545	80.3992	86.7671	86.7096
.18935E+11	78.4900	78.4419	84.0527	84.0024
.22090E+11	76.8361	76.7936	81.8207	81.7764
.25246E+11	75.4101	75.3721	79.8987	79.8593
.28402E+11	74.1676	74.1333	78.2575	78.2224
.31558E+11	73.1102	73.0790	76.8701	76.8388

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 2 ITEM= TEMP COMP= NAME= t0200135

*** WARNING *** CP= 39111.060 TIME= 05:14:14
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02o0135

VARIABLE 4 IS AT NODE 402 ITEM= TEMP COMP= NAME= s02i0135

VARIABLE 5 IS AT NODE 486 ITEM= TEMP COMP= NAME= c02i0135

VARIABLE 6 IS AT NODE 542 ITEM= TEMP COMP= NAME= c02c0135

VARIABLE 7 IS AT NODE 597 ITEM= TEMP COMP= NAME= c02o0135

VARIABLE 8 IS AT NODE 417 ITEM= TEMP COMP= NAME= s02ir135

VARIABLE 9 IS AT NODE 316 ITEM= TEMP COMP= NAME= s020r135

VARIABLE 10 IS AT NODE 315 ITEM= TEMP COMP= NAME= g02o0135

VARIABLE 11 IS AT NODE 2473 ITEM= TEMP COMP= NAME= i02i0135

VARIABLE 12 IS AT NODE 2422 ITEM= TEMP COMP= NAME= i02o0135

VARIABLE 13 IS AT NODE 3061 ITEM= TEMP COMP= NAME= o02o0135
 Add centers of assemblies 4 and 6

VARIABLE 14 IS AT NODE 1972 ITEM= TEMP COMP= NAME= c04c0135

VARIABLE 15 IS AT NODE 961 ITEM= TEMP COMP= NAME= c06c0135

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	2 TEMP	t0200135	76.27	.3156E+11	192.6	.1578E+09
3 NSOL	1 TEMP	s02o0135	76.27	.3156E+11	192.6	.1578E+09
4 NSOL	402 TEMP	s02i0135	76.27	.3156E+11	192.6	.1578E+09
5 NSOL	486 TEMP	c02i0135	77.07	.3156E+11	203.8	.1578E+09
6 NSOL	542 TEMP	c02c0135	77.94	.3156E+11	215.1	.1578E+09
7 NSOL	597 TEMP	c02o0135	77.45	.3156E+11	207.0	.1578E+09
8 NSOL	417 TEMP	s02ir135	75.99	.3156E+11	182.9	.2525E+09
9 NSOL	316 TEMP	s020r135	75.93	.3156E+11	181.7	.2525E+09
10 NSOL	315 TEMP	g02o0135	75.80	.3156E+11	179.4	.2525E+09
11 NSOL	2473 TEMP	i02i0135	27.60	.1000E-05	137.9	.3156E+09
12 NSOL	2422 TEMP	i02o0135	26.87	.1000E-05	137.2	.3156E+09
13 NSOL	3061 TEMP	o02o0135	26.14	.1000E-05	136.4	.3156E+09
14 NSOL	1972 TEMP	c04c0135	76.85	.3156E+11	195.9	.1578E+09
15 NSOL	961 TEMP	c06c0135	76.83	.3156E+11	195.7	.1578E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:16 SEP 08, 1995 CP= 39112.370
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP t0200135	1 TEMP s02o0135	402 TEMP s02i0135	486 TEMP c02i0135	542 TEMP c02c0135
.10000E-05	109.503	109.500	109.506	127.297	145.912
.20000E-05	137.404	137.401	137.406	153.528	170.201
31.558	137.404	137.401	137.407	153.527	170.201
.31558E+07	159.117	159.110	159.111	173.849	188.946
.63116E+07	165.333	165.326	165.326	179.682	194.344
.94673E+07	169.285	169.278	169.278	183.387	197.783
.12623E+08	172.259	172.251	172.251	186.158	200.329
.15779E+08	174.597	174.589	174.590	188.315	202.288
.18935E+08	176.529	176.522	176.522	190.094	203.896
.22090E+08	178.178	178.170	178.171	191.608	205.260
.25246E+08	179.602	179.595	179.595	192.909	206.425
.28402E+08	180.845	180.837	180.837	194.039	207.430
.31558E+08	181.944	181.936	181.936	195.034	208.309
.63115E+08	188.150	188.142	188.142	200.517	213.002
.94673E+08	190.621	190.614	190.614	202.494	214.458
.12623E+09	191.859	191.852	191.852	203.348	214.918
.15779E+09	192.621	192.614	192.614	203.808	215.070
.18935E+09	192.578	192.572	192.571	203.445	214.389
.22090E+09	192.518	192.511	192.511	203.137	213.835
.25246E+09	192.357	192.350	192.350	202.745	213.215
.28402E+09	191.557	191.551	191.551	201.751	212.036
.31558E+09	190.881	190.875	190.874	200.920	211.059
.63115E+09	180.161	180.155	180.155	188.757	197.531
.94673E+09	168.572	168.568	168.568	176.110	183.868
.12623E+10	157.577	157.573	157.573	164.294	171.257
.15779E+10	148.022	148.019	148.019	154.024	160.283
.18935E+10	140.135	140.132	140.132	145.526	151.193
.22090E+10	133.561	133.558	133.558	138.433	143.577
.25246E+10	127.635	127.632	127.632	132.076	136.783
.28402E+10	122.951	122.948	122.948	127.038	131.384
.31558E+10	118.969	118.967	118.967	122.735	126.750
.63115E+10	99.8771	99.8759	99.8758	102.181	104.668
.94673E+10	92.7225	92.7215	92.7214	94.5285	96.4868
.12623E+11	88.6828	88.6820	88.6819	90.2015	91.8515
.15779E+11	85.8121	85.8114	85.8113	87.1384	88.5808
.18935E+11	83.1995	83.1989	83.1988	84.3714	85.6476
.22090E+11	81.0488	81.0482	81.0482	82.1010	83.2476
.25246E+11	79.1965	79.1960	79.1959	80.1458	81.1813
.28402E+11	77.6116	77.6111	77.6111	78.4785	79.4244
.31558E+11	76.2718	76.2714	76.2714	77.0698	77.9412

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:16 SEP 08, 1995 CP= 39112.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	597 TEMP c02o0135	417 TEMP s02ir135	316 TEMP s020r135	315 TEMP g02o0135	2473 TEMP i02i0135
.10000E-05	136.079	103.997	102.437	99.4412	27.6044
.20000E-05	160.652	129.990	128.460	125.500	59.4857
31.558	160.652	129.990	128.460	125.501	59.4857
.31558E+07	179.499	149.831	148.318	145.396	83.9702

.63116E+07	184.962	155.633	154.127	151.220	91.2421
.94673E+07	188.440	159.354	157.855	154.964	96.0457
.12623E+08	191.032	162.168	160.675	157.799	99.7318
.15779E+08	193.037	164.383	162.898	160.037	102.731
.18935E+08	194.690	166.225	164.747	161.900	105.257
.22090E+08	196.096	167.805	166.333	163.500	107.445
.25246E+08	197.302	169.176	167.710	164.891	109.374
.28402E+08	198.347	170.377	168.917	166.110	111.094
.31558E+08	199.265	171.445	169.991	167.197	112.647
.63115E+08	204.271	177.603	176.202	173.510	122.235
.94673E+08	205.981	180.213	178.857	176.251	127.253
.12623E+09	206.657	181.628	180.310	177.777	130.550
.15779E+09	206.986	182.555	181.269	178.795	132.961
.18935E+09	206.510	182.755	181.504	179.101	134.757
.22090E+09	206.117	182.886	181.664	179.315	136.116
.25246E+09	205.649	182.913	181.718	179.420	137.286
.28402E+09	204.610	182.322	181.152	178.902	137.681
.31558E+09	203.746	181.813	180.662	178.451	137.948
.63115E+09	191.337	172.859	171.901	170.063	136.165
.94673E+09	178.538	162.663	161.852	160.293	131.138
.12623E+10	166.600	152.740	152.043	150.699	125.149
.15779E+10	156.186	144.018	143.414	142.247	119.749
.18935E+10	147.549	136.755	136.224	135.198	115.182
.22090E+10	140.320	130.666	130.194	129.284	111.337
.25246E+10	133.843	125.129	124.706	123.890	107.650
.28402E+10	128.698	120.736	120.352	119.612	104.753
.31558E+10	124.290	116.999	116.649	115.975	102.359
.63115E+10	103.205	98.8775	98.6748	98.2866	90.1845
.94673E+10	95.3477	91.9865	91.8304	91.5325	85.2320
.12623E+11	90.8972	88.0847	87.9548	87.7073	82.4320
.15779E+11	87.7496	85.3033	85.1907	84.9767	80.3859
.18935E+11	84.9153	82.7611	82.6623	82.4748	78.4296
.22090E+11	82.5914	80.6627	80.5744	80.4071	76.7814
.25246E+11	80.5905	78.8542	78.7749	78.6249	75.3599
.28402E+11	78.8856	77.3041	77.2320	77.0958	74.1208
.31558E+11	77.4459	75.9920	75.9259	75.8010	73.0655

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:16 SEP 08, 1995 CP= 39112.400
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2422 TEMP	3061 TEMP	1972 TEMP	961 TEMP
	i02o0135	o02o0135	c04c0135	c06c0135
.10000E-05	26.8747	26.1413	122.289	122.289
.20000E-05	58.6516	57.8205	147.075	147.097
31.558	58.6516	57.8205	147.075	147.097
.31558E+07	83.0612	82.1598	166.295	166.080
.63116E+07	90.3143	89.3960	171.844	171.630
.94673E+07	95.1099	94.1814	175.410	175.198
.12623E+08	98.7929	97.8583	178.076	177.866
.15779E+08	101.791	100.854	180.150	179.943
.18935E+08	104.317	103.382	181.870	181.664
.22090E+08	106.504	105.571	183.339	183.134
.25246E+08	108.434	107.503	184.606	184.403
.28402E+08	110.155	109.227	185.710	185.508
.31558E+08	111.710	110.784	186.686	186.485
.63115E+08	121.316	120.416	192.167	191.970
.94673E+08	126.359	125.485	194.269	194.078
.12623E+09	129.679	128.828	195.273	195.087
.15779E+09	132.110	131.278	195.871	195.689
.18935E+09	133.930	133.122	195.703	195.525
.22090E+09	135.308	134.518	195.550	195.375
.25246E+09	136.496	135.724	195.309	195.137

.28402E+09	136.908	136.153	194.479	194.311
.31558E+09	137.189	136.448	193.780	193.615
.63115E+09	135.545	134.940	183.003	182.861
.94673E+09	130.624	130.121	171.447	171.320
.12623E+10	124.715	124.290	160.464	160.351
.15779E+10	119.380	119.018	150.826	150.723
.18935E+10	114.864	114.550	142.812	142.718
.22090E+10	111.060	110.785	136.101	136.014
.25246E+10	107.405	107.162	130.052	129.972
.28402E+10	104.534	104.316	125.250	125.174
.31558E+10	102.162	101.964	121.145	121.074
.63115E+10	90.0772	89.9703	101.376	101.328
.94673E+10	85.1518	85.0718	93.9344	93.8960
.12623E+11	82.3664	82.3008	89.7200	89.6870
.15779E+11	80.3297	80.2736	86.7294	86.7003
.18935E+11	78.3809	78.3322	84.0197	83.9940
.22090E+11	76.7382	76.6951	81.7911	81.7680
.25246E+11	75.3215	75.2830	79.8718	79.8507
.28402E+11	74.0861	74.0514	78.2328	78.2133
.31558E+11	73.0339	73.0022	76.8468	76.8286

 * Temperature profile from the center of inner column

VARIABLE 2 IS AT NODE 10 ITEM= TEMP COMP= NAME= t01c090

*** WARNING *** CP= 39112.500 TIME= 05:14:16
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 39 ITEM= TEMP COMP= NAME= s01ou90
 VARIABLE 4 IS AT NODE 1140 ITEM= TEMP COMP= NAME= s01iu90
 VARIABLE 5 IS AT NODE 1294 ITEM= TEMP COMP= NAME= c01u090
 VARIABLE 6 IS AT NODE 1298 ITEM= TEMP COMP= NAME= c01c090
 VARIABLE 7 IS AT NODE 1302 ITEM= TEMP COMP= NAME= c01l090
 VARIABLE 8 IS AT NODE 1071 ITEM= TEMP COMP= NAME= s01il90
 VARIABLE 9 IS AT NODE 1056 ITEM= TEMP COMP= NAME= s01ol90
 VARIABLE 10 IS AT NODE 1477 ITEM= TEMP COMP= NAME= s05iu90
 VARIABLE 11 IS AT NODE 1631 ITEM= TEMP COMP= NAME= c05u090
 VARIABLE 12 IS AT NODE 1635 ITEM= TEMP COMP= NAME= c05c090
 VARIABLE 13 IS AT NODE 1638 ITEM= TEMP COMP= NAME= c05l090
 VARIABLE 14 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05il90
 VARIABLE 15 IS AT NODE 1408 ITEM= TEMP COMP= NAME= s05ol90
 VARIABLE 16 IS AT NODE 2666 ITEM= TEMP COMP= NAME= i05i090
 VARIABLE 17 IS AT NODE 2651 ITEM= TEMP COMP= NAME= i5o90
 VARIABLE 18 IS AT NODE 2865 ITEM= TEMP COMP= NAME= 0050090

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	10 TEMP	t01c090	76.21	.3156E+11	191.3	.1578E+09
3	NSOL	39 TEMP	s01ou90	76.20	.3156E+11	191.2	.1578E+09
4	NSOL	1140 TEMP	s01iu90	76.21	.3156E+11	191.4	.1578E+09

5	NSOL	1294	TEMP	c01u090	77.40	.3156E+11	208.0	.1578E+09
6	NSOL	1298	TEMP	c01c090	77.97	.3156E+11	215.4	.1578E+09
7	NSOL	1302	TEMP	c01l090	77.65	.3156E+11	210.6	.1578E+09
8	NSOL	1071	TEMP	s01il90	76.80	.3156E+11	198.5	.1578E+09
9	NSOL	1056	TEMP	s01ol90	76.80	.3156E+11	198.5	.1578E+09
10	NSOL	1477	TEMP	s05iu90	76.80	.3156E+11	198.5	.1578E+09
11	NSOL	1631	TEMP	c05u090	77.13	.3156E+11	201.2	.1578E+09
12	NSOL	1635	TEMP	c05c090	76.84	.3156E+11	195.2	.1578E+09
13	NSOL	1638	TEMP	c05l090	76.15	.3156E+11	184.0	.2525E+09
14	NSOL	1408	TEMP	s05il90	62.05	.1000E-05	156.6	.2525E+09
15	NSOL	1408	TEMP	s05ol90	62.05	.1000E-05	156.6	.2525E+09
16	NSOL	2666	TEMP	i05i090	27.70	.1000E-05	139.1	.3156E+09
17	NSOL	2651	TEMP	i5o90	27.15	.1000E-05	138.6	.3156E+09
18	NSOL	2865	TEMP	0050090	26.14	.1000E-05	137.8	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:20 SEP 08, 1995 CP= 39114.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	10 TEMP	39 TEMP	1140 TEMP	1294 TEMP	1298 TEMP
	t01c090	s01u090	s01iu90	c01u090	c01c090
.10000E-05	107.964	107.882	108.035	134.111	145.954
.20000E-05	135.879	135.798	135.944	159.608	170.243
31.558	135.879	135.799	135.945	159.607	170.242
.31558E+07	157.586	157.506	157.647	179.505	189.335
.63116E+07	163.807	163.727	163.867	185.178	194.742
.94673E+07	167.765	167.686	167.825	188.780	198.183
.12623E+08	170.745	170.666	170.804	191.465	200.729
.15779E+08	173.090	173.012	173.149	193.548	202.688
.18935E+08	175.030	174.952	175.088	195.264	204.295
.22090E+08	176.685	176.607	176.742	196.722	205.659
.25246E+08	178.116	178.039	178.173	197.974	206.824
.28402E+08	179.365	179.288	179.421	199.057	207.827
.31558E+08	180.471	180.394	180.526	200.010	208.706
.63115E+08	186.730	186.656	186.782	205.202	213.396
.94673E+08	189.247	189.175	189.297	206.983	214.844
.12623E+09	190.523	190.454	190.572	207.690	215.297
.15779E+09	191.317	191.249	191.365	208.034	215.441
.18935E+09	191.312	191.246	191.358	207.552	214.754
.22090E+09	191.280	191.215	191.325	207.153	214.195
.25246E+09	191.146	191.083	191.190	206.676	213.570
.28402E+09	190.373	190.311	190.416	205.611	212.382
.31558E+09	189.717	189.656	189.759	204.726	211.400
.63115E+09	179.197	179.147	179.233	192.049	197.825
.94673E+09	167.759	167.717	167.790	179.024	184.125
.12623E+10	156.880	156.844	156.907	166.910	171.481
.15779E+10	147.420	147.388	147.444	156.377	160.482
.18935E+10	139.607	139.579	139.628	147.656	151.373
.22090E+10	133.093	133.068	133.112	140.368	143.742
.25246E+10	127.216	127.194	127.233	133.846	136.932
.28402E+10	122.570	122.551	122.586	128.674	131.523
.31558E+10	118.623	118.605	118.638	124.247	126.880
.63115E+10	99.6786	99.6683	99.6873	103.120	104.750
.94673E+10	92.5699	92.5620	92.5766	95.2680	96.5523
.12623E+11	88.5556	88.5490	88.5612	90.8250	91.9071
.15779E+11	85.7021	85.6964	85.7070	87.6834	88.6295
.18935E+11	83.1028	83.0978	83.1070	84.8536	85.6902
.22090E+11	80.9626	80.9581	80.9665	82.5341	83.2857
.25246E+11	79.1189	79.1149	79.1223	80.5372	81.2158
.28402E+11	77.5413	77.5376	77.5444	78.8359	79.4560
.31558E+11	76.2071	76.2038	76.2100	77.3995	77.9708

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:20 SEP 08, 1995 CP= 39114.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1302 TEMP	1071 TEMP	1056 TEMP	1477 TEMP	1631 TEMP
	c011090	s011190	s010190	s051090	c050090
.10000E-05	139.402	121.502	121.440	121.448	127.828
.20000E-05	164.012	147.491	147.430	147.435	152.619
31.558	164.012	147.491	147.430	147.435	152.619
.31558E+07	183.450	168.135	168.075	168.078	172.457
.63116E+07	188.934	173.946	173.886	173.888	178.007
.94673E+07	192.419	177.631	177.571	177.573	181.552
.12623E+08	195.008	180.391	180.332	180.334	184.194
.15779E+08	197.008	182.546	182.487	182.489	186.247
.18935E+08	198.652	184.324	184.265	184.267	187.942
.22090E+08	200.052	185.841	185.782	185.784	189.389
.25246E+08	201.249	187.147	187.089	187.090	190.632
.28402E+08	202.284	188.281	188.223	188.224	191.714
.31558E+08	203.191	189.283	189.225	189.226	192.666
.63115E+08	208.101	194.873	194.817	194.818	197.958
.94673E+08	209.716	196.972	196.919	196.919	199.886
.12623E+09	210.307	197.946	197.894	197.894	200.741
.15779E+09	210.563	198.506	198.455	198.455	201.212
.18935E+09	210.002	198.275	198.226	198.226	200.901
.22090E+09	209.542	198.070	198.022	198.022	200.635
.25246E+09	209.010	197.778	197.731	197.731	200.288
.28402E+09	207.905	196.880	196.834	196.834	199.351
.31558E+09	206.989	196.128	196.082	196.082	198.569
.63115E+09	194.069	184.785	184.747	184.748	186.995
.94673E+09	180.872	172.761	172.729	172.730	174.830
.12623E+10	168.618	161.412	161.384	161.385	163.371
.15779E+10	157.947	151.520	151.496	151.498	153.356
.18935E+10	149.109	143.339	143.318	143.320	145.045
.22090E+10	141.710	136.506	136.487	136.488	138.089
.25246E+10	135.092	130.357	130.340	130.341	131.835
.28402E+10	129.838	125.484	125.469	125.471	126.872
.31558E+10	125.334	121.325	121.312	121.313	122.626
.63115E+10	103.821	101.377	101.369	101.370	102.237
.94673E+10	95.8264	93.9103	93.9042	93.9050	94.6009
.12623E+11	91.2977	89.6853	89.6802	89.6809	90.2754
.15779E+11	88.0979	86.6901	86.6857	86.6864	87.2107
.18935E+11	85.2209	83.9761	83.9723	83.9729	84.4409
.22090E+11	82.8647	81.7477	81.7442	81.7448	82.1672
.25246E+11	80.8363	79.8277	79.8246	79.8251	80.2094
.28402E+11	79.1097	78.1892	78.1864	78.1869	78.5396
.31558E+11	77.6524	76.8044	76.8018	76.8023	77.1292

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:20 SEP 08, 1995 CP= 39114.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1635 TEMP	1638 TEMP	1408 TEMP	1408 TEMP	2666 TEMP
	c05c090	c051090	s051190	s050190	i051090
.10000E-05	120.983	105.201	62.0481	62.0481	27.7044
.20000E-05	145.602	130.584	90.1579	90.1579	59.3629
31.558	145.602	130.584	90.1579	90.1579	59.3629
.31558E+07	165.531	151.269	113.319	113.319	85.5581

.63116E+07	171.079	157.036	119.764	119.764	92.8218
.94673E+07	174.639	160.745	123.965	123.965	97.6028
.12623E+08	177.297	163.535	127.169	127.169	101.267
.15779E+08	179.370	165.728	129.743	129.743	104.249
.18935E+08	181.087	167.552	131.901	131.901	106.757
.22090E+08	182.556	169.119	133.767	133.767	108.932
.25246E+08	183.823	170.474	135.401	135.401	110.848
.28402E+08	184.927	171.663	136.851	136.851	112.558
.31558E+08	185.903	172.719	138.152	138.152	114.099
.63115E+08	191.406	178.818	146.031	146.031	123.633
.94673E+08	193.523	181.380	149.889	149.889	128.596
.12623E+09	194.545	182.763	152.304	152.304	131.853
.15779E+09	195.152	183.661	154.021	154.021	134.225
.18935E+09	195.007	183.842	155.102	155.102	135.993
.22090E+09	194.869	183.957	155.912	155.912	137.327
.25246E+09	194.644	183.970	156.575	156.575	138.476
.28402E+09	193.823	183.361	156.533	156.533	138.838
.31558E+09	193.133	182.839	156.459	156.459	139.082
.63115E+09	182.479	173.802	151.654	151.654	137.141
.94673E+09	171.020	163.548	144.501	144.501	132.006
.12623E+10	160.104	153.555	136.895	136.895	125.917
.15779E+10	150.527	144.760	130.132	130.132	120.443
.18935E+10	142.564	137.441	124.453	124.453	115.817
.22090E+10	135.895	131.307	119.679	119.679	111.925
.25246E+10	129.875	125.729	115.219	115.219	108.190
.28402E+10	125.098	121.308	111.700	111.700	105.260
.31558E+10	121.015	117.543	108.743	108.743	102.836
.63115E+10	101.321	99.2559	94.0287	94.0287	90.4952
.94673E+10	93.9001	92.2961	88.2376	88.2376	85.4825
.12623E+11	89.6948	88.3528	84.9562	84.9562	82.6456
.15779E+11	86.7096	85.5422	82.5874	82.5874	80.5739
.18935E+11	84.0024	82.9742	80.3709	80.3709	78.5942
.22090E+11	81.7764	80.8554	78.5237	78.5237	76.9293
.25246E+11	79.8593	79.0305	76.9308	76.9308	75.4938
.28402E+11	78.2224	77.4673	75.5545	75.5545	74.2440
.31558E+11	76.8388	76.1451	74.3866	74.3866	73.1810

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:14:20 SEP 08, 1995 CP= 39114.190
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

12 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2651 TEMP	2865 TEMP
	15090	0050090
.10000E-05	27.1543	26.1413
.20000E-05	58.7484	57.6913
31.558	58.7484	57.6913
.31558E+07	84.9196	83.8462
.63116E+07	92.1728	91.0950
.94673E+07	96.9509	95.8704
.12623E+08	100.614	99.5338
.15779E+08	103.596	102.523
.18935E+08	106.105	105.038
.22090E+08	108.281	107.221
.25246E+08	110.197	109.143
.28402E+08	111.908	110.860
.31558E+08	113.451	112.408
.63115E+08	123.001	122.002
.94673E+08	127.983	127.020
.12623E+09	131.256	130.323
.15779E+09	133.641	132.732
.18935E+09	135.426	134.545
.22090E+09	136.773	135.913
.25246E+09	137.934	137.095

.28402E+09	138.308	137.487
.31558E+09	138.562	137.755
.63115E+09	136.715	136.050
.94673E+09	131.651	131.091
.12623E+10	125.615	125.136
.15779E+10	120.186	119.772
.18935E+10	115.595	115.232
.22090E+10	111.731	111.410
.25246E+10	108.018	107.732
.28402E+10	105.106	104.847
.31558E+10	102.697	102.462
.63115E+10	90.4191	90.2871
.94673E+10	85.4255	85.3254
.12623E+11	82.5989	82.5162
.15779E+11	80.5339	80.4627
.18935E+11	78.5594	78.4972
.22090E+11	76.8985	76.8431
.25246E+11	75.4663	75.4168
.28402E+11	74.2191	74.1743
.31558E+11	73.1584	73.1174

***** ROUTINE COMPLETED ***** CP = 39114.190

```
*****
End of batch input file
*****
```

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf12h.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 24
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

*-----*
                        ANSYS RUN COMPLETED
*-----*
                        REV. 5.0 A                                HP 9000/7XX
CP TIME      (sec) =      39116.910      TIME = 05:14:25
ELAPSED TIME (sec) =      70767.000      DATE  = 09/08/95

```