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Design Analysis Cover Sheet

Complete only applicable items.

1.

QA:

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N/A
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2. DESIGN ANALYSIS TITLE			
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10. Checker <i>RUSSIE 11/8/95</i> <i>Technical Review</i>	Robert H. Bahney III		11/8/95
11. Lead Design Engineer	Thomas W. Doering		11/9/95
12. QA Manager	N/A		
13. Department Manager	N/A		

4. REMARKS

This is an approved SCOPING Design Analysis. The QAP 2-0 Activity Evaluation, "Perform Criticality, Thermal, Structural, and Shielding Scoping Analysis", DI#: BB0000000-01717-2200-00026 REV 01, lists the procedural controls which are required. Therefore, this design analysis is NOT subject to the QAP 3-series procedures and does not require QAP 3-9 signatures. All information contained in this analysis is TBV and has received a technical review only.

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Design Analysis Revision Record

Complete only applicable items.

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2. DESIGN ANALYSIS TITLE		
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DESIGN ANALYSIS

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Title: Thermal Evaluation of the Conceptual 40 BWR Multi-Purpose
Canister (MPC) with ACD Disposal Container (SCPb: N/A)

Document Identifier: BBABB0000-01717-0200-00003 REV 00

Originator: Thomas L. Lotz

Checker: Robert H. Bahney III

Lead Discipline Engineer: Thomas W. Doering

Department Manager: Hugh A. Benton

Date: November 8, 1995

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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 40 BWR Multi-Purpose Canister (MPC) Waste Package (WP) design 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 Multi-Purpose Canister (MPC) Subsystem Design do not preclude MPC compatibility with the MGDS. The objective of this analysis is to provide thermal parameter information for the conceptual MPC design with disposal container 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 specific MPC vendor designs when they become available.

2. Quality Assurance

The QA program applies to this analysis. The information in this analysis concerning disposal long-term thermal parameters for the conceptual MPC WP will be used as a guide as to the possible requirements which might be used in the MPC WP design. The performance of the MPC internals will affect the proper function of the waste package and the waste package has been identified as an MGDS Q-List item important to safety (Ref. 5.4, p. 5). The work performed for this analysis is covered by reference 5.2, Perform Criticality, Thermal, Structural, and Shielding Scoping Analysis, which is part the WPDD QAP-2-0 Work Control evaluation documents. This QAP-2-0 evaluation determined such activities are subject to Quality Assurance Requirements and Description (QARD) (Ref. 5.3) requirements. Applicable procedural controls are listed in the evaluation.

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 (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 BWR MPC internals will be modeled with the Spent Nuclear Fuel (SNF) approximated

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by a homogeneous material property region based upon the GE-7 BWR-5 fuel assembly data (pp. 2A-21, 2A-22, Ref. 5.12 and p. 26, Ref. 5.39) and the SNF effective thermal conductivity calculations (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

4.1 Design Parameters

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

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

	Density	Emissivity
Stainless Steel 316	8000.0 kg/m ³	0.60

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

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

(Equation 4.1-1)

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

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

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

Temperature		Thermal Conductivity (Btu/hr-ft-°F)	Thermal Diffusivity (ft²/hr)	Thermal Conductivity (W/m-K)	Specific Heat (J/kg-K)
°F	°C				
70	21.11	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

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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 lists 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.

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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	

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Checker: Robert H. Bahney III

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

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

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

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

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

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

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

Temperature		C71500 Density (lb/in ³)	C71500 Density (kg/m ³)	Thermal Conductivity (BTU/ hr·ft ·°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		

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Checker: Robert H. Bahney III

4.2 Criteria

The design of the engineered barrier segment (EBS) will depend on thermal analyses of the repository host rock and near-field. Criteria that relate to the thermal analysis of the EBS are derived from the applicable requirements and planning documents. Upper-level systems requirements are provided in the Mined Geologic Disposal System Requirements Document (MGDS-RD) (Ref. 5.6). The requirements flow down to the Engineered Barrier Design Requirements Document (EBDRD, 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, EBDRD, 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 EBDRD 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]

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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 EBDRD Requirements for Thermal Design

The criteria applicable to thermal analysis of waste package emplacement are equivalent to the applicable requirements in the EBDRD (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]"

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"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 EBD RD (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 EBDRD (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.

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4.3 Assumptions

All assumptions identified in this section will require verification (or superseding assumptions) as the waste package design proceeds and should be treated as TBV items for preliminary design. For Pre-title II design (conceptual or preliminary) and documents not subject to 3 series QAPs, assumptions are identified and documented, but they are not subject to tracking in accordance with MGDS NLP-3-15.

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

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115°C. (CDA DCSS 031, p. 6-160, Ref. 5.7)

- Limit the SNF cladding maximum temperature to less than 350°C. (CDA DCWP 001, p. 6-165, Ref. 5.7)
- Limit the high-level waste glass maximum temperature to less than 500°C. (CDA DCWP 002, p. 6-166, Ref. 5.7)
- The structural strength of any material component of the waste package shall not be compromised by temperature/environment of the EBS environment. (derived from p. 2-4, Ref. 5.10, and EBD RD 3.7.1.3.E, p. 3-53, Ref. 5.5)
- Maximize the time the waste package container stays above boiling consistent with the thermal strategy developed. (Table 3, p. 23, Ref. 5.33)

4.3.2 Two primary high thermal loadings (100 MTU/acre and 83 MTU/acre) and a couple variations of a low thermal loading (25 MTU/acre) will be considered in this analysis. These values are consistent with the range of thermal loadings (20 - 100 MTU/acre) given in the CDA (Key 019, p. 6-24, Ref. 5.7). Also, in an effort to have all of the M&O analysts on the same "sheet of music", thermal loadings of 25 and 83 MTU/acre were recommended in a Systems Engineering interoffice correspondence (p. 2, Ref. 5.23). 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 with disposal container and is a current program decision (CDA Key 011, p. 6-18, Ref. 5.7). This assumption is used throughout Section 7.

4.3.4 Reference 5.28 (Table 12, page 24) determined the thermal design basis BWR SNF for the MGDS waste package to have the following characteristics: 1) an age (or cooling time) of 10 years at the time of emplacement, 2) a burn up of 49,000 MWd/MTU, and 3) average assembly uranium enrichment of 3.74%. To complete the characterization of the BWR SNF, it is assumed that a GE-7 8x8 SNF assembly with a uranium mass of 0.200 MTU/assembly and an active fuel length of 150 inches will adequately represent the BWR SNF as a class of waste. This data is required in order to determine the decay heat curve of the MGDS thermal design basis BWR SNF. Based upon data from pages 2A-21 through 2A-22 of reference 5.12 and page 26 of reference 5.39, 0.200 MTU/assembly and an active fuel length of 150 inches was selected to conservatively bound the BWR assembly types given the wide variety of uranium loading configurations. This assumption is used throughout Sections 6 and 7.

- 4.3.5 The decay heat curve for the MGDS thermal design basis was generated with the use of the PHIA 00B 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 through out the United States. Use of the data from reference 5.30 is consistent with the reasons for its creation. This assumption is used throughout Section 7. The PHIA 00B code is presented in Attachment I and the data used from reference 5.30 as input to the PHIA 00B code is presented in Attachment II. The decay heat curve is presented in Sections 6.0 and 7.4.
- 4.3.6 The material properties, i.e., effective thermal conductivities, developed for the B&W 15x15 PWR SNF in reference 5.11 may be conservatively applied to the GE-7 8x8 BWR 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 BWR bundle has larger view factors to the waste package basket for the center rods of an assembly than the PWR counterpart. Thus, it is expected that the BWR SNF assembly will dissipate heat more efficiently than the PWR SNF assembly. Therefore, using the PWR effective conductivity material properties for the BWR SNF assembly is expected to over predict the BWR SNF cladding temperatures. Also, the use of data from reference 5.11 requires that the heat generation be homogenous in the modeled SNF region. Heat generation in SNF regions must be applied in this fashion to use the reference 5.11 data in a consistent manner. This assumption is used throughout Section 7.
- 4.3.7 The MPC with disposal container model assumes that a two dimensional finite element model of a cross section at the midsection of the waste package will be representative of the hottest portion of the waste package. Inherent in this assumption is that axial heat transfer does not significantly affect the solution. (i.e., the flow of heat in the radial direction is assumed to dominate the solution.) The basis for this assumption is that the metal thermal conductivities and heat generation distributions are such that axial heat transfer is very small or negligible. This was shown by the analysis in reference 5.13 which modeled the waste package in three dimensions. This assumption is used throughout Section 7.
- 4.3.8 For the cross section model of the waste package, an axial power peaking factor of 1.40 is applied to the BWR SNF heat generation rate. This factor is based upon the data in Appendix E of reference 5.34 and is assumed to bound the range of axial power peaking factors for BWR SNF. The basis for this assumption is that BWR reactor cores are designed such that axial peaking larger than 1.40 are typically not allowed. 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 MPC conceptual design as presented on pages II.A.4-13 and II.A.4-14 of reference 5.8, Figures 4.2.1.2-1 and 4.2.1.2-2, are assumed to be the representative design which specifies the geometry and materials of construction. The basis of this assumption is that the specified reference is the only MPC design available. This assumption is used throughout Section 7.
- 4.3.12 The waste package disposal container material composition, geometry, and dimensions are assumed to be those specified in reference 5.31. This data is also presented as Waste Package Development sketches which are identified as specified in references 5.35 and 5.37, and are based upon reference 5.31. This assumption is consistent with CDA KEY 042, page 6-37 of reference 5.7. This assumption is used throughout Section 7.
- 4.3.13 The MPC waste package is assumed to be evacuated and filled 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 MPC internals. This assumption is used throughout Section 7.
- 4.3.14 The gap between the MPC and the disposal container is assumed to be modeled conservatively if it is modeled as being void of material (i.e., a vacuum). The basis for this assumption is as follows: this space will most likely be evacuated and backfilled with helium gas for similar reasons as specified in assumption 4.3.13 for the MPC internals. However, since helium has a reasonably good thermal conductivity, assuming a vacuum will result in slightly higher internal temperatures. This is conservative for this analysis. This assumption is equivalent to assuming only radiative heat transfer between the MPC shell and the disposal container. 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: convective heat transfer will occur with the fill gas which is placed internal to the MPC, however, the natural convective heat transfer will have a small or negligible contribution to the total heat transfer (see reference 5.16 for a discussion on natural convection heat transfer).

Thus, the problem may be modeled with only the dominant heat transfer modes with a negligible or conservative impact upon the results. This assumption is used throughout Section 7.

- 4.3.16 It is assumed for this analysis that the waste package with disposal container will not have filler material placed in side of it. The basis for this assumption is that the consideration of filler material is beyond the scope of this analysis. Evaluation of effect 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 with disposal container will not be individually fitted with radiation shielding. This is consistent with the CDA; KEY 031, page 6-32, of reference 5.7. This assumption is used throughout Section 7.
- 4.3.18 It is assumed for this analysis that the waste package with disposal container will not contain consolidated SNF rods, but will only contain intact SNF assemblies. See KEY 008 on page 6-15 of reference 5.7 for the justification of this assumption. This assumption is used throughout Section 7.
- 4.3.19 It is assumed for this analysis that waste package materials which are in contact that a perfect weld will be modeled. 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 Modeling the MPC container as "floating" in the disposal container such that the MPC package does not touch the disposal container at any point is assumed to provide conservative results for this analysis. The basis for this assumption is engineering judgement. The assumption is conservative with respect to MPC internal temperatures since the modeled geometry eliminates any conduction heat transfer and will limit the mode of heat transfer to only radiation between two surfaces. This assumption is used throughout Section 7.
- 4.3.21 Modeling the MPC basket as "floating" in the MPC container such that the SNF tubes do not touch the MPC corner guides or any other part of the MPC is assumed to provide conservative results for this analysis. The basis for this assumption is engineering judgement. This is conservative with respect to SNF temperatures since the modeled geometry will eliminate any conduction heat transfer, other than that of conduction through the helium fill gas, from the SNF basket to the MPC shell and limits the main heat transfer mode to that of radiative heat transfer. This configuration uses the

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manufacturing tolerances for the MPC container and creates a basket/shell gap. 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 MPC 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 less pressure in their designs. Use of one atmosphere is representative of the most likely 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 used in the MPC package for this analysis. Particularly the use of a constant value for the density and emissivity is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover the anticipated temperatures the MPC 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 MPC 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 MPC 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-boron 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 and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover the most of the anticipated temperatures the MPC 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 aluminum emissivity for the aluminum-boron material is assumed reasonable in the absence of data for aluminum-boron since, for the MPC, the aluminum-boron material is clad in stainless steel and has only a minor edge exposed for the outer most tubes only. Finally, the emissivity for aluminum is sufficiently low at 0.07 that a lower value will have very little impact upon the solution and 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 MPC 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 $0.388242 \times 10^4 \text{ kg/m}^3$. The density value was determined using the BWR assembly mass from Table 5.1.1.2.1-1 on page 26 of reference 5.39 of 730 lbs (331.126 kg) and dividing by the BWR assembly volume which provides an average density in kg/m^3 (Density = Mass / Volume). The BWR volume was determined using the overall assembly width of 5.44 inches (0.138 meters) and the assembly length of 175.87 inches (4.467 meters) from page 2A-21 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 = Mass/Volume = 0.388242×10^4 kg/m³. This assumption is used throughout Section 7.

- 4.3.29 The use of single, homogenized SNF material specific heat used in conjunction with assumption 4.3.6 is assumed reasonable and adequate. The basis for this assumption is engineering judgement. The specific value was determined using: 1) the BWR assembly and uranium mass from Table 5.1.1.2.1-1 on page 26 of reference 5.39 of 730 lbs (331.126 kg) and 200 kg and 2) 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 (i.e., $SNF C_p = (C_p UO_2 \cdot Mass UO_2 + C_p Zr2 \cdot Mass Zr2) / Mass \text{ of Assembly}$). The mass of UO₂ is determined from the mass of uranium (i.e., mass UO₂ = mass U · (Atomic wt U + 2 · Atomic wt of O¹⁶) / Atomic wt of U = 226.886 kg). The mass of Zirc2 is then simply the difference between the total assembly mass and the UO₂ mass (mass Zr2 = 104.240 kg). The SNF specific heat value is then calculated to be: SNF C_p = 273.129 J/kg·K. The value used in each of the ANSYS input decks provided in Attachments XII through XVI is 284.01 J/kg·K and is in error. However, the error is judged to be small relative to the given set of assumptions and will have no impact upon any of the results given the small amount of thermal energy mass storage expected in the homogeneous SNF assembly. This assumption is used throughout Section 7.

4.4 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 Scoping Analysis, Document Identifier (DI) Number: BB0000000-01717-2200-00026 REV 01, Civilian Radioactive Waste Management System (CRWMS) Management and Operating Contractor (M&O), August 30, 1995.
- 5.3 Quality Assurance Requirements and Description (QARD), DOE/RW-0333P REV 5, October 31, 1995.

- 5.4 Yucca Mountain Site Characterization Project Q-List, YMP/90-55Q, REV 3, Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM), December 1994.
- 5.5 Engineered Barrier Design Requirements Document, YMP/CM-0024, Rev 0, ICN 1, Yucca Mountain Site Characterization Project, September 21, 1994.
- 5.6 Mined Geological Disposal System Requirements Document, DOE/RW-0404P, DI: B00000000-00811-1708-00002, REV 01, DCN 01, U.S. DOE OCRWM, May 1995.
- 5.7 Controlled Design Assumptions (CDA) Document, DI#: B00000000-01717-4600-00032 REV 01, CRWMS M&O, April 28, 1995.
- 5.8 Multi-Purpose Canister (MPC) Implementation Program Conceptual Design Phase Report, Volume II.A - MPC Conceptual Design Report, DI#: A20000000-00811-5705-00002 REV 00, September 30, 1993.
- 5.9 Waste Package Plan, YMP/90-62, Rev 1, Yucca Mountain Site Characterization Project March, 1993.
- 5.10 Waste Package Implementation Plan, YMP/92-11Q, Rev 1, Yucca Mountain Site Characterization Project, January, 1995.
- 5.11 Determination of PWR Spent Nuclear Fuel Effective Conductivity, DI#: BBA000000-01717-0200-00007, REV 00, CRWMS M&O, DRAFT to be issued in 1995.
- 5.12 Characteristics of Potential Repository Wastes, DOE/RW-0184-R1; Volume 1, U.S. DOE OCRWM, July 1992
- 5.13 Emplacement Scale Thermal Evaluations of Waste Package Advanced Conceptual Designs, DI#: BB0000000-01717-0200-00009, REV 00, CRWMS M&O, DRAFT to be issued in 1995.
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6. Use of Computer Software

The FEA analysis computer code used for this analysis is ANSYS V5.0A 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-

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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 (page 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 (page 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 V00B 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 a 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 a IBM PC compatible.

The presentation graphics provided in Section 7.4 was generated with the computer code Harvard Graphics Version 2.0 and is classified as computational support software. Harvard Graphics Version 2.0 was executed on a IBM PC compatible. Harvard Graphics Version 2.0 is not a controlled computer code and has not been qualified under the QAP-SI series of M&O procedures and will not be qualified under the M&O procedures. Harvard Graphics Version 2.0

simply provides a frame work to create a graphical representation of data. No calculation or modification beyond cut and paste operations with tabular ANSYS output or Lotus 1-2-3 was performed in Harvard Graphics.

7. Design Analysis

7.1 Background

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

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

The method for WP thermal evaluations involves a three-model approach to determine the time-dependent WP thermal behavior. As presented in reference 5.13, a three-dimensional (3-D) transient finite element model of the WP emplacement provides the WP surface temperature history for use as a boundary condition. The WP boundary condition is then applied to a detailed two dimensional (2-D) WP model, it is this 2-D model which is analyzed in this report. Resulting SNF basket wall temperature predictions from the WP model provide the boundary for an estimation of peak SNF cladding temperatures. Cladding temperatures are predicted in the WP model using an effective conductivity defined to represent an homogeneous SNF assembly. The effective conductivity was determined using a detailed third model of an intact SNF assembly as presented in reference 5.11. 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 an 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 in the Controlled Design Assumptions Document (CDA) (Key 019, p. 6-24, Ref. 5.7) and the MPC must be shown to meet requirements over that range. Representative "high" and "low" thermal loadings of 100 MTU/acre (24.7 kg U/m²), 83 MTU/acre (20.5 kg U/m²), and 25 MTU/acre (6.2 kg U/m²) were selected (see assumption 4.3.2) to be consistent with the CDA and the Thermal Loading Systems Study (Ref. 5.24), and drift spacings in multiples of 22.5 m (see ref. 5.13) were selected to be consistent with the Repository/WP Initial Summary Report (Ref. 5.29).

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

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

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

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7.2 Design Basis Fuel

To capture a majority of the SNF, the WP must be designed and evaluated to accommodate the bounding or limiting case of fresh SNF which has a thermal output much higher than average. Thus, a design basis SNF can be determined which can be considered the hottest SNF that could be loaded and emplaced in that waste package. The detailed waste package/EBS evaluation would then represent the hottest waste package in a repository at a given thermal loading (with otherwise average SNF). While all of the waste packages (hot and cold) will collectively influence repository temperatures (average SNF characteristics), every waste package must meet thermal goals (design basis SNF characteristics). The methodology and selection of design basis SNF for WP design is covered in reference 5.28.

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 waste packages, such as the 40 BWR MPC, is a temperature of no more than 350°C at the SNF cladding. Several different design basis SNF types have been used in by the OCRWM to demonstrate compliance with requirements and to allow comparison with previous evaluations. Table 7.2-1 summarizes the SNF types used. The heat loads for each assembly type were interpolated from the database of spent fuel characteristics for each of the assumed design basis SNF types (Ref. 5.30) using the PHIA00B code (see attachment I).

Table 7.2-1. Thermal Analysis SNF Design Bases

Organization	SNF Type	SNF Age	SNF Burnup	Initial Heat
MGDS (Ref. 5.28)	PWR	10 years	48 GWd/MTU	850 watts
MGDS (Ref. 5.28)	BWR	10 years	49 GWd/MTU	409 watts
MPC (Ref. 5.39)	PWR	20 years	40 GWd/MTU	547 watts
MPC (Ref. 5.39)	BWR	20 years	40 GWd/MTU	265 watts
MPC Historic (Ref. 5.8)	PWR	10 years	40 GWd/MTU	718 watts

Design basis SNF will impact the timing of peak temperatures as well as the magnitude of the peak. The repository host rock temperatures will peak between 10 to 500 years depending on the thermal loading but will be largely independent of the individual waste package design. The waste package itself will experience its peak temperature before the rock temperature peaks. The peak temperature and its timing will depend on the design basis SNF and the basket/container design. In previous analyses of the large waste package (p. 6-108, ref. 5.29), higher conductivity

SNF baskets were seen to lower and delay the peak temperatures experienced. The choice of the design basis SNF is of key importance. Younger SNF types produce high peak temperatures within the first year which then drop off quickly. Older SNF (at the same initial APD, but not AML) produces lower and later peaks with more stable and higher long-term temperatures.

In the following evaluation, only the MGDS design basis BWR SNF type has been used to illustrate the cladding temperatures which the MPC will produce when placed in the MGDS. The time dependence of the design basis BWR SNF heat load is provided in Appendix 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 outer barrier for high and low thermal load, a base deck (High Thermal Load #1 Case) was created with the basic modeling information. The base deck was then copied for each ANSYS case. Each individual file then had the appropriate boundary condition file from reference 5.13 entered into the input decks. Finally, the Low Thermal Load cases then had the appropriate outer barrier material and thickness data entered into the input decks.

The basic lay out 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 MPC basket geometry parameters are reported in reference 5.8 in units of inches. 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 through out 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. Long winded, 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 (B.C.'s) to the appropriate geometry components. Since this calculation is a transient, the loads and B.C.'s are applied at each time step. 7) Finally, selected positions in the SNF, basket, MPC shell, and disposal container 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 an design thesis.

The creation of an ANSYS model for the 40 BWR MPC conceptual design followed the listed steps. Discussion of some of these steps will be combined for convenience.

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

The geometry and the material composition of each component is specified in reference 5.8 (Section 4.2.2.2) for the 40 BWR MPC conceptual design and references 5.31, 5.35, and 5.37 for the disposal container (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 alloy 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 references 5.11 and 5.13, a simple 2-D cross section of the MPC with waste package will be modeled (see assumption 4.3.7). A vertical plane of symmetry is easily identified and thus, the geometry modeled will be that of the right hand side of the MPC with disposal container. 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 lay out 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 were developed in reference 5.11 and are 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, 10, 13, 14, 15, 16, 17, 18, 19, 20, 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 the assumed MGDS design basis SNF type. 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 1.40 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 MPC/waste package.

As indicated in section 7.1, this analysis is part of a three part calculation method. As such the boundary conditions are provided by the calculations performed in reference 5.13. The boundary conditions for each repository thermal loading scenario was applied to the waste package surface as a temperature 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 an design thesis.

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

7.4 2-D Waste Package Analysis Results

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

To check the above SNF model preliminary results, the 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 relationship is described by Equation 7-1.

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

(Equation 7-1)

Where:

q''	= heat flux from SNF based on the basket inner surface heat transfer area (Btu/hr-ft ²)
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 assembly
T_{cl}	= cladding surface temperature (absolute scale, °R)
T_{ba}	= basket surface temperature (absolute scale, °R)
ϵ_{cl}	= cladding surface emissivity
ϵ_{ba}	= basket surface emissivity
σ	= Stefan-Boltzmann constant (Btu/hr-ft ² ·°R ⁴)

The relationship 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 relation 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 relation that were used in the ANSYS model (see assumption 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.16, 4.3.18, and 4.3.23):

Stefan-Boltzmann constant	1.714×10^{-9} (Btu/hr-ft ² ·°R ⁴)
Cladding emissivity	0.806 (0.002 inch oxidation layer, Ref.5.11)
Basket emissivity	0.600 (Stainless 316L)
Basket cell width	152.4 mm (6.0 inches)
SNF array size (N)	8 pins
Assembly active length	3810 mm (150.0 inches)
Axial peaking factor	1.40

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

Tables 7.4-1 through 7.4-5 summarize the temperature data for each of the cases analyzed. Both "conservative" estimates of peak cladding temperatures using the Wooton-Epstein correlation, and "best estimate" predictions using the effective conductivity method are presented in the table. Peak cladding temperatures using effective conductivity are calculated directly in the ANSYS program, and Wooton-Epstein calculations for each time step in the ANSYS analysis were also performed for comparison.

The thermal history for each case 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 and waste package surface

temperatures for each case. The highest peak conservative estimate for SNF cladding temperature was 301°C which can be compared to the thermal goal of 350°C. The results show that a greater WP spacing results in lower near-field temperatures.

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 2 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 with the effective thermal conductivity model) has dropped to less than 50°C.

While 83 MTU/acre (Figure 7.4-4) is considered a more likely scenario for a high thermal loading, a higher thermal loading of 100 MTU/acre (Figure 7.4-3) was also evaluated to bound the WP internal temperatures for the full range of possible thermal loadings. The combination of short WP spacing and high thermal loading resulted in the highest temperature of all of the cases. SNF cladding temperatures peaked at 288°C (301°C for Wootton-Epstein Correlation) and average repository horizon temperatures remained above 150°C past 1000 years. Calculations at LLNL (Ref. 5.32) have shown that above boiling conditions will persist for thousands of years at AMLs in this range, however, some thermal goals are close to upper limits.

Figure 7.4-5 displays the thermal history of the 40 BWR MPC with disposal container at 25 MTU/acre (6.2 kgU/m²) with the long WP spacing (low thermal loading #1) for the MGDS design basis SNF. Peak internal temperatures are lowest of all the cases due to the long WP spacing.

Figure 7.4-6 displays the thermal history of the 40 BWR MPC with disposal container 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 40 BWR MPC with disposal container for low thermal loading #3 and for the MGDS design basis SNF. The highest internal temperature for all cases occurred where the MGDS design basis SNF is used and the shortest WP spacing (16.2 m) defines the thermal loading. The peak temperatures occur before drift-to-drift effects emerge such that WP spacing drives the near-field temperatures and high thermal loading #1 and low thermal loading #3 have nearly the same peak cladding temperature.

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Table 7.4-1. High Thermal Load #1; 40 BWR MPC Waste Package Thermal Results

40 BWR MPC with Disposal Container
 100 MTU/acre with 16.165 m WP Spacing
 10 year old, 49 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Wooten-E Eff Cond		Basket	ANSYS FEM Temperature Results (Deg. C)					
		Pk Fuel	Pk Fuel		MPC Side	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpin
0	409.42	283	268	258	160	69	26	26	26	26
0.1	407.68	293	279	270	176	98	71	48	30	26
0.2	405.97	296	282	273	180	105	79	57	36	27
0.3	404.28	297	283	274	182	109	85	62	40	27
0.4	402.61	298	284	275	184	113	89	66	44	29
0.5	400.97	299	285	276	185	116	92	70	47	30
0.6	399.34	299	286	277	187	118	95	73	49	32
0.7	397.74	300	286	277	188	120	97	75	52	34
0.8	396.16	300	287	278	189	122	100	78	54	36
0.9	394.6	300	287	278	189	123	102	80	56	38
1	393.06	300	287	278	190	125	103	82	58	40
2	379.49	300	288	280	195	135	116	95	73	55
3	367.7	300	288	280	199	142	124	104	84	67
4	357.29	300	288	280	201	147	131	111	91	75
5	348.3	299	287	280	203	152	136	117	97	82
6	339.03	298	287	279	205	156	141	122	102	88
7	331	297	286	279	206	159	145	127	106	92
8	323.52	297	285	278	208	162	148	130	110	95
9	316.46	295	284	277	208	164	151	133	113	97
10	310.56	294	283	276	209	166	153	136	116	99
20	255.61	283	273	267	212	177	167	154	138	125
30	214.52	274	265	260		185	177	165	152	141
40	183.32	264	257	252	211	188	181	171	160	150
50	157.9	255	248	244	209	188	182	174	164	155
60	138.15	248	241	238	206	188	182	175	166	159
70	122.25	241	235	232	204	187	182	175	167	161
80	109.37	234	229	226	200	186	181	175	168	162
90	99.33	229	224	221	198	184	180	174	168	162
100	90.35	224	219	217	196	183	179	174	168	162
200	51.61	201	198	196	184	176	174	170	166	163
300	38.89	190	188	186	177	171	169	166	163	160
400	31.79	184	182	181	173	168	166	164	161	159
500	27.23	180	178	177	170	166	164	162	160	158
600	23.69	176	174	174	167	164	162	161	159	157
700	21.02	173	171	170	165	161	160	159	157	155
800	18.76	169	167	167	162	159	158	156	155	153
900	16.96	166	164	164	159	156	155	154	153	151
1000	15.49	163	161	161	157	154	153	152	151	149

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Table 7.4-2. High Thermal Load #2; 40 BWR MPC Waste Package Thermal Results

40 BWR MPC with Disposal Container
 83 MTU/acre with 19.477 m WP Spacing
 10 year old, 49 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Wooten-E Eff Cond		Basket	ANSYS FEM Temperature Results (Deg. C)					
		Pk Fuel	Pk Fuel		MPC Bot.	WP Side	Drift Wall	1m Rock	3m Rock	Df Midph
0	409.42	283	268	258	171	69	26	26	26	26
0.1	407.68	293	278	269	185	97	69	47	30	26
0.2	405.97	295	281	271	188	102	76	55	35	27
0.3	404.28	296	282	273	190	106	81	60	39	27
0.4	402.61	296	282	273	191	109	84	63	42	29
0.5	400.97	297	283	274	192	111	87	66	45	30
0.6	399.34	297	283	274	193	113	89	69	47	32
0.7	397.74	297	284	275	194	114	91	71	49	33
0.8	396.16	297	284	275	195	116	93	73	51	35
0.9	394.6	297	284	275	195	117	95	74	53	36
1	393.06	297	284	275	196	118	96	76	55	38
2	379.49	297	284	275	199	127	107	88	67	51
3	367.7	296	283	275	201	134	115	96	77	61
4	357.29	295	282	274	203	138	120	102	84	69
5	348.3	294	282	274	204	142	125	107	89	75
6	339.03	292	280	273	205	145	129	112	94	80
7	331	291	279	272	206	148	132	115	98	85
8	323.52	290	278	271	206	150	135	119	101	89
9	316.46	288	277	269	206	152	137	121	104	92
10	310.56	287	276	268	206	153	139	123	106	94
20	255.61	272	262	256	204	160	149	136	122	109
30	214.52	259	250	244	201	164	155	144	132	122
40	183.32	248	239	235	197	165	157	148	138	129
50	157.9	238	230	226	193	165	158	150	141	134
60	138.15	229	222	218	189	164	158	151	143	136
70	122.25	222	215	212	185	163	157	151	144	138
80	109.37	215	209	205	182	162	156	150	144	139
90	99.33	209	204	201	179	160	156	150	144	139
100	90.35	204	199	196	176	159	155	150	144	139
200	51.61	180	176	175	163	152	150	146	143	138
300	38.89	170	167	165	156	148	146	143	141	138
400	31.79	164	161	160	153	146	144	142	139	138
500	27.23	159	157	156	150	144	142	140	138	137
600	23.69	155	153	153	147	142	140	139	137	135
700	21.02	152	150	149	144	140	138	137	135	134
800	18.76	149	147	147	142	138	137	135	134	133
900	16.96	147	145	145	140	136	135	134	133	132
1000	15.49	145	143	143	139	135	134	133	132	131

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Table 7.4-3. Low Thermal Load #1; 40 BWR MPC Waste Package Thermal Results

40 BWR MPC with Disposal Container
 25 MTU/acre with 32.331 m WP Spacing
 10 year old, 49 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Wooten-E Eff Cond		ANSYS FEM Temperature Results (Deg. C)						
		Pk Fuel	Pk Fuel	Basket	MPC Bot.	WP Side	Drift Wall	1m Rock	3m Rock	Df Midph
0	409.42	283	268	258	170	69	26	26	26	26
0.1	407.68	291	277	268	184	94	66	46	30	26
0.2	405.97	293	279	269	186	99	72	52	35	26
0.3	404.28	293	279	270	187	101	75	56	38	26
0.4	402.61	294	280	270	188	103	77	59	40	26
0.5	400.97	294	280	270	188	104	79	61	42	26
0.6	399.34	293	280	270	189	106	80	62	44	26
0.7	397.74	293	280	270	189	107	82	64	45	26
0.8	396.16	293	279	270	189	107	83	65	46	26
0.9	394.6	293	279	270	189	108	84	66	47	26
1	393.06	293	279	270	189	109	84	67	48	26
2	379.49	290	276	267	189	112	89	72	54	28
3	367.7	286	273	264	189	114	92	75	58	30
4	357.29	283	270	262	188	115	94	77	60	32
5	348.3	280	267	259	187	116	95	79	62	34
6	339.03	277	264	256	186	116	96	80	63	36
7	331	274	262	254	185	117	97	81	65	38
8	323.52	272	259	251	184	117	97	82	66	39
9	316.46	269	257	249	182	117	98	83	67	41
10	310.56	267	254	247	181	117	98	83	68	42
20	255.61	244	233	226	170	114	97	87	74	52
30	214.52	225	215	209	161	111	97	87	76	58
40	183.32	209	199	194	152	108	95	86	77	61
50	157.9	195	186	181	144	104	93	85	77	63
60	138.15	184	175	170	138	102	91	84	77	64
70	122.25	174	166	162	132	99	90	84	77	65
80	109.37	165	158	154	127	97	88	82	76	66
90	99.33	159	151	148	123	95	87	82	76	66
100	90.35	152	145	142	119	93	86	81	75	67
200	51.61	122	117	115	101	85	80	77	73	68
300	38.89	110	106	105	94	81	77	75	72	68
400	31.79	104	100	99	90	79	76	74	71	68
500	27.23	99	96	95	87	77	74	73	71	68
600	23.69	95	92	91	84	76	73	72	70	67
700	21.02	92	89	88	82	75	72	71	69	67
800	18.76	89	86	86	80	73	71	70	69	66
900	16.96	86	84	83	79	72	70	69	68	66
1000	15.49	84	82	82	77	71	70	68	67	65

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Table 7.4-4. Low Thermal Load #2; 40 BWR MPC Waste Package Thermal Results

40 BWR MPC with Disposal Container
25 MTU/acre with 21.554 m WP Spacing
10 year old, 49 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Wooten-E Eff Cond		ANSYS FEM Temperature Results (Deg. C)						
		Pk Fuel	Pk Fuel	Basket	MPC Bot	WP Side	Drift Wall	1m Rock	3m Rock	Df Midph
0	409.42	283	268	258	170	69	26	26	26	26
0.1	407.68	292	278	268	184	96	68	47	30	26
0.2	405.97	294	280	271	187	101	74	54	35	26
0.3	404.28	295	281	272	189	104	79	58	39	26
0.4	402.61	295	281	272	190	107	82	62	41	26
0.5	400.97	296	282	273	191	109	84	64	44	26
0.6	399.34	296	282	273	192	111	86	66	46	26
0.7	397.74	296	282	273	192	112	88	68	48	26
0.8	396.16	296	282	273	193	113	90	70	49	26
0.9	394.6	296	282	273	193	114	91	71	50	26
1	393.06	296	282	273	193	115	92	73	52	26
2	379.49	294	281	272	195	122	100	81	60	26
3	367.7	291	278	270	195	125	105	86	66	27
4	357.29	289	276	268	195	127	107	89	69	28
5	348.3	286	274	266	195	128	109	92	72	29
6	339.03	284	271	263	194	129	111	93	74	30
7	331	281	269	261	193	130	112	95	76	31
8	323.52	279	267	259	192	130	113	96	77	33
9	316.46	276	264	256	191	130	113	97	78	34
10	310.56	274	262	254	190	130	113	97	79	35
20	255.61	251	240	233	179	127	112	98	84	46
30	214.52	232	222	216	169	122	110	98	84	52
40	183.32	215	206	200	159	117	106	96	84	56
50	157.9	201	192	187	151	113	103	94	84	59
60	138.15	189	180	176	144	109	100	92	83	61
70	122.25	179	171	167	138	106	97	90	82	62
80	109.37	170	162	159	132	103	95	88	81	63
90	99.33	163	156	152	128	101	93	87	80	64
100	90.35	156	150	146	124	99	92	86	79	64
200	51.61	125	120	118	104	88	83	80	76	67
300	38.89	113	109	107	97	84	80	77	74	67
400	31.79	106	102	101	92	81	78	76	73	67
500	27.23	101	97	96	89	79	76	74	72	67
600	23.69	96	94	93	86	78	75	73	71	67
700	21.02	93	90	89	84	76	74	72	70	66
800	18.76	90	88	87	82	75	73	71	70	66
900	16.96	88	85	85	80	74	72	70	69	65
1000	15.49	86	83	83	78	73	71	69	68	65

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Table 7.4-5. Low Thermal Load #3; 40 BWR MPC Waste Package Thermal Results

40 BWR MPC with Disposal Container
25 MTU/acre with 16.165 m WP Spacing
10 year old, 49 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Wooten-E Eff Cond		Basket	ANSYS FEM Temperature Results (Deg. C)					
		Pk Fuel	Pk Fuel		MPC Bot	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpin
0	409.42	283	268	258	171	69	26	26	26	26
0.1	407.68	293	279	270	186	98	71	48	30	26
0.2	405.97	296	282	272	189	105	79	57	36	26
0.3	404.28	297	283	274	192	109	85	62	40	26
0.4	402.61	298	284	275	193	113	89	66	43	26
0.5	400.97	298	285	276	195	116	92	70	46	26
0.6	399.34	299	285	276	196	118	95	73	49	26
0.7	397.74	299	286	277	197	120	97	75	51	26
0.8	396.16	299	286	277	197	121	99	77	53	26
0.9	394.6	300	286	277	198	123	101	79	55	26
1	393.06	300	286	278	199	124	103	81	57	26
2	379.49	299	285	277	202	133	113	92	68	26
3	367.7	298	285	277	203	138	119	98	75	26
4	357.29	296	283	275	204	141	123	102	79	26
5	348.3	294	282	274	204	143	126	106	83	27
6	339.03	291	279	272	204	144	128	108	86	27
7	331	289	277	270	203	145	129	110	88	28
8	323.52	287	275	268	203	146	130	111	90	29
9	316.46	285	273	266	202	145	131	113	91	29
10	310.56	283	271	264	201	146	131	113	92	30
20	255.61	261	250	244	191	143	131	109	97	39
30	214.52	242	232	226	180	138	126	113	97	46
40	183.32	224	215	210	169	131	121	109	96	51
50	157.9	209	200	196	160	125	116	106	94	55
60	138.15	197	188	184	152	120	112	102	92	57
70	122.25	186	178	174	146	116	108	100	90	59
80	109.37	176	169	165	139	112	104	97	88	60
90	99.33	169	162	159	135	109	102	95	87	61
100	90.35	162	155	152	130	106	100	93	85	62
200	51.61	129	124	122	109	93	88	84	80	65
300	38.89	116	112	110	100	87	84	80	77	66
400	31.79	108	105	103	95	84	81	78	75	66
500	27.23	103	100	99	91	82	79	77	74	66
600	23.69	99	96	95	88	80	77	75	73	66
700	21.02	95	92	91	86	78	76	74	72	66
800	18.76	92	89	89	83	77	74	73	71	65
900	16.96	89	87	86	81	75	73	72	70	65
1000	15.49	87	85	84	80	74	72	71	69	64

Figure 7.4-1. Summary of Peak SNF Cladding Temperatures

Figure 7.4-2. Summary of Waste Package Surface Temperatures

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Figure 7.4-3. 40 BWR MPC Temperatures, High Thermal Load #1 (100 MTU/Acre)

Figure 7.4-4. 40 BWR MPC Temperatures, High Thermal Load #2 (83 MTU/Acre)

Figure 7.4-5. 40 BWR MPC Temperatures, Low Thermal Load #1 (25 MTU/Acre 32.3 m)

Figure 7.4-6. 40 BWR MPC Temperatures, Low Thermal Load #2 (25 MTU/Acre 21.6 m)

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Figure 7.4-7. 40 BWR MPC Temperatures, Low Thermal Load #3 (25 MTU/Acre 16.2 m)

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8. Conclusions

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

Table 8-1. 40 BWR MPC Thermal Analysis Results Summary

Thermal Load	Design Basis SNF	Peak Cladding				Peak Basket		MPC shell		WP Surface	
		Cons. Est.		Best Est.		°C	yrs	°C	yrs	°C	yrs
		°C	yrs	°C	yrs						
High #1	MGDS	301	2	288	2	280	3	213	30	188	50
High #2	MGDS	297	0.9	284	0.9	275	1	206	8	165	40
Low #1	MGDS	294	0.5	280	0.5	271	0.5	190	2	117	8
Low #2	MGDS	296	0.8	282	0.8	273	0.9	195	4	131	8
Low #3	MGDS	300	1	287	2	278	2	204	5	146	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 40 BWR MPC 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 (reference 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 MPC conceptual designs are not such that melting or rapid mechanical failure would occur.

The results of the thermal evaluations indicate that the 40 BWR MPC with disposal container design can satisfy the thermal limitations (i.e., goals) specified in Section 4.2.5 during normal expected conditions for disposal in the MGDS and therefore has a reasonable chance to meet the MGDS requirements for permanent disposal. Thus, this MPC conceptual design may be used as a point of departure for analysis of designs put forth by the MPC manufacturers. However, two points should be noted: 1) more analysis is required to determine conditions for anticipated off-normal conditions, drift backfill, and for the MPC vendor specific designs and 2) this analysis relies on input data which is TBV. These items need to be addressed in

any work which utilizes these results.

9. Attachments

The attachments included are summarized in Table 9-1.

Table 9-1. Attachments of Supporting Documentation for the 40 BWR MPC MGDS Analysis

Attachment Number	Title / Description	# of Pages
I	PHIA Code Listing (File name: phia00b.cpp)	4
II	PHIA code Database Input; Reference 5.30 (File name: heatdat.dat)	6
III	PHIA code Output; ANSYS ready input. (File name: bwr1049.dat)	1
IV	Material Properties File for ANSYS; Data from Section 4.1. (File name: props01.dat)	3
V	Effective Thermal Conductivity File; Reference 5.11 (File name: pwr15e.parm)	3
VI	Model Mesh Plots Geometry; 1) Full Mesh, 2) Full Mesh/No He, 3) Radiation Surfaces	3
VII	Boundary Condition File for High Thermal Load #1; Reference 5.13 (File name: c21x5a.parm used in Attachment XII)	11
VIII	Boundary Condition File for High Thermal Load #2; Reference 5.13 (File name: c21b5a.parm used in Attachment XIII)	11
IX	Boundary Condition File for Low Thermal Load #1; Reference 5.13 (File name: c21w5a.parm used in Attachment XIV)	11
X	Boundary Condition File for Low Thermal Load #2; Reference 5.13 (File name: c21j5a.parm used in Attachment XV)	11
XI	Boundary Condition File for Low Thermal Load #3; Reference 5.13 (File name: c21h5a.parm used in Attachment XVI)	11
XII	ANSYS Output for the 100 MTU/acre Thermal Loading for the 40 BWR MPC WP (File Name: ma40x1.old.out; WP Spacing: 16.2 m; Drift Spacing: 22.5 m)	264
XIII	ANSYS Output for the 83 MTU/acre Thermal Loading for the 40 BWR MPC WP (File Name: ma40b1.old.out; WP Spacing: 19.5 m; Drift Spacing: 22.5 m)	267
XIV	ANSYS Output for the 25 MTU/acre Thermal Loading for the 40 BWR MPC WP (File Name: ma40w1.old.out; WP Spacing: 32.3 m; Drift Spacing: 45.0 m)	296
XV	ANSYS Output for the 25 MTU/acre Thermal Loading for the 40 BWR MPC WP (File Name: ma40j1.old.out; WP Spacing: 21.6 m; Drift Spacing: 67.5 m)	292
XVI	ANSYS Output for the 25 MTU/acre Thermal Loading for the 40 BWR MPC WP (File Name: ma40h1.old.out; WP Spacing: 16.2 m; Drift Spacing: 90.0 m)	282

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```

/*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));}
```


BWR 22500.	1.72	1.209E+02 1.201E+02 1.194E+02 1.186E+02 1.178E+02 1.171E+02 1.164E+02 1.157E+02 1.150E+02 1.143E+02 1.081E+02 1.029E+02 8.662E+01 7.742E+01 7.130E+01 6.181E+01 5.456E+01 4.326E+01 3.212E+01 2.191E+01
BWR 22500.	2.42	1.718E+01 1.476E+01 1.347E+01 1.214E+01 1.138E+01 1.005E+01 8.602E+00 5.431E+00 2.092E+00 7.231E-01 7.089E+03 6.695E+03 2.276E+03 1.608E+03 1.269E+03 1.074E+03 9.601E+02 8.868E+02 8.358E+02 8.003E+02 7.682E+02 7.439E+02 7.230E+02 7.049E+02 6.908E+02 6.733E+02 6.597E+02 6.470E+02 6.351E+02 6.263E+02 6.139E+02 6.034E+02 5.934E+02 5.838E+02 5.745E+02 5.655E+02 5.483E+02 5.401E+02 5.335E+02 5.247E+02 5.169E+02 5.094E+02 5.021E+02 4.950E+02 4.881E+02 4.813E+02 4.747E+02 4.682E+02 4.618E+02 4.557E+02 4.496E+02 4.437E+02 4.378E+02 4.322E+02 4.266E+02 4.211E+02 4.158E+02 4.106E+02 4.056E+02 4.007E+02 3.957E+02 3.908E+02 3.861E+02 3.816E+02 3.771E+02 3.727E+02 3.684E+02 3.642E+02 3.601E+02 3.560E+02 3.520E+02 3.481E+02 3.443E+02 3.406E+02 3.369E+02 3.333E+02 3.298E+02 3.264E+02 3.230E+02 3.197E+02 3.164E+02 3.132E+02 3.101E+02 3.071E+02 3.041E+02 3.011E+02 2.982E+02 2.954E+02 2.926E+02 2.899E+02 2.872E+02 2.846E+02 2.821E+02 2.796E+02 2.771E+02 2.747E+02 2.723E+02 2.700E+02 2.677E+02 2.655E+02 2.633E+02 2.611E+02 2.590E+02 2.569E+02 2.549E+02 2.529E+02 2.509E+02 2.490E+02 2.483E+02 2.459E+02 2.440E+02 2.422E+02 2.404E+02 2.387E+02 2.370E+02 2.354E+02 2.337E+02 2.321E+02 2.306E+02 2.290E+02 2.275E+02 2.261E+02 2.246E+02 2.232E+02 2.218E+02 2.204E+02 2.191E+02 2.177E+02 2.164E+02 2.151E+02 2.139E+02 2.128E+02 2.114E+02 2.102E+02 2.090E+02 2.079E+02 2.067E+02 2.056E+02 2.045E+02 1.945E+02 1.859E+02 1.577E+02 1.400E+02 1.280E+02 1.091E+02 9.511E+01 7.370E+01 5.301E+01 3.420E+01
BWR 22500.	3.12	2.553E+01 2.119E+01 1.894E+01 1.671E+01 1.566E+01 1.354E+01 1.142E+01 6.881E+00 2.525E+00 8.879E-01 6.606E+03 6.398E+03 2.116E+03 1.501E+03 1.191E+03 1.016E+03 9.130E+02 8.466E+02 8.001E+02 7.670E+02 7.371E+02 7.145E+02 6.950E+02 6.778E+02 6.633E+02 6.486E+02 6.353E+02 6.230E+02 6.113E+02 6.018E+02 5.897E+02 5.794E+02 5.695E+02 5.601E+02 5.510E+02 5.421E+02 5.334E+02 5.250E+02 5.168E+02 5.103E+02 5.014E+02 4.937E+02 4.862E+02 4.789E+02 4.719E+02 4.649E+02 4.582E+02 4.515E+02 4.451E+02 4.387E+02 4.325E+02 4.264E+02 4.205E+02 4.147E+02 4.090E+02 4.034E+02 3.979E+02 3.926E+02 3.874E+02 3.835E+02 3.777E+02 3.727E+02 3.679E+02 3.632E+02 3.586E+02 3.541E+02 3.497E+02 3.454E+02 3.412E+02 3.370E+02 3.330E+02 3.290E+02 3.251E+02 3.212E+02 3.175E+02 3.138E+02 3.102E+02 3.067E+02 3.032E+02 2.999E+02 2.965E+02 2.933E+02 2.901E+02 2.870E+02 2.839E+02 2.809E+02 2.780E+02 2.751E+02 2.722E+02 2.695E+02 2.668E+02 2.641E+02 2.615E+02 2.589E+02 2.564E+02 2.540E+02 2.515E+02 2.492E+02 2.469E+02 2.446E+02 2.424E+02 2.402E+02 2.380E+02 2.359E+02 2.339E+02 2.319E+02 2.299E+02 2.279E+02 2.260E+02 2.250E+02 2.229E+02 2.209E+02 2.191E+02 2.174E+02 2.157E+02 2.140E+02 2.124E+02 2.108E+02 2.092E+02 2.077E+02 2.062E+02 2.047E+02 2.032E+02 2.018E+02 2.004E+02 1.990E+02 1.977E+02 1.963E+02 1.950E+02 1.937E+02 1.925E+02 1.913E+02 1.900E+02 1.888E+02 1.877E+02 1.865E+02 1.854E+02 1.843E+02 1.832E+02 1.821E+02 1.744E+02 1.641E+02 1.375E+02 1.217E+02 1.112E+02 9.495E+01 8.300E+01 6.465E+01 4.695E+01 3.079E+01 2.336E+01 1.961E+01 1.764E+01 1.566E+01 1.459E+01 1.275E+01 1.075E+01 8.599E+00 2.443E+00 8.735E-01 6.223E+03 3.180E+03 1.980E+03 1.419E+03 1.133E+03 9.734E+02 8.795E+02 8.185E+02 7.755E+02 7.442E+02 7.166E+02 6.947E+02 6.758E+02 6.591E+02 6.454E+02 6.302E+02 6.171E+02 6.047E+02 5.931E+02 5.831E+02 5.711E+02 5.608E+02 5.509E+02 5.413E+02 5.320E+02 5.229E+02 5.142E+02 5.056E+02 4.972E+02 4.901E+02 4.815E+02 4.736E+02 4.660E+02 4.585E+02 4.514E+02 4.443E+02 4.374E+02 4.306E+02 4.240E+02 4.176E+02 4.112E+02 4.051E+02 3.990E+02 3.931E+02 3.873E+02 3.816E+02 3.760E+02 3.705E+02 3.653E+02 3.601E+02 3.550E+02 3.504E+02 3.455E+02 3.407E+02 3.360E+02 3.315E+02 3.270E+02 3.226E+02 3.183E+02 3.141E+02 3.100E+02 3.059E+02 3.019E+02 2.981E+02 2.943E+02 2.906E+02 2.869E+02 2.833E+02 2.798E+02 2.764E+02 2.731E+02 2.698E+02 2.666E+02 2.634E+02 2.603E+02 2.573E+02 2.543E+02 2.514E+02 2.485E+02 2.458E+02 2.431E+02 2.404E+02 2.378E+02 2.352E+02 2.327E+02 2.302E+02 2.278E+02 2.253E+02 2.231E+02 2.209E+02 2.185E+02 2.163E+02 2.142E+02 2.122E+02 2.102E+02 2.082E+02 2.063E+02 2.043E+02 2.024E+02 2.012E+02 1.991E+02 1.972E+02 1.954E+02 1.937E+02 1.920E+02 1.904E+02 1.889E+02 1.872E+02 1.856E+02 1.841E+02 1.826E+02 1.812E+02 1.797E+02 1.783E+02 1.770E+02 1.756E+02 1.743E+02 1.730E+02 1.717E+02 1.704E+02 1.692E+02 1.680E+02 1.668E+02 1.656E+02 1.645E+02 1.634E+02 1.623E+02 1.612E+02 1.601E+02 1.591E+02 1.497E+02 1.418E+02 1.170E+02 1.031E+02 9.418E+01 8.062E+01 7.075E+01 5.554E+01 4.082E+01 2.739E+01 2.115E+01 1.798E+01 1.630E+01 1.457E+01 1.362E+01 1.198E+01 1.012E+01 6.234E+00 2.365E+00 8.640E-01 8.221E+03 4.433E+03 2.877E+03 2.109E+03 1.706E+03 1.467E+03 1.322E+03 1.224E+03 1.154E+03 1.105E+03 1.060E+03 1.024E+03 9.939E+02 9.671E+02 9.454E+02 9.205E+02 9.003E+02 8.814E+02 8.636E+02 8.492E+02 8.309E+02 8.152E+02 8.003E+02 7.859E+02 7.721E+02 7.586E+02 7.456E+02 7.330E+02 7.207E+02 7.107E+02 6.977E+02 6.862E+02 6.750E+02 6.643E+02 6.538E+02 6.436E+02 6.337E+02 6.240E+02 6.145E+02 6.052E+02 5.962E+02 5.873E+02 5.787E+02 5.703E+02 5.620E+02 5.540E+02 5.461E+02 5.384E+02 5.309E+02 5.235E+02 5.166E+02 5.094E+02 5.025E+02 4.958E+02 4.892E+02 4.828E+02 4.766E+02 4.704E+02 4.644E+02 4.585E+02 4.528E+02 4.472E+02 4.416E+02 4.362E+02 4.310E+02 4.258E+02 4.207E+02 4.158E+02 4.109E+02 4.061E+02 4.015E+02 3.969E+02 3.925E+02 3.881E+02 3.838E+02 3.796E+02 3.755E+02 3.715E+02 3.675E+02 3.636E+02 3.599E+02 3.561E+02 3.525E+02 3.489E+02 3.455E+02 3.420E+02 3.387E+02 3.354E+02 3.322E+02 3.290E+02 3.259E+02 3.229E+02 3.199E+02 3.170E+02 3.141E+02 3.113E+02 3.086E+02 3.059E+02 3.032E+02 3.021E+02 2.989E+02 2.962E+02 2.937E+02 2.913E+02 2.889E+02 2.866E+02 2.844E+02 2.821E+02 2.800E+02 2.778E+02 2.757E+02 2.737E+02 2.717E+02 2.697E+02 2.677E+02 2.658E+02 2.639E+02 2.621E+02 2.603E+02 2.585E+02 2.567E+02 2.550E+02 2.533E+02 2.517E+02 2.501E+02 2.485E+02 2.469E+02 2.453E+02 2.438E+02 2.423E+02 2.407E+02 2.392E+02 2.377E+02 2.362E+02 2.347E+02 2.332E+02 2.317E+02 2.302E+02 2.287E+02 2.272E+02 2.257E+02 2.242E+02 2.228E+02 2.213E+02 2.198E+02 2.183E+02 2.168E+02 2.153E+02 2.138E+02 2.123E+02 2.108E+02 2.093E+02 2.078E+02 2.063E+02 2.048E+02 2.033E+02 2.018E+02 2.003E+02 1.988E+02 1.973E+02 1.958E+02 1.943E+02 1.928E+02 1.913E+02 1.898E+02 1.883E+02 1.868E+02 1.853E+02 1.838E+02 1.823E+02 1.808E+02 1.793E+02 1.778E+02 1.763E+02 1.748E+02 1.733E+02 1.718E+02 1.703E+02 1.688E+02 1.673E+02 1.658E+02 1.643E+02 1.628E+02 1.613E+02 1.598E+02 1.583E+02 1.568E+02 1.553E+02 1.538E+02 1.523E+02 1.508E+02 1.493E+02 1.478E+02 1.463E+02 1.448E+02 1.433E+02 1.418E+02 1.403E+02 1.388E+02 1.373E+02 1.358E+02 1.343E+02 1.328E+02 1.313E+02 1.298E+02 1.283E+02 1.268E+02 1.253E+02 1.238E+02 1.223E+02 1.208E+02 1.193E+02 1.178E+02 1.163E+02 1.148E+02 1.133E+02 1.118E+02 1.103E+02 1.088E+02 1.073E+02 1.058E+02 1.043E+02 1.028E+02 1.013E+02 9.978E+01 9.718E+01 9.412E+01 9.146E+01 8.910E+01 8.719E+01 8.496E+01 8.313E+01 8.140E+01 7.977E+01 7.844E+01 7.675E+01 7.530E+01 7.391E+01 7.257E+01 7.127E+01 7.001E+01 6.878E+01 6.759E+01 6.642E+01 6.547E+01 6.429E+01 6.313E+01 6.207E+01 6.105E+01 6.005E+01 5.907E+01 5.811E+01 5.718E+01 5.626E+01 5.537E+01 5.450E+01 5.365E+01 5.281E+01 5.200E+01 5.120E+01 5.042E+01 4.965E+01 4.891E+01 4.817E+01 4.762E+01 4.685E+01 4.615E+01 4.547E+01 4.482E+01 4.418E+01 4.355E+01 4.294E+01 4.234E+01 4.175E+01 4.117E+01 4.061E+01 4.006E+01 3.952E+01 3.899E+01 3.847E+01 3.796E+01 3.747E+01 3.696E+01 3.647E+01 3.598E+01 3.544E+01 3.470E+01 3.427E+01 3.385E+01 3.344E+01 3.303E+01 3.264E+01 3.225E+01 3.187E+01 3.150E+01 3.114E+01 3.078E+01 3.044E+01 3.009E+01 2.976E+01 2.943E+01 2.911E+01 2.880E+01 2.849E+01 2.819E+01 2.789E+01 2.760E+01 2.732E+01 2.704E+01 2.676E+01 2.650E+01 2.623E+01 2.598E+01 2.583E+01 2.554E+01 2.528E+01 2.504E+01 2.480E+01 2.458E+01 2.435E+01 2.413E+01 2.392E+01 2.371E+01 2.350E+01 2.330E+01 2.310E+01 2.291E+01 2.271E+01 2.253E+01 2.234E+01 2.216E+01 2.199E+01 2.181E+01 2.164E+01 2.147E+01 2.131E+01 2.115E+01 2.099E+01 2.084E+01 2.068E+01 2.053E+01 2.038E+01 2.024E+01 2.010E+01 1.996E+01 1.982E+01 1.967E+01 1.953E+01 1.939E+01 1.925E+01 1.910E+01 1.896E+01 1.882E+01 1.868E+01 1.854E+01 1.840E+01 1.826E+01 1.812E+01 1.798E+01 1.784E+01 1.770E+01 1.756E+01 1.742E+01 1.728E+01 1.714E+01 1.700E+01 1.686E+01 1.672E+01 1.658E+01 1.644E+01 1.630E+01 1.616E+01 1.602E+01 1.588E+01 1.574E+01 1.560E+01 1.546E+01 1.532E+01 1.518E+01 1.504E+01 1.490E+01 1.476E+01 1.462E+01 1.448E+01 1.434E+01 1.420E+01 1.406E+01 1.392E+01 1.378E+01 1.364E+01 1.350E+01 1.336E+01 1.322E+01 1.308E+01 1.294E+01 1.280E+01 1.266E+01 1.252E+01 1.238E+01 1.224E+01 1.210E+01 1.196E+01 1.182E+01 1.168E+01 1.154E+01 1.140E+01 1.126E+01 1.112E+01 1.098E+01 1.084E+01 1.070E+01 1.056E+01 1.042E+01 1.028E+01 1.014E+01 9.978E+00 9.718E+00 9.412E+00 9.146E+00 8.910E+00 8.719E+00 8.496E+00 8.313E+00 8.140E+00 7.977E+00 7.844E+00 7.675E+00 7.530E+00 7.391E+00 7.257E+00 7.127E+00 7.001E+00 6.878E+00 6.759E+00 6.642E+00 6.547E+00 6.429E+00 6.313E+00 6.207E+00 6.105E+00 6.005E+00 5.907E+00 5.811E+00 5.718E+00 5.626E+00 5.537E+00 5.450E+00 5.365E+00 5.281E+00 5.200E+00 5.120E+00 5.042E+00 4.965E+00 4.891E+00 4.817E+00 4.762E+00 4.685E+00 4.615E+00 4.547E+00 4.482E+00 4.418E+00 4.355E+00 4.294E+00 4.234E+00 4.175E+00 4.117E+00 4.061E+00 4.006E+00 3.952E+00 3.899E+00 3.847E+00 3.796E+00 3.747E+00 3.696E+00 3.647E+00 3.598E+00 3.544E+00 3.470E+00 3.427E+00 3.385E+00 3.344E+00 3.303E+00 3.264E+00 3.225E+00 3.187E+00 3.150E+00 3.114E+00 3.078E+00 3.044E+00 3.009E+00 2.976E+00 2.943E+00 2.911E+00 2.880E+00 2.849E+00 2.819E+00 2.789E+00 2.760E+00 2.732E+00 2.704E+00 2.676E+00 2.650E+00 2.623E+00 2.598E+00 2.583E+00 2.554E+00 2.528E+00 2.504E+00 2.480E+00 2.458E+00 2.435E+00 2.413E+00 2.392E+00 2.371E+00 2.350E+00 2.330E+00 2.310E+00 2.291E+00 2.271E+00 2.253E+00 2.234E+00 2.216E+00 2.199E+00 2.181E+00 2.164E+00 2.147E+00 2.131E+00 2.115E+00 2.099E+00 2.084E+00 2.068E+00 2.053E+00 2.038E+00 2.024E+00 2.010E+00 1.996E+00 1.982E+00 1.967E+00 1.953E+00 1.939E+00 1.925E+00 1.910E+00 1.896E+00 1.882E+00 1.868E+00 1.854E+00 1.840E+00 1.826E+00 1.812E+00 1.798E+00 1.784E+00 1.770E+00 1.756E+00 1.742E+00 1.728E+00 1.714E+00 1.700E+00 1.686E+00 1.672E+00 1.658E+00 1.644E+00 1.630E+00 1.616E+00 1.602E+00 1.588E+00 1.574E+00 1.560E+00 1.546E+00 1.532E+00 1.518E+00 1.504E+00 1.490E+00 1.476E+00 1.462E+00 1.448E+00 1.434E+00 1.420E+00 1.406E+00 1.392E+00 1.378E+00 1.364E+00 1.350E+00 1.336E+00 1.322E+00 1.308E+00 1.294E+00 1.280E+00 1.266E+00 1.252E+00 1.238E+00 1.224E+00 1.210E+00 1.196E+00 1.182E+00 1.168E+00 1.154E+00 1.140E+00 1.126E+00 1.112E+00 1.098E+00 1.084E+00 1.070E+00 1.056E+00 1.042E+00 1.028E+00 1.014E+00 9.978E+00 9.718E+00 9.412E+00 9.146E+00 8.910E+00 8.719E+00 8.496E+00 8.313E+00 8.140E+00 7.977E+00 7.844E+00 7.675E+00 7.530E+00 7.391E+00 7.257E+00 7.127E+00 7.001E+00 6.878E+00 6.759E+00 6.642E+00 6.547E+00 6.429E+00 6.313E+00 6.207E+00 6.105E+00 6.005E+00 5.907E+00 5.811E+00 5.718E+00 5.626E+00 5.537E+00 5.450E+00 5.365E+00 5.281E+00 5.200E+00 5.120E+00 5.042E+00 4.965E+00 4.891E+00 4.817E+00 4.762E+00 4.685E+00 4.615E+00 4.547E+00 4.482E+00 4.418E+00 4.355E+00 4.294E+00 4.234E+00 4.175E+00 4.117E+00 4.061E+00 4.006E+00 3.952E+00 3.899E+00 3.847E+00 3.796E+00 3.747E+00 3.696E+00 3.647E+00 3.598E+00 3.544E+00 3.470E+00 3.427E+00 3.385E+00 3.344E+00 3.303E+00 3.264E+00 3.225E+00 3.187E+00 3.150E+00 3.114E+00 3.078E+00 3.044E+00 3.009E+00 2.976E+00 2.943E+00 2.911E+00 2.880E+00 2.849E+00 2.819E+00 2.789E+00 2.760E+00 2.732E+00 2.704E+00 2.676E+00 2.650E+00 2.623E+00 2.598E+00 2.583E+00 2.554E+00 2.528E+00 2.504E+00 2.480E+00 2.458E+00 2.435E+00 2.413E+00 2.392E+00 2.371E+00 2.350E+00 2.330E+00 2.310E+00 2.291E+00 2.271E+00 2.253E+00 2.234E+00 2.216E+00 2.199E+00 2.181E+00 2.164E+00 2.147E+00 2.131E+00 2.115E+00 2.099E+00 2.084E+00 2.068E+00 2.053E+00 2.038E+00 2.024E+00 2.010E+00 1.996E+00 1.982E+00 1.967E+00 1.953E+00 1.939E+00 1.925E+00 1.910E+00 1.896E+00 1.882E+00 1.868E+00 1.854E+00 1.84

		9.302E+02	9.154E+02	9.010E+02	8.870E+02	8.732E+02	8.598E+02	8.467E+02	8.340E+02	8.215E+02	8.113E+02	7.971E+02	7.852E+02	7.738E+02	7.627E+02	7.519E+02	7.413E+02	7.310E+02	7.209E+02	7.111E+02	7.014E+02
		6.920E+02	6.828E+02	6.737E+02	6.646E+02	6.556E+02	6.470E+02	6.395E+02	6.315E+02	6.235E+02	6.158E+02	6.082E+02	6.008E+02	5.935E+02	5.864E+02	5.794E+02	5.726E+02	5.659E+02	5.594E+02	5.530E+02	5.467E+02
		5.406E+02	5.345E+02	5.285E+02	5.229E+02	5.172E+02	5.117E+02	5.062E+02	5.009E+02	4.957E+02	4.906E+02	4.856E+02	4.807E+02	4.759E+02	4.712E+02	4.665E+02	4.620E+02	4.576E+02	4.532E+02	4.489E+02	4.446E+02
		4.418E+02	4.375E+02	4.334E+02	4.295E+02	4.257E+02	4.219E+02	4.183E+02	4.147E+02	4.112E+02	4.077E+02	4.043E+02	4.010E+02	3.977E+02	3.945E+02	3.913E+02	3.882E+02	3.852E+02	3.822E+02	3.793E+02	3.764E+02
		3.735E+02	3.708E+02	3.680E+02	3.654E+02	3.627E+02	3.601E+02	3.576E+02	3.551E+02	3.526E+02	3.502E+02	3.281E+02	3.098E+02	2.478E+02	2.110E+02	1.876E+02	1.542E+02	1.324E+02	1.020E+02	7.443E+01	4.962E+01
		3.821E+01	3.232E+01	2.915E+01	2.584E+01	2.405E+01	2.074E+01	1.733E+01	1.013E+01	3.699E+00	1.695E+00										
BWR 40000.	4.14	1.018E+04	5.827E+03	3.981E+03	3.037E+03	2.526E+03	2.208E+03	2.007E+03	1.846E+03	1.763E+03	1.687E+03	1.618E+03	1.563E+03	1.516E+03	1.475E+03	1.442E+03	1.401E+03	1.370E+03	1.340E+03	1.312E+03	1.291E+03
		1.262E+03	1.238E+03	1.214E+03	1.191E+03	1.169E+03	1.148E+03	1.127E+03	1.107E+03	1.088E+03	1.071E+03	1.051E+03	1.033E+03	1.015E+03	9.981E+02	9.815E+02	9.652E+02	9.494E+02	9.340E+02	9.189E+02	9.042E+02
		8.892E+02	8.758E+02	8.621E+02	8.487E+02	8.357E+02	8.229E+02	8.104E+02	7.982E+02	7.863E+02	7.770E+02	7.636E+02	7.522E+02	7.412E+02	7.306E+02	7.202E+02	7.101E+02	6.904E+02	6.809E+02	6.716E+02	
		6.625E+02	6.537E+02	6.449E+02	6.364E+02	6.281E+02	6.199E+02	6.119E+02	6.041E+02	5.964E+02	5.889E+02	5.815E+02	5.743E+02	5.673E+02	5.604E+02	5.536E+02	5.470E+02	5.405E+02	5.342E+02	5.279E+02	5.218E+02
		5.159E+02	5.100E+02	5.043E+02	4.987E+02	4.932E+02	4.878E+02	4.825E+02	4.773E+02	4.722E+02	4.672E+02	4.623E+02	4.576E+02	4.529E+02	4.483E+02	4.438E+02	4.393E+02	4.350E+02	4.308E+02	4.266E+02	4.244E+02
		4.195E+02	4.154E+02	4.114E+02	4.076E+02	4.039E+02	4.002E+02	3.967E+02	3.932E+02	3.897E+02	3.863E+02	3.830E+02	3.798E+02	3.766E+02	3.734E+02	3.704E+02	3.673E+02	3.644E+02	3.615E+02	3.586E+02	3.558E+02
		3.530E+02	3.503E+02	3.476E+02	3.450E+02	3.424E+02	3.399E+02	3.374E+02	3.350E+02	3.326E+02	3.302E+02	3.087E+02	2.904E+02	2.311E+02	1.963E+02	1.746E+02	1.434E+02	1.233E+02	9.519E+01	6.968E+01	4.666E+01
		3.605E+01	3.057E+01	2.763E+01	2.454E+01	2.287E+01	1.975E+01	1.654E+01	9.742E+00	3.603E+00	1.695E+00										
BWR 50000.	3.04	1.173E+04	6.986E+03	4.946E+03	3.875E+03	3.280E+03	2.899E+03	2.647E+03	2.457E+03	2.331E+03	2.227E+03	2.136E+03	2.061E+03	1.996E+03	1.937E+03	1.887E+03	1.834E+03	1.789E+03	1.747E+03	1.708E+03	1.674E+03
		1.635E+03	1.600E+03	1.566E+03	1.534E+03	1.503E+03	1.473E+03	1.444E+03	1.416E+03	1.389E+03	1.365E+03	1.338E+03	1.313E+03	1.288E+03	1.265E+03	1.242E+03	1.220E+03	1.198E+03	1.177E+03	1.157E+03	1.137E+03
		1.118E+03	1.099E+03	1.080E+03	1.062E+03	1.045E+03	1.028E+03	1.011E+03	9.933E+02	9.755E+02	9.666E+02	9.501E+02	9.360E+02	9.207E+02	9.068E+02	8.932E+02	8.800E+02	8.671E+02	8.546E+02	8.423E+02	8.303E+02
		8.185E+02	8.071E+02	7.959E+02	7.850E+02	7.743E+02	7.639E+02	7.537E+02	7.436E+02	7.345E+02	7.245E+02	7.152E+02	7.061E+02	6.972E+02	6.885E+02	6.800E+02	6.717E+02	6.635E+02	6.556E+02	6.478E+02	6.402E+02
		6.327E+02	6.254E+02	6.183E+02	6.113E+02	6.045E+02	5.978E+02	5.912E+02	5.848E+02	5.785E+02	5.723E+02	5.663E+02	5.604E+02	5.546E+02	5.490E+02	5.434E+02	5.380E+02	5.326E+02	5.274E+02	5.223E+02	5.177E+02
		5.136E+02	5.084E+02	5.035E+02	4.989E+02	4.943E+02	4.899E+02	4.855E+02	4.812E+02	4.770E+02	4.729E+02	4.689E+02	4.649E+02	4.610E+02	4.572E+02	4.534E+02	4.498E+02	4.461E+02	4.426E+02	4.391E+02	4.357E+02
		4.323E+02	4.290E+02	4.258E+02	4.226E+02	4.195E+02	4.164E+02	4.134E+02	4.104E+02	4.075E+02	4.046E+02	3.830E+02	3.561E+02	2.830E+02	2.387E+02	2.108E+02	1.715E+02	1.467E+02	1.129E+02	8.301E+01	5.625E+01
		4.380E+01	3.730E+01	3.376E+01	2.994E+01	2.788E+01	2.389E+01	1.984E+01	1.134E+01	4.048E+00	1.675E+00										
BWR 50000.	3.74	1.113E+04	6.581E+03	4.638E+03	3.623E+03	3.060E+03	2.702E+03	2.467E+03	2.299E+03	2.174E+03	2.080E+03	1.997E+03	1.928E+03	1.868E+03	1.815E+03	1.769E+03	1.722E+03	1.681E+03	1.643E+03	1.607E+03	1.577E+03
		1.542E+03	1.510E+03	1.480E+03	1.451E+03	1.423E+03	1.396E+03	1.369E+03	1.344E+03	1.319E+03	1.297E+03	1.272E+03	1.249E+03	1.227E+03	1.205E+03	1.184E+03	1.164E+03	1.144E+03	1.125E+03	1.106E+03	1.088E+03
		1.070E+03	1.052E+03	1.035E+03	1.018E+03	1.002E+03	9.864E+02	9.709E+02	9.558E+02	9.411E+02	9.269E+02	9.127E+02	8.985E+02	8.852E+02	8.721E+02	8.594E+02	8.470E+02	8.349E+02	8.230E+02	8.114E+02	8.001E+02
		7.891E+02	7.782E+02	7.676E+02	7.573E+02	7.472E+02	7.373E+02	7.276E+02	7.181E+02	7.088E+02	6.998E+02	6.908E+02	6.822E+02	6.737E+02	6.654E+02	6.573E+02	6.498E+02	6.415E+02	6.339E+02	6.264E+02	6.191E+02
		6.119E+02	6.049E+02	5.980E+02	5.913E+02	5.847E+02	5.783E+02	5.719E+02	5.657E+02	5.597E+02	5.537E+02	5.479E+02	5.422E+02	5.366E+02	5.311E+02	5.257E+02	5.204E+02	5.152E+02	5.102E+02	5.052E+02	5.008E+02
		4.969E+02	4.919E+02	4.871E+02	4.826E+02	4.781E+02	4.738E+02	4.695E+02	4.654E+02	4.613E+02	4.572E+02	4.533E+02	4.494E+02	4.456E+02	4.419E+02	4.382E+02	4.346E+02	4.310E+02	4.276E+02	4.241E+02	4.208E+02
		4.175E+02	4.143E+02	4.111E+02	4.079E+02	4.046E+02	4.018E+02	3.989E+02	3.960E+02	3.931E+02	3.903E+02	3.656E+02	3.426E+02	2.707E+02	2.276E+02	2.008E+02	1.629E+02	1.392E+02	1.071E+02	7.874E+01	5.335E+01
		4.199E+01	3.545E+01	3.210E+01	2.851E+01	2.653E+01	2.280E+01	1.896E+01	1.078E+01	3.958E+00	1.660E+00										
BWR 50000.	4.44	1.055E+04	6.206E+03	4.362E+03	3.404E+03	2.874E+03	2.537E+03	2.317E+03	2.162E+03	2.045E+03	1.959E+03	1.880E+03	1.816E+03	1.761E+03	1.713E+03	1.674E+03	1.627E+03	1.590E+03	1.555E+03	1.522E+03	1.496E+03
		1.463E+03	1.433E+03	1.405E+03	1.378E+03	1.352E+03	1.327E+03	1.303E+03	1.279E+03	1.256E+03	1.237E+03	1.213E+03	1.191E+03	1.170E+03	1.150E+03	1.131E+03	1.111E+03	1.092E+03	1.075E+03	1.057E+03	1.040E+03
		1.023E+03	1.006E+03	9.908E+02	9.746E+02	9.598E+02	9.443E+02	9.297E+02	9.154E+02	9.014E+02	8.906E+02	8.750E+02	8.616E+02	8.488E+02	8.363E+02	8.242E+02	8.124E+02	8.008E+02	7.895E+02	7.784E+02	7.676E+02
		7.569E+02	7.466E+02	7.364E+02	7.265E+02	7.168E+02	7.073E+02	6.980E+02	6.890E+02	6.799E+02	6.712E+02	6.626E+02	6.543E+02	6.461E+02	6.381E+02	6.302E+02	6.225E+02	6.150E+02	6.078E+02	6.004E+02	5.933E+02
		5.863E+02	5.795E+02	5.729E+02	5.664E+02	5.600E+02	5.537E+02	5.476E+02	5.416E+02	5.357E+02	5.299E+02	5.242E+02	5.187E+02	5.132E+02	5.079E+02	5.026E+02	4.975E+02	4.925E+02	4.876E+02	4.827E+02	4.802E+02
		4.745E+02	4.696E+02	4.650E+02	4.605E+02	4.562E+02	4.520E+02	4.478E+02	4.437E+02	4.398E+02	4.358E+02	4.320E+02	4.282E+02	4.245E+02	4.208E+02	4.173E+02	4.137E+02	4.103E+02	4.069E+02	4.036E+02	4.003E+02
		3.971E+02	3.939E+02	3.908E+02	3.878E+02	3.848E+02	3.818E+02	3.789E+02	3.761E+02	3.733E+02	3.705E+02	3.454E+02	3.241E+02	2.546E+02	2.136E+02	1.882E+02	1.528E+02	1.306E+02	1.006E+02	7.408E+01	5.031E+01
		3.934E+01	3.360E+01	3.048E+01	2.711E+01	2.529E+01	2.173E+01	1.811E+01	1.052E+01	3.858E+00	1.632E+00										
PWR 10000.	.99	5.071E+03	2.334E+03	1.321E+03	8.481E+02	6.203E+02	5.021E+02	4.380E+02	4.001E+02	3.758E+02	3.592E+02	3.458E+02	3.356E+02	3.272E+02	3.198E+02	3.140E+02	3.075E+02	3.021E+02	2.972E+02	2.925E+02	2.886E+02
		2.839E+02	2.798E+02	2.760E+02	2.723E+02	2.688E+02	2.654E+02	2.621E+02	2.589E+02	2.557E+02	2.530E+02	2.498E+02	2.468E+02	2.439E+02	2.411E+02	2.384E+02	2.357E+02	2.331E+02	2.305E+02	2.280E+02	2.255E+02
		2.231E+02	2.207E+02	2.183E+02	2.160E+02	2.138E+02	2.116E+02	2.094E+02	2.072E+02	2.051E+02	2.030E+02	2.010E+02	1.991E+02	1.971E+02	1.952E+02	1.934E+02	1.915E+02	1.897E+02	1.880E+02	1.862E+02	1.845E+02
		1.829E+02	1.812E+02	1.795E+02	1.780E+02	1.764E+02	1.749E+02	1.734E+02	1.719E+02	1.705E+02	1.690E+02	1.676E+02	1.663E+02	1.649E+02	1.636E+02	1.623E+02	1.610E+02	1.597E+02	1.585E+02	1.573E+02	1.561E+02
		1.549E+02	1.538E+02	1.526E+02	1.515E+02	1.504E+02	1.494E+02	1.483E+02	1.473E+02	1.463E+02	1.453E+02	1.443E+02	1.434E+02	1.424E+02	1.415E+02	1.406E+02	1.397E+02	1.388E+02	1.380E+02	1.371E+02	1.368E+02
		1.357E+02	1.349E+02	1.341E+02	1.333E+02	1.325E															

				6.916E+01	6.865E+01	6.815E+01	6.766E+01	6.718E+01	6.671E+01	6.624E+01	6.575E+01	6.535E+01	6.491E+01	6.100E+01	5.776E+01	4.802E+01	4.299E+01	3.990E+01	3.521E+01	3.162E+01	2.594E+01	2.030E+01	1.505E+01
				1.259E+01	1.126E+01	1.052E+01	9.680E+00	9.163E+00	8.194E+00	7.111E+00	6.464E+00	1.859E+00	6.278E-01										
PWR	20000.	1.74		7.430E+03	3.679E+03	2.197E+03	1.492E+03	1.140E+03	9.482E+02	8.388E+02	7.704E+02	7.239E+02	6.915E+02	6.633E+02	6.418E+02	6.237E+02	6.078E+02	5.953E+02	5.810E+02	5.691E+02	5.581E+02	5.477E+02	5.393E+02
				5.285E+02	5.195E+02	5.109E+02	5.027E+02	4.948E+02	4.871E+02	4.796E+02	4.723E+02	4.652E+02	4.596E+02	4.524E+02	4.458E+02	4.394E+02	4.331E+02	4.271E+02	4.211E+02	4.153E+02	4.097E+02	4.041E+02	3.987E+02
				3.934E+02	3.882E+02	3.831E+02	3.781E+02	3.733E+02	3.685E+02	3.638E+02	3.592E+02	3.547E+02	3.512E+02	3.460E+02	3.418E+02	3.377E+02	3.337E+02	3.297E+02	3.259E+02	3.221E+02	3.184E+02	3.148E+02	3.112E+02
				3.077E+02	3.043E+02	3.009E+02	2.976E+02	2.944E+02	2.912E+02	2.881E+02	2.851E+02	2.821E+02	2.792E+02	2.763E+02	2.735E+02	2.708E+02	2.681E+02	2.654E+02	2.628E+02	2.603E+02	2.578E+02	2.553E+02	2.528E+02
				2.506E+02	2.483E+02	2.460E+02	2.438E+02	2.416E+02	2.395E+02	2.374E+02	2.353E+02	2.333E+02	2.314E+02	2.294E+02	2.275E+02	2.257E+02	2.238E+02	2.220E+02	2.203E+02	2.186E+02	2.169E+02	2.152E+02	2.136E+02
				2.125E+02	2.109E+02	2.093E+02	2.078E+02	2.063E+02	2.048E+02	2.034E+02	2.020E+02	2.006E+02	1.993E+02	1.980E+02	1.967E+02	1.954E+02	1.942E+02	1.929E+02	1.917E+02	1.905E+02	1.894E+02	1.882E+02	1.871E+02
				1.860E+02	1.849E+02	1.838E+02	1.828E+02	1.818E+02	1.808E+02	1.798E+02	1.789E+02	1.779E+02	1.769E+02	1.685E+02	1.670E+02	1.370E+02	1.225E+02	1.125E+02	9.680E+01	8.888E+01	6.640E+01	4.838E+01	3.189E+01
				2.429E+01	2.045E+01	1.843E+01	1.640E+01	1.529E+01	1.338E+01	1.132E+01	6.909E+00	2.545E+00	8.504E-01										
PWR	20000.	2.44		6.974E+03	3.421E+03	2.045E+03	1.395E+03	1.077E+03	9.033E+02	8.047E+02	7.429E+02	7.004E+02	6.707E+02	6.444E+02	6.242E+02	6.057E+02	5.913E+02	5.785E+02	5.669E+02	5.530E+02	5.420E+02	5.315E+02	5.225E+02
				5.120E+02	5.029E+02	4.941E+02	4.857E+02	4.775E+02	4.696E+02	4.619E+02	4.544E+02	4.471E+02	4.408E+02	4.339E+02	4.265E+02	4.199E+02	4.135E+02	4.072E+02	4.011E+02	3.951E+02	3.892E+02	3.835E+02	3.779E+02
				3.724E+02	3.670E+02	3.618E+02	3.566E+02	3.516E+02	3.467E+02	3.419E+02	3.371E+02	3.325E+02	3.280E+02	3.239E+02	3.196E+02	3.153E+02	3.112E+02	3.071E+02	3.031E+02	2.992E+02	2.954E+02	2.917E+02	2.880E+02
				2.844E+02	2.809E+02	2.774E+02	2.741E+02	2.708E+02	2.675E+02	2.643E+02	2.612E+02	2.582E+02	2.552E+02	2.523E+02	2.494E+02	2.466E+02	2.438E+02	2.411E+02	2.385E+02	2.359E+02	2.334E+02	2.309E+02	2.285E+02
				2.261E+02	2.237E+02	2.214E+02	2.192E+02	2.170E+02	2.148E+02	2.127E+02	2.105E+02	2.086E+02	2.066E+02	2.047E+02	2.028E+02	2.009E+02	1.991E+02	1.973E+02	1.955E+02	1.938E+02	1.921E+02	1.904E+02	1.894E+02
				1.875E+02	1.859E+02	1.843E+02	1.828E+02	1.814E+02	1.799E+02	1.785E+02	1.771E+02	1.757E+02	1.744E+02	1.731E+02	1.718E+02	1.705E+02	1.693E+02	1.681E+02	1.669E+02	1.657E+02	1.646E+02	1.635E+02	1.623E+02
				1.613E+02	1.602E+02	1.592E+02	1.581E+02	1.571E+02	1.561E+02	1.552E+02	1.542E+02	1.533E+02	1.524E+02	1.440E+02	1.370E+02	1.148E+02	1.021E+02	9.376E+01	8.086E+01	7.117E+01	5.615E+01	4.148E+01	2.804E+01
				2.180E+01	1.861E+01	1.692E+01	1.516E+01	1.419E+01	1.245E+01	1.058E+01	6.535E+00	2.452E+00	8.369E-01										
PWR	20000.	3.14		6.634E+03	3.223E+03	1.925E+03	1.324E+03	1.030E+03	8.700E+02	7.798E+02	7.223E+02	6.836E+02	6.554E+02	6.308E+02	6.111E+02	5.940E+02	5.788E+02	5.658E+02	5.522E+02	5.408E+02	5.290E+02	5.184E+02	5.088E+02
				4.982E+02	4.889E+02	4.798E+02	4.711E+02	4.627E+02	4.544E+02	4.465E+02	4.387E+02	4.311E+02	4.243E+02	4.167E+02	4.097E+02	4.028E+02	3.961E+02	3.896E+02	3.833E+02	3.770E+02	3.709E+02	3.650E+02	3.592E+02
				3.535E+02	3.479E+02	3.425E+02	3.372E+02	3.320E+02	3.269E+02	3.219E+02	3.170E+02	3.122E+02	3.082E+02	3.031E+02	2.986E+02	2.943E+02	2.901E+02	2.858E+02	2.817E+02	2.777E+02	2.738E+02	2.699E+02	2.662E+02
				2.625E+02	2.589E+02	2.554E+02	2.519E+02	2.485E+02	2.452E+02	2.420E+02	2.389E+02	2.357E+02	2.326E+02	2.297E+02	2.267E+02	2.239E+02	2.211E+02	2.184E+02	2.157E+02	2.130E+02	2.106E+02	2.079E+02	2.055E+02
				2.031E+02	2.007E+02	1.984E+02	1.961E+02	1.939E+02	1.917E+02	1.896E+02	1.875E+02	1.855E+02	1.835E+02	1.815E+02	1.796E+02	1.777E+02	1.759E+02	1.740E+02	1.723E+02	1.705E+02	1.689E+02	1.672E+02	1.661E+02
				1.642E+02	1.626E+02	1.611E+02	1.596E+02	1.581E+02	1.567E+02	1.553E+02	1.539E+02	1.525E+02	1.512E+02	1.499E+02	1.486E+02	1.474E+02	1.462E+02	1.450E+02	1.438E+02	1.427E+02	1.415E+02	1.404E+02	1.394E+02
				1.388E+02	1.372E+02	1.356E+02	1.352E+02	1.342E+02	1.333E+02	1.323E+02	1.314E+02	1.305E+02	1.296E+02	1.216E+02	1.149E+02	9.428E+01	8.333E+01	7.645E+01	6.611E+01	5.846E+01	4.662E+01	3.502E+01	2.439E+01
				1.938E+01	1.680E+01	1.541E+01	1.392E+01	1.306E+01	1.150E+01	9.817E+00	6.143E+00	2.358E+00	8.302E-01										
PWR	30000.	2.41		9.270E+03	4.848E+03	3.044E+03	2.164E+03	1.709E+03	1.449E+03	1.294E+03	1.192E+03	1.120E+03	1.068E+03	1.022E+03	9.867E+02	9.566E+02	9.302E+02	9.094E+02	8.847E+02	8.648E+02	8.463E+02	8.289E+02	8.148E+02
				7.974E+02	7.822E+02	7.677E+02	7.539E+02	7.408E+02	7.273E+02	7.146E+02	7.024E+02	6.905E+02	6.804E+02	6.681E+02	6.570E+02	6.462E+02	6.358E+02	6.257E+02	6.158E+02	6.062E+02	5.968E+02	5.876E+02	5.786E+02
				5.699E+02	5.613E+02	5.530E+02	5.448E+02	5.368E+02	5.290E+02	5.214E+02	5.139E+02	5.066E+02	5.008E+02	4.925E+02	4.855E+02	4.789E+02	4.724E+02	4.660E+02	4.598E+02	4.537E+02	4.478E+02	4.419E+02	4.362E+02
				4.306E+02	4.252E+02	4.198E+02	4.146E+02	4.094E+02	4.044E+02	3.995E+02	3.945E+02	3.896E+02	3.853E+02	3.807E+02	3.763E+02	3.720E+02	3.677E+02	3.635E+02	3.594E+02	3.554E+02	3.515E+02	3.477E+02	3.439E+02
				3.402E+02	3.366E+02	3.331E+02	3.296E+02	3.262E+02	3.229E+02	3.196E+02	3.164E+02	3.133E+02	3.102E+02	3.072E+02	3.043E+02	3.014E+02	2.986E+02	2.958E+02	2.931E+02	2.904E+02	2.878E+02	2.852E+02	2.838E+02
				2.808E+02	2.789E+02	2.779E+02	2.735E+02	2.712E+02	2.690E+02	2.668E+02	2.647E+02	2.626E+02	2.605E+02	2.585E+02	2.566E+02	2.545E+02	2.526E+02	2.507E+02	2.489E+02	2.471E+02	2.453E+02	2.435E+02	2.418E+02
				2.401E+02	2.385E+02	2.369E+02	2.353E+02	2.337E+02	2.322E+02	2.306E+02	2.292E+02	2.277E+02	2.263E+02	2.133E+02	2.029E+02	1.670E+02	1.465E+02	1.331E+02	1.129E+02	9.863E+01	7.710E+01	5.666E+01	3.784E+01
				2.917E+01	2.472E+01	2.236E+01	1.987E+01	1.851E+01	1.605E+01	1.347E+01	7.995E+00	2.898E+00	1.036E+00										
PWR	30000.	3.11		8.728E+03	4.536E+03	2.850E+03	2.033E+03	1.615E+03	1.377E+03	1.235E+03	1.142E+03	1.076E+03	1.028E+03	9.859E+02	9.528E+02	9.244E+02	8.994E+02	8.789E+02	8.563E+02	8.371E+02	8.192E+02	8.023E+02	7.881E+02
				7.709E+02	7.562E+02	7.420E+02	7.284E+02	7.152E+02	7.025E+02	6.901E+02	6.780E+02	6.663E+02	6.565E+02	6.442E+02	6.332E+02	6.227E+02	6.124E+02	6.024E+02	5.926E+02	5.830E+02	5.737E+02	5.646E+02	5.557E+02
				5.470E+02	5.385E+02	5.302E+02	5.221E+02	5.142E+02	5.064E+02	4.988E+02	4.914E+02	4.841E+02	4.785E+02	4.708E+02	4.639E+02	4.508E+02	4.444E+02	4.382E+02	4.321E+02	4.261E+02	4.203E+02	4.146E+02	
				4.090E+02	4.036E+02	3.982E+02	3.929E+02	3.878E+02	3.827E+02	3.778E+02	3.730E+02	3.683E+02	3.636E+02	3.591E+02	3.547E+02	3.508E+02	3.461E+02	3.419E+02	3.378E+02	3.339E+02	3.299E+02	3.261E+02	3.225E+02
				3.187E+02	3.151E+02	3.115E+02	3.081E+02	3.047E+02	3.014E+02	2.981E+02	2.949E+02	2.918E+02	2.887E+02	2.857E+02	2.828E+02	2.799E+02	2.771E+02	2.744E+02	2.716E+02	2.690E+02	2.664E+02	2.638E+02	2.624E+02
				2.595E+02	2.570E+02	2.546E+02	2.523E+02	2.500E+02	2.478E+02	2.456E+02	2.435E+02	2.414E+02	2.394E+02	2.373E+02	2.354E+02	2.334E+02	2.315E+02	2.297E+02	2.279E+02	2.261E+02	2.243E+02	2.226E+02	2.209E+02
				2.193E+02	2.176E+02	2.160E+02	2.145E+02	2.129E+02	2.114E+02	2.099E+02	2.085E+02	2.070E+02	2.056E+02	1.929E+02	1.822E+02	1.486E+02	1.239E+02	1.022E+02	8.775E+01	6.889E+01	5.095E+01	3.355E+01	
				2.692E+01	2.299E+01	2.088E+01	1.865E+01	1.739E+01	1.514E+01	1.272E+01	7.631E+00	2.805E+00	1.018E+00										
PWR	30000.	3.81		8.281E+03	4.277E+03	2.600E+03	1.926E+03	1.540E+03	1.320E+03	1.190E+03	1.104E+03	1.043E+03	9.992E+02	9.598E+02	9.284E+02	9.012E+02	8.770E+02	8.567E+02	8.350E+02	8.162E+02	7.985E+02	7.818E+02	7.674E+02
				7.50																			

		7.738E+02	7.618E+02	7.500E+02	7.385E+02	7.272E+02	7.163E+02	7.055E+02	6.950E+02	6.847E+02	6.746E+02	6.650E+02	6.552E+02	6.458E+02	6.366E+02	6.277E+02	6.190E+02	6.104E+02	6.021E+02	5.939E+02	5.858E+02
		5.780E+02	5.703E+02	5.628E+02	5.554E+02	5.482E+02	5.412E+02	5.343E+02	5.275E+02	5.209E+02	5.144E+02	5.080E+02	5.018E+02	4.957E+02	4.897E+02	4.839E+02	4.782E+02	4.725E+02	4.671E+02	4.617E+02	4.564E+02
		4.512E+02	4.462E+02	4.412E+02	4.364E+02	4.316E+02	4.269E+02	4.224E+02	4.179E+02	4.135E+02	4.092E+02	4.050E+02	4.008E+02	3.968E+02	3.889E+02	3.851E+02	3.814E+02	3.777E+02	3.741E+02	3.705E+02	3.670E+02
		3.680E+02	3.644E+02	3.610E+02	3.577E+02	3.545E+02	3.514E+02	3.483E+02	3.453E+02	3.423E+02	3.394E+02	3.366E+02	3.338E+02	3.310E+02	3.283E+02	3.257E+02	3.231E+02	3.205E+02	3.180E+02	3.155E+02	3.131E+02
		3.108E+02	3.084E+02	3.062E+02	3.039E+02	3.017E+02	2.995E+02	2.974E+02	2.953E+02	2.933E+02	2.913E+02	2.892E+02	2.872E+02	2.852E+02	2.832E+02	2.812E+02	2.792E+02	2.772E+02	2.752E+02	2.732E+02	2.712E+02
		3.501E+01	2.982E+01	2.704E+01	2.410E+01	2.248E+01	1.950E+01	1.637E+01	9.752E+00	3.588E+00	1.358E+00										
PWR 40000.	4.42	1.006E+04	5.462E+03	3.580E+03	2.647E+03	2.156E+03	1.866E+03	1.686E+03	1.565E+03	1.477E+03	1.412E+03	1.354E+03	1.308E+03	1.269E+03	1.234E+03	1.206E+03	1.174E+03	1.147E+03	1.123E+03	1.099E+03	1.081E+03
		1.057E+03	1.036E+03	1.016E+03	9.972E+02	9.789E+02	9.610E+02	9.437E+02	9.269E+02	9.105E+02	8.946E+02	8.797E+02	8.644E+02	8.496E+02	8.353E+02	8.213E+02	8.076E+02	7.943E+02	7.813E+02	7.686E+02	7.561E+02
		7.440E+02	7.322E+02	7.206E+02	7.092E+02	6.982E+02	6.874E+02	6.768E+02	6.664E+02	6.563E+02	6.465E+02	6.379E+02	6.282E+02	6.189E+02	6.098E+02	6.010E+02	5.923E+02	5.839E+02	5.756E+02	5.675E+02	5.595E+02
		5.517E+02	5.441E+02	5.367E+02	5.294E+02	5.223E+02	5.153E+02	5.084E+02	5.017E+02	4.952E+02	4.887E+02	4.825E+02	4.763E+02	4.702E+02	4.644E+02	4.586E+02	4.529E+02	4.474E+02	4.419E+02	4.366E+02	4.314E+02
		4.265E+02	4.213E+02	4.164E+02	4.116E+02	4.069E+02	4.023E+02	3.977E+02	3.933E+02	3.890E+02	3.847E+02	3.806E+02	3.765E+02	3.725E+02	3.686E+02	3.647E+02	3.610E+02	3.573E+02	3.537E+02	3.501E+02	3.479E+02
		3.440E+02	3.405E+02	3.371E+02	3.339E+02	3.308E+02	3.277E+02	3.247E+02	3.217E+02	3.188E+02	3.159E+02	3.131E+02	3.104E+02	3.077E+02	3.050E+02	3.024E+02	2.997E+02	2.974E+02	2.949E+02	2.925E+02	2.902E+02
		2.879E+02	2.856E+02	2.834E+02	2.812E+02	2.790E+02	2.769E+02	2.748E+02	2.728E+02	2.708E+02	2.688E+02	2.510E+02	2.359E+02	1.884E+02	1.618E+02	1.452E+02	1.216E+02	1.056E+02	8.261E+01	6.119E+01	4.174E+01
		3.271E+01	2.808E+01	2.550E+01	2.281E+01	2.129E+01	1.852E+01	1.599E+01	9.364E+00	3.490E+00	1.333E+00										
PWR 50000.	3.56	1.299E+04	7.424E+03	5.032E+03	3.803E+03	3.130E+03	2.714E+03	2.450E+03	2.266E+03	2.131E+03	2.032E+03	1.944E+03	1.873E+03	1.812E+03	1.759E+03	1.714E+03	1.664E+03	1.624E+03	1.586E+03	1.551E+03	1.522E+03
		1.486E+03	1.455E+03	1.425E+03	1.397E+03	1.369E+03	1.343E+03	1.317E+03	1.292E+03	1.268E+03	1.246E+03	1.223E+03	1.200E+03	1.179E+03	1.158E+03	1.137E+03	1.118E+03	1.098E+03	1.080E+03	1.061E+03	1.044E+03
		1.026E+03	1.009E+03	9.927E+02	9.766E+02	9.609E+02	9.455E+02	9.305E+02	9.160E+02	9.017E+02	8.894E+02	8.744E+02	8.610E+02	8.480E+02	8.354E+02	8.230E+02	8.110E+02	7.993E+02	7.878E+02	7.766E+02	7.656E+02
		7.549E+02	7.444E+02	7.342E+02	7.241E+02	7.143E+02	7.047E+02	6.954E+02	6.862E+02	6.772E+02	6.684E+02	6.598E+02	6.514E+02	6.432E+02	6.352E+02	6.273E+02	6.196E+02	6.120E+02	6.047E+02	5.974E+02	5.904E+02
		5.834E+02	5.767E+02	5.700E+02	5.635E+02	5.571E+02	5.509E+02	5.448E+02	5.388E+02	5.329E+02	5.272E+02	5.216E+02	5.161E+02	5.107E+02	5.054E+02	5.002E+02	4.951E+02	4.901E+02	4.852E+02	4.805E+02	4.778E+02
		4.722E+02	4.675E+02	4.630E+02	4.586E+02	4.544E+02	4.502E+02	4.461E+02	4.421E+02	4.382E+02	4.343E+02	4.305E+02	4.268E+02	4.231E+02	4.196E+02	4.161E+02	4.126E+02	4.092E+02	4.059E+02	4.026E+02	3.994E+02
		3.963E+02	3.932E+02	3.902E+02	3.872E+02	3.843E+02	3.814E+02	3.785E+02	3.756E+02	3.730E+02	3.704E+02	3.679E+02	3.652E+02	3.626E+02	3.600E+02	3.574E+02	3.548E+02	3.522E+02	3.496E+02	3.470E+02	3.444E+02
		4.324E+01	3.715E+01	3.380E+01	3.013E+01	2.805E+01	2.413E+01	2.005E+01	1.156E+01	4.116E+00	1.622E+00										
PWR 50000.	4.26	1.235E+04	7.018E+03	4.746E+03	3.585E+03	2.922E+03	2.563E+03	2.316E+03	2.145E+03	2.019E+03	1.926E+03	1.844E+03	1.778E+03	1.721E+03	1.672E+03	1.632E+03	1.584E+03	1.547E+03	1.512E+03	1.479E+03	1.453E+03
		1.420E+03	1.391E+03	1.363E+03	1.336E+03	1.311E+03	1.286E+03	1.262E+03	1.238E+03	1.216E+03	1.196E+03	1.173E+03	1.152E+03	1.132E+03	1.112E+03	1.093E+03	1.074E+03	1.056E+03	1.038E+03	1.020E+03	1.004E+03
		9.870E+02	9.709E+02	9.552E+02	9.398E+02	9.248E+02	9.102E+02	8.959E+02	8.819E+02	8.682E+02	8.571E+02	8.419E+02	8.290E+02	8.165E+02	8.044E+02	7.925E+02	7.810E+02	7.697E+02	7.586E+02	7.478E+02	7.372E+02
		7.269E+02	7.167E+02	7.068E+02	6.971E+02	6.876E+02	6.783E+02	6.692E+02	6.604E+02	6.517E+02	6.431E+02	6.348E+02	6.266E+02	6.187E+02	6.108E+02	6.032E+02	5.957E+02	5.883E+02	5.811E+02	5.741E+02	5.672E+02
		5.604E+02	5.538E+02	5.473E+02	5.410E+02	5.348E+02	5.287E+02	5.227E+02	5.168E+02	5.111E+02	5.055E+02	5.000E+02	4.946E+02	4.894E+02	4.842E+02	4.791E+02	4.741E+02	4.692E+02	4.645E+02	4.598E+02	4.569E+02
		4.516E+02	4.470E+02	4.425E+02	4.383E+02	4.341E+02	4.300E+02	4.260E+02	4.221E+02	4.182E+02	4.144E+02	4.107E+02	4.071E+02	4.035E+02	4.000E+02	3.965E+02	3.932E+02	3.898E+02	3.864E+02	3.834E+02	3.802E+02
		3.771E+02	3.741E+02	3.711E+02	3.682E+02	3.653E+02	3.625E+02	3.598E+02	3.572E+02	3.544E+02	3.517E+02	3.490E+02	3.463E+02	3.436E+02	3.409E+02	3.382E+02	3.355E+02	3.328E+02	3.301E+02	3.274E+02	3.247E+02
		4.085E+01	3.514E+01	3.205E+01	2.862E+01	2.665E+01	2.258E+01	1.915E+01	1.112E+01	4.015E+00	1.597E+00										
PWR 50000.	4.96	1.175E+04	6.645E+03	4.491E+03	3.391E+03	2.800E+03	2.437E+03	2.206E+03	2.047E+03	1.930E+03	1.833E+03	1.765E+03	1.704E+03	1.651E+03	1.604E+03	1.565E+03	1.521E+03	1.486E+03	1.453E+03	1.421E+03	1.396E+03
		1.364E+03	1.336E+03	1.310E+03	1.285E+03	1.260E+03	1.236E+03	1.213E+03	1.191E+03	1.169E+03	1.151E+03	1.129E+03	1.109E+03	1.089E+03	1.070E+03	1.052E+03	1.034E+03	1.016E+03	9.989E+02	9.822E+02	9.658E+02
		9.498E+02	9.342E+02	9.190E+02	9.041E+02	8.895E+02	8.753E+02	8.614E+02	8.478E+02	8.346E+02	8.237E+02	8.090E+02	7.944E+02	7.833E+02	7.725E+02	7.609E+02	7.497E+02	7.386E+02	7.279E+02	7.173E+02	7.070E+02
		6.969E+02	6.870E+02	6.773E+02	6.678E+02	6.586E+02	6.495E+02	6.406E+02	6.319E+02	6.234E+02	6.151E+02	6.069E+02	5.989E+02	5.911E+02	5.834E+02	5.759E+02	5.684E+02	5.614E+02	5.544E+02	5.475E+02	5.407E+02
		5.341E+02	5.276E+02	5.212E+02	5.150E+02	5.089E+02	5.030E+02	4.971E+02	4.914E+02	4.858E+02	4.803E+02	4.749E+02	4.696E+02	4.644E+02	4.593E+02	4.543E+02	4.495E+02	4.447E+02	4.400E+02	4.354E+02	4.325E+02
		4.273E+02	4.227E+02	4.184E+02	4.142E+02	4.101E+02	4.061E+02	4.022E+02	3.983E+02	3.946E+02	3.909E+02	3.872E+02	3.837E+02	3.802E+02	3.767E+02	3.733E+02	3.700E+02	3.668E+02	3.636E+02	3.605E+02	3.574E+02
		3.544E+02	3.514E+02	3.485E+02	3.457E+02	3.429E+02	3.401E+02	3.374E+02	3.347E+02	3.321E+02	3.296E+02	3.268E+02	3.240E+02	3.212E+02	3.184E+02	3.156E+02	3.128E+02	3.100E+02	3.072E+02	3.044E+02	3.016E+02
		3.841E+01	3.319E+01	3.032E+01	2.714E+01	2.529E+01	2.186E+01	1.825E+01	1.066E+01	3.909E+00	1.566E+00										
PWR 60000.	4.03	1.479E+04	8.775E+03	6.119E+03	4.716E+03	3.933E+03	3.434E+03	3.109E+03	2.880E+03	2.708E+03	2.582E+03	2.468E+03	2.376E+03	2.297E+03	2.227E+03	2.167E+03	2.108E+03	2.050E+03	2.001E+03	1.954E+03	1.915E+03
		1.869E+03	1.827E+03	1.788E+03	1.751E+03	1.715E+03	1.680E+03	1.646E+03	1.614E+03	1.582E+03	1.555E+03	1.523E+03	1.498E+03	1.465E+03	1.438E+03	1.411E+03	1.385E+03	1.361E+03	1.336E+03	1.312E+03	1.289E+03
		1.267E+03	1.245E+03	1.223E+03	1.202E+03	1.182E+03	1.162E+03	1.143E+03	1.124E+03	1.106E+03	1.091E+03	1.071E+03	1.053E+03	1.037E+03	1.020E+03	1.005E+03	9.892E+02	9.742E+02	9.595E+02	9.451E+02	9.311E+02
		9.174E+02	9.040E+02	8.909E+02	8.781E+02	8.656E+02	8.534E+02	8.415E+02	8.298E+02	8.184E+02	8.073E+02	7.964E+02	7.857E+02	7.753E+02	7.651E+02	7.551E+02	7.453E+02	7.358E+02	7.264E+02	7.173E+02	7.084E+02
		6.996E+02	6.910E+02	6.827E+02	6.745E+02	6.664E+02	6.585E+02	6.509E+02	6.433E+02	6.359E+02	6.287E+02	6.216E+02	6.147E+02	6.079E+02	6.013E+02	5.947E+02	5.884E+02	5.821E+02	5.760E+02	5.700E+02	5.644E+02
		5.594E+02	5.535E+02	5.479E+02	5.424E+0																

4.257E+02 4.220E+02 4.188E+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 2.606E+02 2.157E+02 1.884E+02 1.524E+02 1.305E+02 1.019E+02 7.720E+01 5.509E+01
4.473E+01 3.908E+01 3.589E+01 3.220E+01 2.999E+01 2.575E+01 2.135E+01 1.220E+01 4.378E+00 1.831E+00

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ASSY(49,1)= 255.61, 233.40, 214.52, 197.62, 183.32, 169.57,
ASSY(55,1)= 157.90, 147.48, 138.15, 129.78, 122.25, 115.48,
ASSY(61,1)= 109.37, 103.85, 99.33, 94.47, 90.35, 64.29,
ASSY(67,1)= 51.61, 43.92, 38.89, 34.91, 31.79, 29.32,
ASSY(73,1)= 27.23, 25.32, 23.69, 22.28, 21.02, 19.82,
ASSY(79,1)= 18.76, 17.81, 16.96, 16.20, 15.49, 10.52,
ASSY(85,1)= 8.21, 7.00, 6.34, 5.95, 5.64, 5.43,
ASSY(91,1)= 5.25, 5.03, 4.83, 4.66, 4.51, 4.35,
ASSY(97,1)= 4.21, 4.08, 3.96, 3.85, 3.75,
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ASSY( 7,0)= 0.06, 0.07, 0.08, 0.09, 0.10, 0.15,
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ASSY(25,0)= 0.80, 0.85, 0.90, 0.95, 1.00, 1.50,
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ASSY(37,0)= 5.00, 5.50, 6.00, 6.50, 7.00, 7.50,
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ASSY(61,0)= 80.00, 85.00, 90.00, 95.00, 100.00, 150.00,
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ASSY(79,0)= 800.00, 850.00, 900.00, 950.00, 1000.00, 1500.00,
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/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
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/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,

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MPDATA, KXX, 1, 19, 21.11, 21.46, 21.98, 22.33, 22.67, 23.02,
 MPDATA, KXX, 1, 25, 23.54, 23.88, 24.23, 24.58, 24.92, 25.27,
 MPDATA, C, 1, 1, 481.68, 486.92, 498.09, 499.38, 509.98, 520.29,
 MPDATA, C, 1, 7, 521.07, 527.38, 536.92, 537.34, 543.02, 543.31,
 MPDATA, C, 1, 13, 546.91, 552.14, 552.26, 557.22, 557.25, 565.11,
 MPDATA, C, 1, 19, 565.01, 564.91, 572.35, 572.14, 574.92, 574.68,
 MPDATA, C, 1, 25, 581.64, 581.30, 583.86, 586.36, 585.96, 588.39,
 MPDATA, KXX, 3, 1, 40.84, 41.36, 41.88, 42.23, 42.23, 42.23,
 MPDATA, KXX, 3, 7, 42.06, 41.88, 41.36, 41.02, 40.50, 39.98,
 MPDATA, KXX, 3, 13, 39.29, 38.77, 38.08, 37.56, 36.69, 36.17,
 MPDATA, KXX, 3, 19, 35.48, 34.61, 33.92, 33.23, 32.36, 31.50,
 MPDATA, KXX, 3, 25, 30.29, 28.90, 27.35, 26.48, 26.13, 26.13,
 MPDATA, C, 3, 1, 428.72, 444.95, 460.94, 476.87, 486.08, 495.66,
 MPDATA, C, 3, 7, 506.09, 517.07, 525.64, 536.99, 543.63, 550.62,
 MPDATA, C, 3, 13, 562.21, 577.32, 589.10, 600.57, 611.35, 629.09,
 MPDATA, C, 3, 19, 645.32, 665.12, 682.07, 694.52, 724.07, 761.95,
 MPDATA, C, 3, 25, 806.31, 888.60, 1095.04, 1638.78, 808.68, 736.90,

/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,

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,

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, 4.48, 4.43, 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,
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MPDATA, KXX, 6, 25, 1.98, 1.98, 1.98, 1.99, 1.99, 1.99,
MPDATA, KXX, 6, 31, 2.00, 2.00, 2.00, 2.01, 2.01, 2.01,
MPDATA, KXX, 6, 37, 2.02, 2.02, 2.02, 2.03, 2.03, 2.03,
MPDATA, KXX, 6, 43, 2.04, 2.04, 2.04, 2.05, 2.05, 2.06,
MPDATA, KXX, 6, 48, 2.06, 2.06, 2.07,

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/COM,

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

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MPTEMP

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

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

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```

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

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

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

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

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

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

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

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

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```

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,

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

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

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```

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

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

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

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```

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

```

```

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

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```

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

```

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

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

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```

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

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

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

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```

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

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

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

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```

/COM,

```

```

Define K and C for material 12

```

```

MPTEMP

```

```

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

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```

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

```

```

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

```

```

/COM,

```

```

Define K and C for material 13

```

```

MPTEMP

```

```

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

```

```

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

```

```

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

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```

/COM,

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/COM,

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** End of Material Property List **

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/COM,

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/NOPR

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40 BWR MPC/Waste Package - 1/2 FEM Model

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40 BWR MPC/Waste Package - 1/2 FEM Model

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40 BWR MPC/Waste Package - Radiation Matrix

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*SET,WPTOP ( 35, 1, 1), 78.01829579992
*SET,WPTOP ( 36, 1, 1), 76.48210707309
*SET,WPTOP ( 37, 1, 1), 75.15509973672
*SET,WPTOP ( 38, 1, 1), 74.03712992713
*SET,WPVOL , 11.04426111677
*SET,WPWLL , .10000000000000
*SET,XXX , 1.734935157290
*SET,YYY , -1.6630000000000
/GOPR
```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ma40x1
 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 03/31/1995
 3 /COM, 2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz
 4 /COM, *****
 5 /COM, *
 6 /COM, * File name: ma40x1.inp
 7 /COM, * 40 3WR MPC 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 (check for Changes)
 13 /COM, * GE-7 8x8 SNF Assembly
 14 /COM, *
 15 /COM, * SNF Heat Loads file: bwr1049.dat
 16 /COM, * SNF Type: 10 years old, 49 Gwd/MTU
 17 /COM, *
 18 /COM, * Surface Temp. file: c21x5a.parm *

```

19 /COM, *      100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 22.5 m *
22 /COM, *      WP c/c spacing = 16.165 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Define Transient time parameters
33 /COM, TM_START = start time (sec)
34 /COM, TMI* = time increment for solution (sec)
35 /COM, TME* = start and stop for time do-loops (sec)
36 /COM, Note: 1 year = 3.15576e7 seconds
37 /COM, TMTMAX = time of maximum cladding temperature
38 TM_START=(1.0E-6)*(3.15576E7)
39 TMI0=0.1*3.15576E7
40 TMI1=1.0*3.15576E7
41 TMI10=10.0*3.15576E7
42 TMI100=100.0*3.15576E7
43 TMI1000=1000.0*3.15576E7
44 TME0=0.9*3.15576E7+TM_START
45 TME1=TMI1+TM_START
46 TME9=9.0*3.15576E7+TM_START
47 TME10=TMI10+TM_START
48 TME50=50.0*3.15576E7+TM_START
49 TME90=90.0*3.15576E7+TM_START
50 TME100=TMI100+TM_START
51 TME1000=TMI1000+TM_START
52 /COM, *****
53 /COM, *****
54 /COM, Read in average effective conductivities from SNF model
55 PARRES,CHANGE,pwr15e,parm,
56 /COM, Read in surface temps. from repository model
57 PARRES,CHANGE,c21x5a,parm,
58 /COM, *****
59 /COM, Define MPC/waste package parameters
60 /COM, (MPC dimensions converted from inches to meters)
61 /COM, Required Constants:
62 /COM,
63 PI=3.141592654
64 /COM,
65 /COM, Required container wall parameters:
66 /COM, MIRAD = inner radius of MPC shell (m)
67 /COM, MWALL = MPC shell thickness (m)
68 /COM, DCRAD = disposal container outer radius (m)
69 /COM, OWALL = outer barrier thickness (m)
70 /COM, IWALL = inner barrier thickness (m)
71 MIRAD=58.300*2.54/100.0/2.0
72 MWALL=1.0000*2.54/100.0
73 DCRAD=1.8016/2.0
74 OWALL=0.1000
75 IWALL=0.0200
76 /COM,
77 /COM, Required outer guide hardware parameters:
78 /COM, Set 1: TPGPL = top/bottom guide plate length (m)
79 /COM, TPGPT = top/bottom guide plate thickness (m)
80 TPGPL=6.3240*2.54/100.0
81 TPGPT=0.2500*2.54/100.0
82 /COM,
83 /COM, Set 2: SGCCW = Width; corner guide to far corner side guide (m)
84 /COM, SGCMW = Width; Side guide corner to Middle side guide (m)
85 /COM, SGCD1 = Vert. Dist. Down to Corner of Guide (m)
86 SGCCW=21.132*2.54/100.0
87 SGCMW=6.7810*2.54/100.0
88 SGCD1=6.9790*2.54/100.0

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89 /COM,
90 /COM,      SET 3:      GCORV = corner guide Vertical width (m)
91 /COM,      GCORH = corner guide Horizontal width (m)
92 /COM,      GX32 = X coord. of upper contact from drawing. (m)
93 /COM,      GY32 = Y coord. of upper contact from drawing. (m)
94 GCORV=7.7600*2.54/100.0
95 GCORH=6.7160*2.54/100.0
96 GX32=18.66137525*2.54/100.0
97 GY32=22.39365030*2.54/100.0
98 /COM,
99 /COM,      SET 4:      GLEN1 = side guide Low width (m)
100 /COM,      GLEN2 = side guide High width (m)
101 /COM,      GLENT = side guide total width (m)
102 /COM,      GWALL = guide thickness (m)
103 GLEN1=6.7290*2.54/100.0
104 GLEN2=13.937*2.54/100.0
105 GLENT=28.866*2.54/100.0
106 GWALL=0.3750*2.54/100.0
107 /COM,
108 /COM,      Required Tube/Fuel parameters:
109 /COM,      HCELL = 1/2 of basket cell opening (m)
110 /COM,      SWALL = stainless tube thickness (m)
111 /COM,      AWALL = Al/boron tube thickness (m)
112 /COM,      TWALL = stainless tube cladding thickness (m)
113 /COM,      ACTVL = active fuel length
114 /COM,      PEAKF = assembly heat axial peaking factor
115 HCELL=6.0000*2.54/100.0/2.0
116 SWALL=0.2500*2.54/100.0
117 AWALL=0.2500*2.54/100.0
118 TWALL=0.0940*2.54/100.0
119 ACTVL=150.00*2.54/100.0
120 PEAKF=1.40
121 /COM,
122 /COM,      *****
123 /COM,      Define calculated parameters
124 /COM,      ASSY = assembly heat production (W) f(yrs)
125 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
126 /COM,      FVOLU = assy_volume=cell_width^2*active_length
127 /COM,      PITCH = basket cell outer width (m)
128 /COM,      QCELL = 1/4 of basket cell opening (m)
129 /COM,      SCELL = 1/2 of basket cell opening+SS wall(m)
130 /COM,      ACELL = 1/2 of basket cell opening+SS+AL (m)
131 /COM,      ATWCL = Dist. to edge of B-AL plate (m)
132 /COM,      STWCL = Dist. to edge of Steel Bask. Plate (m)
133 /COM,      TQPCL = Top quarter of cell dist. (m)
134 *SET,ASSY,
135 *DIM,ASSY, TABLE,101,1,
136 *DIM,FUEL, TABLE,101,1
137 FVOLU=4*HCELL*HCELL*ACTVL
138 PITCH=(HCELL+SWALL+AWALL+TWALL)*2.0
139 QCELL=HCELL/2.0
140 SCELL=HCELL+SWALL
141 ACELL=HCELL+SWALL+AWALL
142 ATWCL=TWALL+AWALL
143 STWCL=TWALL+AWALL+SWALL
144 TQPCL=STWCL+QCELL
145 /COM,
146 /COM,      *****
147 /COM,      Determine the required contact points for the outer guide hardware
148 /COM,      GX## = x coord. of guide/shell contact
149 /COM,      GY## = y coord. of guide/shell contact
150 /COM,      Set 1:
151 GX11=TPGPL/2.0
152 GY11=SQRT(MIRAD*MIRAD - GX11*GX11)
153 /COM,
154 /COM,      Set 3:
155 GX31=GX32+GCORH-GWALL
156 GY31=GY32-GCORV+GWALL
157 /COM,
158 /COM,      Set 2:

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159 GX24=GX31-SGCCW
160 GY24=SQRT(MIRAD*MIRAD-GX24*GX24)
161 GX23=GX24+GWALL
162 GY23=SQRT(MIRAD*MIRAD-GX23*GX23)
163 GX22=GX24+SGCMW
164 GY22=SQRT(MIRAD*MIRAD-GX22*GX22)
165 GX21=GX22+GWALL
166 GY21=SQRT(MIRAD*MIRAD-GX21*GX21)
167 /COM,
168 /COM,      Set 4:
169 GY41=GWALL/2.0
170 GX41=SQRT(MIRAD*MIRAD - GY41*GY41)
171 GY44=GY41+GLEN2
172 GX44=SQRT(MIRAD*MIRAD - GY44*GY44)
173 GY43=GY44-GLEN1
174 GX43=SQRT(MIRAD*MIRAD - GY43*GY43)
175 GY42=GY43-GWALL
176 GX42=SQRT(MIRAD*MIRAD - GY42*GY42)
177 /COM,
178 /COM,      Define 45 degree point of reference:
179 /COM,      MI45 = x coord. MIRAD at 45 deg.
180 /COM,      MO45 = x coord. MIRAD+MWALL at 45 deg.
181 /COM,      DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
182 /COM,      DM45 = x coord. DCRAD-OWALL at 45 deg.
183 /COM,      DO45 = x coord. DCRAD at 45 deg.
184 /COM,      OFFS = 45 degree Y off set to go through centers
185 MI45=MIRAD/SQRT(2.0)
186 MO45=(MIRAD+MWALL)/SQRT(2.0)
187 DI45=(DCRAD-OWALL-IWALL)/SQRT(2.0)
188 DM45=(DCRAD-OWALL)/SQRT(2.0)
189 DO45=DCRAD/SQRT(2.0)
190 OFFS=0.5*PITCH
191 /COM,
192 /COM,      *****
193 /COM,      Define different element types
194 /PREP7
195 ETYPE
196 ET, 1,55,
197 ET, 2,70,
198 ET, 7,32,
199 ET, 16,57,
200 ET, 17,32,
201 ET, 18,50,1,
202 ET, 19,31,
203 ET, 27,32,
204 /COM,      *****
205 /COM,      File props01.dat describes material properties
206 /COM,      and thier reference numbers
207 MPRD,props01.dat,
208 /COM,      Read in single assembly heat loads
209 /COM,      Calculate the volumetric heat generation
210 /COM,      (Assembly time is in years, FUEL is in seconds)
211 /INPUT,bwr1049.dat
212 *VFACT,3.15576E7,
213 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
214 *VFACT,(PEAKF/FVOLUME),
215 *VFUN,FUEL(1),COPY,ASSY(1),
216 FUEL(0,1)=1.0
217 /COM,      *****
218 /COM,      Define new material 14 for SNF effective conductivity
219 /COM,      Density:      DENS      (kg/m^3)
220 /COM,      Conductivity: KXX      (W/m/K)
221 /COM,      Specific Heat: C      (J/kg/K)
222 MPTMP
223 MPTMP, 1, .00000E+00,
224 MPDATA,DENS,14, 1, .388242E+04,
225 MPDATA, C,14, 1, .28401E+03,
226 /COM,      Store average effective conductivities
227 IINC=1
228 TBSKT=25.0

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229 MPTMP
230 MPTMP,IINC,TBSKT,
231 IINC=IINC+1
232 *DO,TBSKT,50.0,400.0,50.0,
233     MPTMP,IINC,TBSKT,
234     IINC=IINC+1
235 *ENDDO
236 IINC=1
237 TBSKT=25.0
238 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
239 IINC=IINC+1
240 *DO,TBSKT,50.0,400.0,50.0,
241     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
242     IINC=IINC+1
243 *ENDDO
244 /COM, *****
245 /COM, Construct geometry for Disposal Container
246 /COM,
247 /COM, Define center and axis keypoints for waste package
248 /COM, Also, create placeholder keypoints and lines
249 /COM, (K's 1,2,3,4,5,6,7,8)
250 /COM, (L's 1,2,3,4)
251 K,1,0.0,0.0,0.0,
252 K,2,0.0,0.0,1.0,
253 K,3,0.0,0.0,1.3,
254 K,4,0.0,0.0,1.4,
255 K,5,0.0,0.0,1.5,
256 K,6,0.0,0.0,1.6,
257 K,7,0.0,0.0,1.7,
258 K,8,0.0,0.0,1.8,
259 L,3,4,
260 L,4,5,
261 L,5,6,
262 L,6,7,
263 /COM, Define disposal container and MPC outer radius
264 /COM, (K's 9,10,11,12,13,14,15,16,17,18,19,20)
265 /COM, (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
266 /COM, (A's 1,2,3,4,5)
267 K,9,0.0,(0.0-DCRAD),0.0,
268 K,10,DCRAD,0.0,0.0,
269 K,11,0.0,DCRAD,0.0,
270 K,12,0.0,(OWALL-DCRAD),0.0,
271 K,13,(DCRAD-OWALL),0.0,0.0,
272 K,14,0.0,(DCRAD-OWALL),0.0,
273 K,15,0.0,(OWALL+IWALL-DCRAD),0.0,
274 K,16,(DCRAD-OWALL-IWALL),0.0,0.0,
275 K,17,0.0,(DCRAD-OWALL-IWALL),0.0,
276 K,18,0.0,(0.0-MIRAD-MWALL),0.0,
277 K,19,(MIRAD+MWALL),0.0,0.0,
278 K,20,0.0,(MIRAD+MWALL),0.0,
279 L,10,13,
280 L,13,16,
281 LARC,10,9,1,DCRAD,
282 LARC,11,10,1,DCRAD,
283 LARC,13,12,1,(DCRAD-OWALL),
284 LARC,14,13,1,(DCRAD-OWALL),
285 L,11,14,
286 L,9,12,
287 LARC,15,16,1,(DCRAD-OWALL-IWALL),
288 LARC,16,17,1,(DCRAD-OWALL-IWALL),
289 L,14,17,
290 L,12,15,
291 LARC,19,18,1,(MIRAD+MWALL),
292 LARC,20,19,1,(MIRAD+MWALL),
293 L,17,20,
294 L,15,18,
295 AL,5,7,12,9,
296 AL,11,8,5,10,
297 AL,6,9,16,13,
298 AL,15,10,6,14,

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299 AL,19,14,13,20,17,18,
300 /COM, *****
301 /COM, Define MPC shell inner edge and area
302 /COM, (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
303 /COM, ( 38, 39, 40, 41, 42, 43, 44)
304 /COM, (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
305 /COM, ( 38,39, 40, 41, 42, 43, 44, 45)
306 /COM, (A's 6)
307 K,21, 0.0, MIRAD,0.0,
308 K,22, GX11, GY11,0.0,
309 K,23, GX24, GY24,0.0,
310 K,24, GX23, GY23,0.0,
311 K,25, GX22, GY22,0.0,
312 K,26, GX21, GY21,0.0,
313 K,27, GX32, GY32,0.0,
314 K,28, GX31, GY31,0.0,
315 K,29, GX44, GY44,0.0,
316 K,30, GX43, GY43,0.0,
317 K,31, GX42, GY42,0.0,
318 K,32, GX41, GY41,0.0,
319 K,33, GX41, (0.0-GY41),0.0,
320 K,34, GX42, (0.0-GY42),0.0,
321 K,35, GX43, (0.0-GY43),0.0,
322 K,36, GX44, (0.0-GY44),0.0,
323 K,37, GX31, (0.0-GY31),0.0,
324 K,38, GX32, (0.0-GY32),0.0,
325 K,39, GX21, (0.0-GY21),0.0,
326 K,40, GX22, (0.0-GY22),0.0,
327 K,41, GX23, (0.0-GY23),0.0,
328 K,42, GX24, (0.0-GY24),0.0,
329 K,43, GX11, (0.0-GY11),0.0,
330 K,44, 0.0,(0.0-MIRAD),0.0,
331 L,20,21,
332 LARC,22,21,1,MIRAD,
333 LARC,23,22,1,MIRAD,
334 LARC,24,23,1,MIRAD,
335 LARC,25,24,1,MIRAD,
336 LARC,26,25,1,MIRAD,
337 LARC,27,26,1,MIRAD,
338 LARC,28,27,1,MIRAD,
339 LARC,29,28,1,MIRAD,
340 LARC,30,29,1,MIRAD,
341 LARC,31,30,1,MIRAD,
342 LARC,32,31,1,MIRAD,
343 LARC,33,32,1,MIRAD,
344 LARC,34,33,1,MIRAD,
345 LARC,35,34,1,MIRAD,
346 LARC,36,35,1,MIRAD,
347 LARC,37,36,1,MIRAD,
348 LARC,38,37,1,MIRAD,
349 LARC,39,38,1,MIRAD,
350 LARC,40,39,1,MIRAD,
351 LARC,41,40,1,MIRAD,
352 LARC,42,41,1,MIRAD,
353 LARC,43,42,1,MIRAD,
354 LARC,44,43,1,MIRAD,
355 L,18,44,
356 LSEL,S,LINE,,21,45,
357 LSEL,A,LINE,,17,18,
358 AL,ALL,
359 LSEL,ALL,
360 /COM, *****
361 /COM, Define tube guides
362 /COM, (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
363 /COM, ( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
364 /COM, ( 79,80,81,82)
365 /COM, (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
366 /COM, ( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
367 /COM, ( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
368 /COM, ( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)

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369 /COM,      ( 111,112,113,114,115)
370 /COM,      (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
371 /COM,      ( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)
372 /COM,
373 /COM,      Set 1: top plate
374 K,45,      GX11,      (GY11-GWALL),0.0,
375 K,46,      0.0,      GY11,0.0,
376 K,47,      0.0,      (GY11-GWALL),0.0,
377 /COM,
378 /COM,      Set 2: top side guide
379 K,48,      GX24,      (GY24-SGCD1),0.0,
380 K,49,      GX23,(GY24-SGCD1+GWALL),0.0,
381 K,50,      GX22,(GY24-SGCD1+GWALL),0.0,
382 K,51,      GX21,(GY24-SGCD1+GWALL),0.0,
383 K,52,(GX32-GWALL),(GY24-SGCD1+GWALL),0.0,
384 K,53,(GX32-GWALL),      (GY24-SGCD1),0.0,
385 K,54,      GX32,(GY24-SGCD1+GWALL),0.0,
386 K,55,      GX32,      (GY24-SGCD1),0.0,
387 /COM,
388 /COM,      Set 3: top corner
389 K,56,(GX32-GWALL),      GY32,0.0,
390 K,57,(GX32-GWALL),      (GY32-GCORV),0.0,
391 K,58,      GX32,(GY32-GCORV+GWALL),0.0,
392 K,59,      GX31,      (GY31-GWALL),0.0,
393 /COM,
394 /COM,      Set 4: side guide
395 K,60,(GX44-GWALL),      GY44,0.0,
396 K,61,(GX44-GWALL),      (0.0-GY44),0.0,
397 K,62,      GX44,      GY43,0.0,
398 K,63,      GX44,      GY42,0.0,
399 K,64,      GX44,      GY41,0.0,
400 K,65,      GX44,      (0.0-GY41),0.0,
401 K,66,      GX44,      (0.0-GY42),0.0,
402 K,67,      GX44,      (0.0-GY43),0.0,
403 /COM,
404 /COM,      Set 3: bottom corner
405 K,68,(GX32-GWALL),      (0.0-GY32),0.0,
406 K,69,(GX32-GWALL),      (0.0-GY32+GCORV),0.0,
407 K,70,      GX32,(0.0-GY32+GCORV-GWALL),0.0,
408 K,71,      GX31,      (0.0-GY31+GWALL),0.0,
409 /COM,
410 /COM,      Set 2: bottom side guide
411 K,72,      GX24,      (0.0-GY24+SGCD1),0.0,
412 K,73,      GX23,(0.0-GY24+SGCD1-GWALL),0.0,
413 K,74,      GX22,(0.0-GY24+SGCD1-GWALL),0.0,
414 K,75,      GX21,(0.0-GY24+SGCD1-GWALL),0.0,
415 K,76,(GX32-GWALL),(0.0-GY24+SGCD1-GWALL),0.0,
416 K,77,(GX32-GWALL),      (0.0-GY24+SGCD1),0.0,
417 K,78,      GX32,(0.0-GY24+SGCD1-GWALL),0.0,
418 K,79,      GX32,      (0.0-GY24+SGCD1),0.0,
419 /COM,
420 /COM,      Set 1: bottom plate
421 K,80,      GX11,      (0.0-GY11+GWALL),0.0,
422 K,81,      0.0,      (0.0-GY11),0.0,
423 K,82,      0.0,      (0.0-GY11+GWALL),0.0,
424 /COM,
425 /COM,      Now Fill in the required lines:
426 /COM,      Set 1: bottom plate
427 L,21,46,
428 L,46,47,
429 L,46,22,
430 L,22,45,
431 L,45,47,
432 /COM,
433 /COM,      Set 2: top side guide
434 L,48,23,
435 L,48,49,
436 L,24,49,
437 L,49,50,
438 L,53,48,

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439 L,50,25,
440 L,26,51,
441 L,50,51,
442 L,51,52,
443 L,52,53,
444 /COM,
445 /COM, Set 3: top corner
446 L,56,27,
447 L,52,56,
448 L,27,54,
449 L,54,55,
450 L,52,54,
451 L,53,55,
452 L,55,58,
453 L,57,53,
454 L,57,58,
455 L,58,28,
456 L,59,57,
457 L,28,59,
458 /COM,
459 /COM, Set 4: side guide
460 L,60,29,
461 L,61,60,
462 L,29,62,
463 L,62,63,
464 L,62,30,
465 L,31,63,
466 L,63,64,
467 L,64,65,
468 L,64,32,
469 L,33,65,
470 L,65,66,
471 L,66,67,
472 L,66,34,
473 L,35,67,
474 L,67,36,
475 L,36,61,
476 /COM,
477 /COM, Set 3: bottom corner
478 L,37,71,
479 L,69,71,
480 L,69,70,
481 L,37,70,
482 L,70,79,
483 L,79,78,
484 L,78,38,
485 L,38,68,
486 L,68,76,
487 L,76,77,
488 L,77,69,
489 L,76,78,
490 L,77,79,
491 /COM,
492 /COM, Set 2: bottom side guide
493 L,72,77,
494 L,72,73,
495 L,76,75,
496 L,75,74,
497 L,74,73,
498 L,73,41,
499 L,42,72,
500 L,40,74,
501 L,75,39,
502 /COM,
503 /COM, Set 1: bottom plate
504 L,80,43,
505 L,82,80,
506 L,82,81,
507 L,43,81,
508 L,81,44,

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509 /COM,          Radiation/Back Fill Gas Gaps:
510 /COM,          Set 1: TOP
511 AL,46,48,22,
512 /COM,          Set 2: TOP
513 AL,25,53,54,56,
514 AL,27,57,59,62,61,
515 /COM,          Set 3: TOP
516 AL,28,63,64,67,70,
517 /COM,          Set 4: SIDE
518 AL,30,75,77,
519 AL,32,78,79,81,
520 AL,34,82,83,85,
521 AL,36,86,87,
522 /COM,          Set 3: BOTTOM
523 AL,38,92,93,94,95,
524 /COM,          Set 2: BOTTOM
525 AL,39,96,97,104,110,
526 AL,41,109,106,107,
527 /COM,          Set 1: BOTTOM
528 AL,44,114,115,
529 /COM,          SOLID GUIDES:
530 /COM,          Set 1: TOP
531 AL,47,48,49,50,
532 /COM,          Set 2: TOP
533 AL,24,51,52,53,
534 AL,52,55,60,59,58,54,
535 AL,26,56,58,57,
536 /COM,          Set 3: TOP
537 AL,61,62,65,63,
538 AL,65,60,66,64,
539 AL,66,68,69,67,
540 AL,70,69,71,72,
541 /COM,          Set 4: SIDE
542 AL,73,74,88,87,84,83,80,79,76,75,
543 AL,31,77,76,78,
544 AL,33,81,80,82,
545 AL,35,85,84,86,
546 /COM,          Set 3: BOTTOM
547 AL,89,90,91,92,
548 AL,91,93,101,99,
549 AL,101,94,100,98,
550 AL,100,95,96,97,
551 /COM,          Set 2: BOTTOM
552 AL,102,98,104,105,106,103,
553 AL,40,110,105,109,
554 AL,42,107,103,108,
555 /COM,          Set 1: BOTTOM
556 AL,111,112,113,114,
557 /COM,          *****
558 /COM,          Define center edge half-tube
559 /COM,          (K's 83,84,85,86,87,88,89,90,91,92,93,94)
560 /COM,          (L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
561 /COM,          ( 129,130,131,132,133)
562 /COM,          (A's 39,40,41,42,43,44,45)
563 K,83,          0.0,          TWALL,0.0,
564 K,84,          0.0,          (AWALL+TWALL),0.0,
565 K,85,          0.0,          (AWALL+SWALL+TWALL),0.0,
566 K,86,          0.0,          (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
567 K,87,          0.0,          (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
568 K,88,          0.0,          (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
569 K,89,          (AWALL+SWALL+HCELL),          TWALL,0.0,
570 K,90,          (SWALL+HCELL),          (AWALL+TWALL),0.0,
571 K,91,          HCELL,          (SWALL+AWALL+TWALL),0.0,
572 K,92,          (AWALL+SWALL+HCELL),          (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
573 K,93,          (SWALL+HCELL),          (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
574 K,94,          HCELL,          (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
575 L,83,84,
576 L,84,85,
577 L,86,87,
578 L,87,88,

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579 L,89,83,
580 L,84,90,
581 L,85,91,
582 L,86,94,
583 L,87,93,
584 L,88,92,
585 L,90,89,
586 L,91,90,
587 L,94,93,
588 L,93,92,
589 L,85,86,
590 L,91,94,
591 L,90,93,
592 L,89,92,
593 AL,130,123,131,122,
594 AL,116,121,126,120,
595 AL,117,122,127,121,
596 AL,118,124,128,123,
597 AL,119,125,129,124,
598 AL,131,128,132,127,
599 AL,132,129,133,126,
600 /COM, *****
601 /COM, Define center full-tube
602 /COM, (K's 95,96,97,98,99,100,101,102,103,104,105,106)
603 /COM, (L's 134,135,136,137,138,139,140,141,142,143,144,145)
604 /COM, ( 146,147,148,149,150,151,152,153)
605 /COM, (A's 46,47,48,49,50,51,52,53,54)
606 K,95, (PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
607 K,96, (PITCH+HCELL+SWALL+AWALL), TWALL,0.0,
608 K,97, (PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
609 K,98, (PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
610 K,99, (PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
611 K,100, (PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
612 K,101, (PITCH-HCELL),((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
613 K,102, (PITCH+HCELL),((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
614 K,103, (PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
615 K,104, (PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
616 K,105, (PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
617 K,106, (PITCH+HCELL+SWALL+AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
618 L,95,97,
619 L,97,99,
620 L,101,103,
621 L,103,105,
622 L,96,98,
623 L,98,100,
624 L,102,104,
625 L,104,106,
626 L,96,95,
627 L,97,98,
628 L,99,100,
629 L,101,102,
630 L,103,104,
631 L,105,106,
632 L,95,105,
633 L,97,103,
634 L,99,101,
635 L,100,102,
636 L,98,104,
637 L,106,96,
638 AL,144,151,145,150,
639 AL,142,138,143,134,
640 AL,143,139,144,135,
641 AL,145,140,146,136,
642 AL,146,141,147,137,
643 AL,148,134,149,137,
644 AL,149,135,150,136,
645 AL,151,139,152,140,
646 AL,152,138,153,141,
647 /COM, *****
648 /COM, Define edge half-tube

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649 /COM, (K's 107,108,109,110,111,112,113,114,115,116,117)
650 /COM, (L's 154,155,156,157,158,159,160,161,162,163,164,165)
651 /COM, ( 166,167,168,169)
652 /COM, (A's 55,56,57,58,59,60)
653 K,107, 0.0, (3.5*PITCH+HCELL),0.0,
654 K,108, HCELL, (3.5*PITCH+HCELL),0.0,
655 K,109, 0.0, (3.5*PITCH-HCELL),0.0,
656 K,110, HCELL, (3.5*PITCH-HCELL),0.0,
657 K,111, 0.0, (3.5*PITCH+HCELL+SWALL),0.0,
658 K,112, (HCELL+SWALL), (3.5*PITCH+HCELL+SWALL),0.0,
659 K,113, 0.0, (3.5*PITCH-HCELL-SWALL),0.0,
660 K,114, (HCELL+SWALL), (3.5*PITCH-HCELL-SWALL),0.0,
661 K,115, (HCELL+SWALL+AWALL), (3.5*PITCH+HCELL+SWALL),0.0,
662 K,116, 0.0, (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
663 K,117, (HCELL+SWALL+AWALL), (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
664 L,116,113,
665 L,113,109,
666 L,107,111,
667 L,114,117,
668 L,110,114,
669 L,112,115,
670 L,108,112,
671 L,116,117,
672 L,113,114,
673 L,109,110,
674 L,108,107,
675 L,111,112,
676 L,109,107,
677 L,110,108,
678 L,114,112,
679 L,115,117,
680 AL,166,163,167,164,
681 AL,161,157,162,154,
682 AL,162,158,163,155,
683 AL,164,160,165,156,
684 AL,167,158,168,160,
685 AL,168,157,169,159,
686 /COM, *****
687 /COM, Define edge full-tube
688 /COM, (K's 118,119,120,121,122,123,124,125,126,127,128,129)
689 /COM, (L's 170,171,172,173,174,175,176,177,178,179,180,181)
690 /COM, ( 182,183,184,185,186,187,188)
691 /COM, (A's 61,62,63,64,65,66,67,68)
692 K,118, (3.0*PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
693 K,119, (3.0*PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
694 K,120, (3.0*PITCH-HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
695 K,121, (3.0*PITCH+HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
696 K,122, (3.0*PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
697 K,123, (3.0*PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
698 K,124, (3.0*PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
699 K,125, (3.0*PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
700 K,126, (3.0*PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
701 K,127, (3.0*PITCH+HCELL+SWALL), TWALL,0.0,
702 K,128, (3.0*PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
703 K,129, (3.0*PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
704 L,122,126,
705 L,118,122,
706 L,120,124,
707 L,124,128,
708 L,123,127,
709 L,119,123,
710 L,121,125,
711 L,129,125,
712 L,127,126,
713 L,122,123,
714 L,118,119,
715 L,120,121,
716 L,124,125,
717 L,128,129,
718 L,126,128,

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719 L,122,124,
720 L,118,120,
721 L,119,121,
722 L,125,123,
723 AL,180,187,181,186,
724 AL,178,174,179,170,
725 AL,179,175,180,171,
726 AL,181,176,182,172,
727 AL,182,177,183,173,
728 AL,184,170,185,173,
729 AL,185,171,186,172,
730 AL,187,175,188,176,
731 NUMMRG,KP,
732 /COM, *****
733 /COM,      Set element shapes and sizes for tubes
734 /COM,      8x8 mesh in fuel with 2
735 /COM,      divisions per tube layer
736 ESHAPE,2,
737 ESIZE,,1,
738 LSEL,S,LINE,,130,133,1,
739 LSEL,A,LINE,,142,153,1,
740 LSEL,A,LINE,,166,169,1,
741 LSEL,A,LINE,,178,188,1,
742 LESIZE,ALL,,, 8,
743 LSEL,S,LINE,,120,125,1,
744 LSEL,A,LINE,,161,165,1,
745 LESIZE,ALL,,, 4,
746 LSEL,S,LINE,,116,119,1,
747 LSEL,A,LINE,,126,129,1,
748 LSEL,A,LINE,,134,141,1,
749 LSEL,A,LINE,,154,160,1,
750 LSEL,A,LINE,,170,177,1,
751 LESIZE,ALL,,, 2,
752 LSEL,ALL,
753 /COM,
754 /COM,      Mesh areas
755 /COM,      first fuel, then stainless, then aluminum
756 MAT,14,
757 TYPE,1,
758 AMESH,39,
759 AMESH,46,
760 AMESH,55,
761 AMESH,61,
762 MAT, 1,
763 TYPE,1,
764 AMESH,41,42,1,
765 AMESH,44,
766 AMESH,48,49,1,
767 AMESH,52,53,1,
768 AMESH,57,59,1,
769 AMESH,63,64,1,
770 AMESH,67,68,1,
771 MAT,13,
772 TYPE,1,
773 AMESH,40,43,3,
774 AMESH,45,
775 AMESH,47,50,3,
776 AMESH,51,54,3,
777 AMESH,56,60,4,
778 AMESH,62,65,3,
779 AMESH,66,
780 /COM, *****
781 /COM,      Copy tube mesh
782 /COM,
783 /COM,      center half tube above and below
784 /COM,      (A's 69-75,76-82)
785 AGEN,3,39,45,1,0.0,PITCH,0.0,0,0,
786 /COM,      (A's 83-89,90-96,97-103)
787 AGEN,4,39,45,1,0.0,(0.0-PITCH),0.0,0,0,
788 /COM,

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789 /COM,          center fuel tube above and below
790 /COM,          (A's 104-112,113-121)
791 AGEN,3,46,54,1,0.0,PITCH,0.0,0,0,
792 /COM,          (A's 122-130,131-139,140-148)
793 AGEN,4,46,54,1,0.0,(0.0-PITCH),0.0,0,0,
794 /COM,          (A's 149-157)
795 AGEN,2,46,54,1,PITCH,0.0,0,0,0,
796 /COM,          (A's 158-166,167-175)
797 AGEN,3,149,157,1,0.0,PITCH,0.0,0,0,
798 /COM,          (A's 176-184,185-193,194-202)
799 AGEN,4,149,157,1,0.0,(0.0-PITCH),0.0,0,0,
800 /COM,
801 /COM,          side edge fuel tube above and below
802 /COM,          (A's 203-210)
803 AGEN,2,61,68,1,0.0,PITCH,0.0,0,0,
804 /COM,          (A's 211-218,219-226)
805 AGEN,3,61,68,1,0.0,(0.0-PITCH),0.0,0,0,
806 /COM,
807 /COM,          edge half tube bottom (13)
808 /COM,          (A's 227-232)
809 ARSYM,Y,55,60,1,0,0,0,
810 /COM,          *****
811 /COM,          Define thin stainless layers
812 /COM,          (K's 380,381,382,383,384,385,386,387,388,389, through 397)
813 /COM,          (A's 233 - 301)
814 K,380,          (0.5*PITCH),          (3.5*PITCH+HCELL+SWALL),0.0,
815 K,381,          (0.5*PITCH),          (3.0*PITCH),0.0,
816 K,382,          (0.5*PITCH),          (3.0*PITCH+TWALL),0.0,
817 K,383,          (0.5*PITCH+TWALL),      (3.0*PITCH),0.0,
818 K,384,          (1.5*PITCH-TWALL),      (3.0*PITCH),0.0,
819 K,385,          (1.5*PITCH+TWALL),      (3.0*PITCH),0.0,
820 K,386,          (2.5*PITCH),          (3.0*PITCH),0.0,
821 K,387,          (2.5*PITCH),          (2.0*PITCH),0.0,
822 K,388,          (2.5*PITCH),          (2.0*PITCH+TWALL),0.0,
823 K,389,          (2.5*PITCH+TWALL),      (2.0*PITCH),0.0,
824 K,390,(3.0*PITCH+HCELL+SWALL),          (2.0*PITCH),0.0,
825 /COM,
826 K,391,(3.0*PITCH+HCELL+SWALL),          (-2.0*PITCH),0.0,
827 K,392,          (2.5*PITCH+TWALL),      (-2.0*PITCH),0.0,
828 K,393,          (2.5*PITCH),          (-2.0*PITCH-TWALL),0.0,
829 K,394,          (2.5*PITCH),          (-2.0*PITCH),0.0,
830 K,395,          (2.5*PITCH),          (-3.0*PITCH),0.0,
831 K,396,          (1.5*PITCH+TWALL),      (-3.0*PITCH),0.0,
832 K,397,          (1.5*PITCH-TWALL),      (-3.0*PITCH),0.0,
833 K,398,          (0.5*PITCH+TWALL),      (-3.0*PITCH),0.0,
834 K,399,          (0.5*PITCH),          (-3.0*PITCH-TWALL),0.0,
835 K,400,          (0.5*PITCH),          (-3.0*PITCH),0.0,
836 K,401,          (0.5*PITCH),          (-3.5*PITCH-HCELL-SWALL),0.0,
837 /COM,
838 A,152,116,117,153,
839 A,117,382,381,153,
840 A,381,383,213,153,
841 A,117,115,380,382,
842 A,153,213,207,149,
843 A,213,383,384,212,
844 A,212,384,385,285,
845 A,285,385,386,284,
846 A,212,285,279,206,
847 A,284,386,388,278,
848 A,278,388,387,272,
849 A,272,387,389,333,
850 A,272,333,327,266,
851 A,333,389,390,332,
852 A,278,272,273,279,
853 A,206,279,273,200,
854 A,200,273,267,194,
855 A,200,206,207,201,
856 A,141,149,207,201,
857 A,141,201,195,137,
858 A,141,149,146,140,

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859 A, 88,134,137, 92,
860 A, 92,137,195,105,
861 A, 92,105, 95, 89,
862 A,105,195,194,106,
863 A,106,194,267,261,
864 A,106,261,255, 96,
865 A,261,267,266,260,
866 A,260,266,327,128,
867 A,260,128,126,254,
868 A,128,327,326,129,
869 A,296,254,126,345,
870 A,296,345,339,290,
871 A,345,126,127,344,
872 A,296,254,255,297,
873 A,224, 96,255,297,
874 A,224,297,291,218,
875 A,224, 96, 95,225,
876 A,165, 89, 95,225,
877 A,165, 89, 83,164,
878 A,165,225,219,161,
879 A,177,161,219,237,
880 A,177,161,158,176,
881 A,177,237,231,173,
882 A,237,219,218,236,
883 A,236,218,291,309,
884 A,236,309,303,230,
885 A,309,291,290,308,
886 A,308,290,339,357,
887 A,308,357,351,302,
888 A,357,339,338,356,
889 A,350,391,392,351,
890 A,351,392,394,302,
891 A,302,394,393,320,
892 A,320,393,395,314,
893 A,320,302,303,321,
894 A,248,230,303,321,
895 A,248,321,315,242,
896 A,248,230,231,249,
897 A,189,173,231,249,
898 A,189,173,170,188,
899 A,189,249,243,185,
900 A,243,398,400,185,
901 A,185,400,399,363,
902 A,363,185,182,362,
903 A,363,399,401,368,
904 A,398,243,242,397,
905 A,242,315,396,397,
906 A,315,314,395,396,
907 MAT,1,
908 TYPE,1,
909 ESHAPE,2,
910 AMESH,233,301,1,
911 NUMMRG,NODE,
912 NUMMRG,KP,
913 /COM, *****
914 /COM,          Create mesh in tube guides
915 /COM,          (L's 686,687,688)
916 ESIZE,,2,
917 LESIZE,47,,, 2,
918 LESIZE,48,,, 4,
919 LESIZE,49,,, 2,
920 LESIZE,50,,, 4,
921 LESIZE,51,,, 13,
922 LESIZE,52,,, 2,
923 LESIZE,53,,, 13,
924 LESIZE,54,,, 8,
925 LESIZE,55,,, 18,
926 LESIZE,56,,, 13,
927 LESIZE,57,,, 13,
928 LESIZE,58,,, 2,

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929 LESIZE,59,,, 8,
930 LESIZE,60,,, 2,
931 LESIZE,61,,, 2,
932 LESIZE,62,,, 1,
933 LESIZE,63,,, 1,
934 LESIZE,64,,, 2,
935 LESIZE,65,,, 2,
936 LESIZE,66,,, 2,
937 LESIZE,67,,, 9,
938 LESIZE,68,,, 9,
939 LESIZE,69,,, 2,
940 LESIZE,70,,, 13,
941 LESIZE,71,,, 13,
942 LESIZE,72,,, 2,
943 LESIZE,73,,, 2,
944 LESIZE,74,,, 38,
945 LESIZE,75,,, 8,
946 LESIZE,76,,, 2,
947 LESIZE,77,,, 4,
948 LESIZE,78,,, 4,
949 LESIZE,79,,, 8,
950 LESIZE,80,,, 2,
951 LESIZE,81,,, 4,
952 LESIZE,82,,, 4,
953 LESIZE,83,,, 8,
954 LESIZE,84,,, 2,
955 LESIZE,85,,, 4,
956 LESIZE,86,,, 4,
957 LESIZE,87,,, 8,
958 LESIZE,88,,, 2,
959 LESIZE,89,,, 2,
960 LESIZE,90,,, 13,
961 LESIZE,91,,, 2,
962 LESIZE,92,,, 13,
963 LESIZE,93,,, 9,
964 LESIZE,94,,, 2,
965 LESIZE,95,,, 1,
966 LESIZE,96,,, 2,
967 LESIZE,97,,, 1,
968 LESIZE,98,,, 2,
969 LESIZE,99,,, 9,
970 LESIZE,100,,, 2,
971 LESIZE,101,,, 2,
972 LESIZE,102,,, 18,
973 LESIZE,103,,, 2,
974 LESIZE,104,,, 8,
975 LESIZE,105,,, 2,
976 LESIZE,106,,, 8,
977 LESIZE,107,,, 13,
978 LESIZE,108,,, 13,
979 LESIZE,109,,, 13,
980 LESIZE,110,,, 13,
981 LESIZE,111,,, 2,
982 LESIZE,112,,, 4,
983 LESIZE,113,,, 2,
984 LESIZE,114,,, 4,
985 LSEL,S,LINE,,58,59,1,
986 LSEL,A,LINE,,54,
987 LCCAT,ALL,
988 LSEL,S,LINE,,75,76,1,
989 LSEL,A,LINE,,79,80,1,
990 LSEL,A,LINE,,83,84,1,
991 LSEL,A,LINE,,87,
992 LCCAT,ALL,
993 LSEL,S,LINE,,104,106,1,
994 LCCAT,ALL,
995 LSEL,ALL,
996 MAT,1,
997 TYPE,1,
998 AMESH,19,38,1,
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999 /COM, *****
1000 /COM,          Create mesh in MPC shell
1001 /COM,          (L's 689,690,691)
1002 LESIZE,22,,, 4,
1003 LESIZE,23,,, 3,
1004 LESIZE,25,,, 8,
1005 LESIZE,27,,,15,
1006 LESIZE,28,,,12,
1007 LESIZE,29,,, 5,
1008 LESIZE,30,,,11,
1009 LESIZE,32,,, 8,
1010 LESIZE,34,,, 8,
1011 LESIZE,36,,,11,
1012 LESIZE,37,,, 5,
1013 LESIZE,38,,,12,
1014 LESIZE,39,,,15,
1015 LESIZE,41,,, 8,
1016 LESIZE,43,,, 3,
1017 LESIZE,44,,, 4,
1018 LSEL,S,LINE,,22,44,1,
1019 LCCAT,ALL,
1020 LSEL,ALL,
1021 LESIZE,17,,,73,
1022 LESIZE,18,,,73,
1023 LESIZE,21,,, 3,
1024 LESIZE,45,,, 3,
1025 LCCAT,17,18,
1026 ESHAPE,2,
1027 MAT,1,
1028 TYPE,1,
1029 AMESH,6,
1030 /COM,          Assume vacuum between shell and inner barrier
1031 LESIZE,14,,,73,
1032 LESIZE,13,,,73,
1033 LESIZE,19,,, 2,
1034 LESIZE,20,,, 2,
1035 LCCAT,14,13,
1036 ESHAPE,2,
1037 /COM,          No MAT,7,
1038 /COM,          No TYPE,1,
1039 /COM,          No AMESH,5,
1040 /COM,          Delete concatenated lines
1041 /COM,          (L's freed up 686,687,688,689,690,691)
1042 LDELE,686,691,1,
1043 /COM, *****
1044 /COM,          Create mesh in inner and outer barrier
1045 LSEL,S,LINE,,7,10,1,
1046 LESIZE,ALL,,,73,
1047 LSEL,ALL,
1048 LESIZE, 6,,, 3,
1049 LESIZE,15,,, 3,
1050 LESIZE,16,,, 3,
1051 LESIZE, 5,,, 3,
1052 LESIZE,11,,, 3,
1053 LESIZE,12,,, 3,
1054 MAT,2,
1055 TYPE,1,
1056 AMESH,3,4,1,
1057 MAT,3,
1058 TYPE,1,
1059 AMESH,1,2,1,
1060 /COM, *****
1061 /COM,          Create mesh in empty basket spaces
1062 ESIZE,0.1,
1063 LESIZE, 46,,, 1,
1064 LESIZE,115,,, 1,
1065 ESHAPE,0,
1066 MAT,7,
1067 TYPE,1,
1068 AMESH, 7,

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1069 ESHAPE,0,
1070 MAT,7,
1071 TYPE,1,
1072 AMESH, 8,11,1,
1073 ESHAPE,2,
1074 MAT,7,
1075 TYPE,1,
1076 AMESH,12,13,1,
1077 ESHAPE,0,
1078 MAT,7,
1079 TYPE,1,
1080 AMESH,14,16,1,
1081 ESHAPE,2,
1082 MAT,7,
1083 TYPE,1,
1084 AMESH,17,
1085 ESHAPE,0,
1086 MAT,7,
1087 TYPE,1,
1088 AMESH,18,
1089 /COM, *****
1090 /COM,          Define mesh and radiation surface elements for
1091 /COM,          tube/guides gap
1092 /COM,          (L's 686,687)
1093 /COM,          (A's 302)
1094 L,47,111,
1095 L,366,82,
1096 /COM,          Select lines around tubes
1097 LSEL,S,LINE,,686,
1098 LSEL,A,LINE,,165,
1099 LSEL,A,LINE,,159,
1100 LSEL,A,LINE,,580,
1101 LSEL,A,LINE,,581,
1102 LSEL,A,LINE,,575,
1103 LSEL,A,LINE,,577,
1104 LSEL,A,LINE,,583,
1105 LSEL,A,LINE,,585,
1106 LSEL,A,LINE,,588,
1107 LSEL,A,LINE,,591,
1108 LSEL,A,LINE,,593,
1109 LSEL,A,LINE,,596,
1110 LSEL,A,LINE,,600,
1111 LSEL,A,LINE,,601,
1112 LSEL,A,LINE,,512,
1113 LSEL,A,LINE,,517,
1114 LSEL,A,LINE,,506,
1115 LSEL,A,LINE,,624,
1116 LSEL,A,LINE,,177,
1117 LSEL,A,LINE,,188,
1118 LSEL,A,LINE,,174,
1119 LSEL,A,LINE,,629,
1120 LSEL,A,LINE,,531,
1121 LSEL,A,LINE,,536,
1122 LSEL,A,LINE,,525,
1123 LSEL,A,LINE,,652,
1124 LSEL,A,LINE,,550,
1125 LSEL,A,LINE,,555,
1126 LSEL,A,LINE,,544,
1127 LSEL,A,LINE,,653,
1128 LSEL,A,LINE,,654,
1129 LSEL,A,LINE,,656,
1130 LSEL,A,LINE,,658,
1131 LSEL,A,LINE,,661,
1132 LSEL,A,LINE,,685,
1133 LSEL,A,LINE,,684,
1134 LSEL,A,LINE,,682,
1135 LSEL,A,LINE,,673,
1136 LSEL,A,LINE,,675,
1137 LSEL,A,LINE,,679,
1138 LSEL,A,LINE,,680,

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1139 LSEL,A,LINE,,570,
1140 LSEL,A,LINE,,567,
1141 LSEL,A,LINE,,687,
1142 /COM,          Select lines around tube guides
1143 LSEL,A,LINE,,112,
1144 LSEL,A,LINE,,111,
1145 LSEL,A,LINE,, 43,
1146 LSEL,A,LINE,,108,
1147 LSEL,A,LINE,,102,
1148 LSEL,A,LINE,, 99,
1149 LSEL,A,LINE,, 90,
1150 LSEL,A,LINE,, 89,
1151 LSEL,A,LINE,, 37,
1152 LSEL,A,LINE,, 88,
1153 LSEL,A,LINE,, 74,
1154 LSEL,A,LINE,, 73,
1155 LSEL,A,LINE,, 29,
1156 LSEL,A,LINE,, 72,
1157 LSEL,A,LINE,, 71,
1158 LSEL,A,LINE,, 68,
1159 LSEL,A,LINE,, 55,
1160 LSEL,A,LINE,, 51,
1161 LSEL,A,LINE,, 23,
1162 LSEL,A,LINE,, 49,
1163 LSEL,A,LINE,, 50,
1164 /COM,          Define area
1165 AL,ALL,
1166 /COM,          Create radiation surface elements
1167 NSLL,S,1,
1168 MAT,1,
1169 TYPE,7,
1170 ESURF,
1171 LSEL,ALL,
1172 NSEL,ALL,
1173 /COM,          Mesh gap
1174 ESHAPE,0,
1175 LESIZE,686,,,1,
1176 LESIZE,687,,,1,
1177 MAT,7,
1178 TYPE,1,
1179 AMESH,302,
1180 ESHAPE,2,
1181 /COM,          *****
1182 /COM,          Create other radiation surface elements
1183 /COM,          Basket spaces
1184 MAT,1,
1185 TYPE,17,
1186 LMESH,22,
1187 LMESH,25,27,2,
1188 LMESH,28,38,2,
1189 LMESH,39,41,2,
1190 LMESH,44,
1191 LMESH,46,48,2,
1192 LMESH,53,54,1,
1193 LMESH,56,57,1,
1194 LMESH,59,
1195 LMESH,61,64,1,
1196 LMESH,67,70,3,
1197 LMESH,75,
1198 LMESH,77,79,1
1199 LMESH,81,83,1,
1200 LMESH,85,87,1,
1201 LMESH,92,97,1,
1202 LMESH,104,
1203 LMESH,106,107,1,
1204 LMESH,109,110,1,
1205 LMESH,114,115,1,
1206 /COM,          MPC shell/inner barrier gap
1207 MAT,1,
1208 TYPE,27,

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1209 LMESH,17,18,1,
1210 MAT,2,
1211 TYPE,27,
1212 LMESH,13,14,1,
1213 FINISH
1214 /COM, *****
1215 /COM, Create element mesh plots to illustrate model
1216 /COM, View mesh for entire model
1217 /RESET
1218 /TRIAD,OFF,
1219 /NUM, 1,
1220 /PNUM,MAT, 1,
1221 /TYPE,HIDP,
1222 /GLINE,,0,
1223 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1224 /TITLE, 40 BWR MPC/Waste Package - 1/2 FEM Model
1225 /SHOW,meshfull,grph,1,8,
1226 EPlot
1227 ESEL,U,MAT,, 7,
1228 /SHOW,meshgap,grph,1,8,
1229 EPlot
1230 /COM, View mesh for radiation substructure
1231 /PNUM,MAT, 0,
1232 /PNUM,TYPE, 1,
1233 ESEL,S,TYPE,, 7,
1234 ESEL,A,TYPE,,17,
1235 ESEL,A,TYPE,,27,
1236 /TITLE, 40 BWR MPC/Waste Package - Radiation Matrix
1237 /SHOW,meshrad,grph,1,8,
1238 EPlot
1239 ESEL,ALL,
1240 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
1241 /COM, *****
1242 /COM, Generate super-elements
1243 /AUX12,
1244 ESEL,S,TYPE,,7,
1245 NSLE,S,
1246 STEF,5.67E-8,
1247 GEOM,1,0,
1248 VTYPE,0,800,
1249 WRITE,tubegap,
1250 ESEL,S,TYPE,,17,
1251 NSLE,S,
1252 STEF,5.67E-8,
1253 GEOM,1,0,
1254 VTYPE,0,800,
1255 WRITE,spaces,
1256 ESEL,S,TYPE,,27,
1257 NSLE,S,
1258 STEF,5.67E-8,
1259 GEOM,1,0,
1260 VTYPE,0,800,
1261 WRITE,shellgap,
1262 ESEL,ALL,
1263 NSEL,ALL,
1264 FINISH
1265 /PREP7,
1266 TYPE,18,
1267 SE,tubegap,
1268 SE,spaces,
1269 SE,shellgap,
1270 /COM, Delete radiation edge elements
1271 ESEL,S,TYPE,,7,
1272 EDELE,ALL,
1273 ESEL,ALL,
1274 LSEL,S,TYPE,,17,
1275 LSEL,A,TYPE,,27,
1276 LCLEAR,ALL,
1277 LSEL,ALL,
1278 FINISH

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1279 /COM, *****
1280 /COM,      Set solution parameters and apply B.C.'s
1281 /COM,
1282 /COM,      Solve steady-state for initial conditions
1283 /COM,      with WP surface equal to drift ambient
1284 /COM,      temperature from repository model.
1285 /SOLU
1286 ANTYPE,TRAN,NEW,
1287 NROPT,AUTO,
1288 TRNOPT,FULL,
1289 TOFFST,273.15,
1290 LSEL,S,LINE,,7,
1291 LSEL,A,LINE,,8,
1292 NSLL,S,1,
1293 D,ALL,TEMP,DFAMBT,
1294 LSEL,ALL,
1295 NSEL,ALL,
1296 ASEL,S,MAT,,14,
1297 ESLA,S,
1298 BFE,ALL,HGEN,,(FUEL(TM_START)),
1299 ASEL,ALL,
1300 ESEL,ALL,
1301 TIMINT,OFF,
1302 TIME,1e-6,
1303 AUTOTS,ON,
1304 KBC,0,
1305 SOLVE
1306 /COM,      Solve steady-state for initial conditions
1307 /COM,      with WP surface temperatures from repository
1308 /COM,      steady-state solution.
1309 LSEL,S,LINE,,7,
1310 LSEL,A,LINE,,8,
1311 NSLL,S,1,
1312 DDELE,ALL,TEMP,
1313 LSEL,ALL,
1314 NSEL,ALL,
1315 DK,11,TEMP,(WPTOP(TM_START)),,1,
1316 DK,10,TEMP,(WPSID(TM_START)),,1,
1317 DK, 9,TEMP,(WPBOT(TM_START)),,1,
1318 ASEL,S,MAT,,14,
1319 ESLA,S,
1320 BFE,ALL,HGEN,,(FUEL(TM_START)),
1321 ASEL,ALL,
1322 ESEL,ALL,
1323 TIMINT,OFF,
1324 TIME,2e-6,
1325 AUTOTS,ON,
1326 KBC,0,
1327 SOLVE
1328 /COM, *****
1329 /COM,      Set time integration parameters
1330 TIMINT,ON,
1331 AUTOTS,ON,
1332 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
1333 NSUBST,10,40,4,ON
1334 /COM,      Begin Transient
1335 /COM,      Apply loads and solve for 0 to .9 years
1336 *DO,TM,TM_START,TME0,TM10
1337     TIME,TM,
1338     ASEL,S,MAT,,14,
1339     ESLA,S,
1340     BFE,ALL,HGEN,,(FUEL(TM)),
1341     ASEL,ALL
1342     ESEL,ALL
1343     DK,11,TEMP,(WPTOP(TM)),,1,
1344     DK,10,TEMP,(WPSID(TM)),,1,
1345     DK, 9,TEMP,(WPBOT(TM)),,1,
1346     SOLVE
1347 *ENDDO
1348 /COM,      Apply loads and solve for 1 to 9 years

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1349 *DO,TM,TME1,TME9,TM11
1350     TIME,TM,
1351     ASEL,S,MAT,,14,
1352     ESLA,S,
1353     BFE,ALL,HGEN,,(FUEL(TM)),
1354     ASEL,ALL
1355     ESEL,ALL
1356     DK,11,TEMP,(WPTOP(TM)),,1,
1357     DK,10,TEMP,(WPSID(TM)),,1,
1358     DK, 9,TEMP,(WPBOT(TM)),,1,
1359     SOLVE
1360 *ENDDO
1361 /COM,          Apply loads and solve for 10 to 90 years
1362 *DO,TM,TME10,TME90,TM110
1363     TIME,TM,
1364     ASEL,S,MAT,,14,
1365     ESLA,S,
1366     BFE,ALL,HGEN,,(FUEL(TM)),
1367     ASEL,ALL
1368     ESEL,ALL
1369     DK,11,TEMP,(WPTOP(TM)),,1,
1370     DK,10,TEMP,(WPSID(TM)),,1,
1371     DK, 9,TEMP,(WPBOT(TM)),,1,
1372     SOLVE
1373 *ENDDO
1374 /COM,          Apply loads and solve for 100 to 1000 years
1375 *DO,TM,TME100,TME1000,TM1100
1376     TIME,TM,
1377     ASEL,S,MAT,,14,
1378     ESLA,S,
1379     BFE,ALL,HGEN,,(FUEL(TM)),
1380     ASEL,ALL
1381     ESEL,ALL
1382     DK,11,TEMP,(WPTOP(TM)),,1,
1383     DK,10,TEMP,(WPSID(TM)),,1,
1384     DK, 9,TEMP,(WPBOT(TM)),,1,
1385     SOLVE
1386 *ENDDO
1387 FINISH
1388 SAVE,
1389 /COM,          *****
1390 /COM,          Create element contour plots of solution results
1391 /COM,
1392 /COM,          Sort through solution results for time of max temp.
1393 /POST26,
1394 NSOL,2,(NODE(0.0,(-0.5*PITCH),0.0)),TEMP,,peakclad,
1395 STORE,NEW,
1396 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
1397 FINISH
1398 /POST1,
1399 /COM,          Create temperature contour plots of WP at peak
1400 /RESET
1401 /TRIAD,OFF,
1402 /NUM, 1,
1403 /PNUM,MAT, 1,
1404 /TYPE,HIDP,
1405 /GLINE,-1,
1406 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1407 ESEL,U,MAT,,7,
1408 SET,NEAR,,,TMTMAX,
1409 /TITLE, 40 BWR MPC/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
1410 /SHOW,solupk,grph,0,8,
1411 /CONTOUR,1,128,AUTO,
1412 PLNSOL,TEMP,
1413 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
1414 SET,NEAR,,,TME10,
1415 /TITLE, 40 BWR MPC/WP at 10 years
1416 /SHOW,solu10,grph,0,8,
1417 /CONTOUR,1,128,USER,
1418 PLNSOL,TEMP,

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1419 SET,NEAR,,,,TME50,
1420 /TITLE, 40 BWR MPC/WP at 50 years
1421 /SHOW,solu50,grph,0,8,
1422 /CONTOUR,1,128,USER,
1423 PLNSOL,TEMP,
1424 SET,NEAR,,,,TME100,
1425 /TITLE, 40 BWR MPC/WP at 100 years
1426 /SHOW,solu100,grph,0,8,
1427 /CONTOUR,1,128,USER,
1428 PLNSOL,TEMP,
1429 ESEL,ALL,
1430 FINISH
1431 /COM, *****
1432 /COM,      Print time/temperature output at specific locations
1433 /COM,      Save profile from center to edge
1434 /COM,
1435 /COM,      Variable Legend: A01i000
1436 /COM,      c = center of assembly
1437 /COM,      h = halfway between center and tube
1438 /COM,      s = inside structural stainless tube layer
1439 /COM,      a = aluminum-born tube layer
1440 /COM,      t = stainless tube cladding
1441 /COM,      g = tube guide
1442 /COM,      m = mpc shell
1443 /COM,      i = inner barrier of DC
1444 /COM,      o = outer barrier of DC
1445 /COM,      ## = ID number of assembly (01 is center)
1446 /COM,      i = side of assembly toward center of WP
1447 /COM,      o = side of assembly toward edge of WP
1448 /COM,      000 = profile center down
1449 /COM,      045 = profile 45 deg down
1450 /COM,      090 = profile center side
1451 /COM,      135 = profile 45 deg up
1452 /COM,      180 = profile center up
1453 /POST26,
1454 NUMVAR,41,
1455 /COM,
1456 /COM, *****
1457 /COM, *      Temperature Profile from center to bottom of WP (0 deg.) *
1458 /COM, *****
1459 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t02i000,
1460 NSOL, 3,(NODE(0.0, (0.0-ATWCL),0.0)),TEMP,,a02i000,
1461 NSOL, 4,(NODE(0.0, (0.0-STWCL),0.0)),TEMP,,s02i000,
1462 NSOL, 5,(NODE(0.0, (0.0-STWCL-QCELL),0.0)),TEMP,,h02i000,
1463 NSOL, 6,(NODE(0.0, (-0.5*PITCH),0.0)),TEMP,,c02i000,
1464 NSOL, 7,(NODE(0.0, (-0.5*PITCH-QCELL),0.0)),TEMP,,h02o000,
1465 NSOL, 8,(NODE(0.0, (-0.5*PITCH-HCELL),0.0)),TEMP,,s02o000,
1466 NSOL, 9,(NODE(0.0, (-0.5*PITCH-SCELL),0.0)),TEMP,,a02o000,
1467 NSOL,10,(NODE(0.0, (-1.0*PITCH),0.0)),TEMP,,t08i000,
1468 NSOL,11,(NODE(0.0, (-1.0*PITCH-ATWCL),0.0)),TEMP,,a08i000,
1469 NSOL,12,(NODE(0.0, (-1.0*PITCH-STWCL),0.0)),TEMP,,s08i000,
1470 NSOL,13,(NODE(0.0, (-1.0*PITCH-TQPCL),0.0)),TEMP,,h08i000,
1471 NSOL,14,(NODE(0.0, (-1.5*PITCH),0.0)),TEMP,,c08i000,
1472 NSOL,15,(NODE(0.0, (-1.5*PITCH-QCELL),0.0)),TEMP,,h08o000,
1473 NSOL,16,(NODE(0.0, (-1.5*PITCH-HCELL),0.0)),TEMP,,s08o000,
1474 NSOL,17,(NODE(0.0, (-1.5*PITCH-SCELL),0.0)),TEMP,,a08o000,
1475 NSOL,18,(NODE(0.0, (-2.0*PITCH),0.0)),TEMP,,t18i000,
1476 NSOL,19,(NODE(0.0, (-2.0*PITCH-ATWCL),0.0)),TEMP,,a18i000,
1477 NSOL,20,(NODE(0.0, (-2.0*PITCH-STWCL),0.0)),TEMP,,s18i000,
1478 NSOL,21,(NODE(0.0, (-2.0*PITCH-TQPCL),0.0)),TEMP,,h18i000,
1479 NSOL,22,(NODE(0.0, (-2.5*PITCH),0.0)),TEMP,,c18i000,
1480 NSOL,23,(NODE(0.0, (-2.5*PITCH-QCELL),0.0)),TEMP,,h18o000,
1481 NSOL,24,(NODE(0.0, (-2.5*PITCH-HCELL),0.0)),TEMP,,s18o000,
1482 NSOL,25,(NODE(0.0, (-2.5*PITCH-SCELL),0.0)),TEMP,,a18o000,
1483 NSOL,26,(NODE(0.0, (-3.0*PITCH),0.0)),TEMP,,t24i000,
1484 NSOL,27,(NODE(0.0, (-3.0*PITCH-ATWCL),0.0)),TEMP,,a24i000,
1485 NSOL,28,(NODE(0.0, (-3.0*PITCH-STWCL),0.0)),TEMP,,s24i000,
1486 NSOL,29,(NODE(0.0, (-3.0*PITCH-TQPCL),0.0)),TEMP,,h24i000,
1487 NSOL,30,(NODE(0.0, (-3.5*PITCH),0.0)),TEMP,,c24i000,
1488 NSOL,31,(NODE(0.0, (-3.5*PITCH-QCELL),0.0)),TEMP,,h24o000,

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1489 NSOL,32,(NODE(0.0, (-3.5*PITCH-HCELL),0.0)),TEMP,,s24o000,
1490 NSOL,33,(NODE(0.0, (-3.5*PITCH-SCCELL),0.0)),TEMP,,t24o000,
1491 NSOL,34,(NODE(0.0, (0.0-GY11+TPGPT),0.0)),TEMP,,g24i000,
1492 NSOL,35,(NODE(0.0, (0.0-GY11),0.0)),TEMP,,g24o000,
1493 NSOL,36,(NODE(0.0, (0.0-MIRAD),0.0)),TEMP,,m24i000,
1494 NSOL,37,(NODE(0.0, (0.0-MIRAD-MWALL),0.0)),TEMP,,m24o000,
1495 NSOL,38,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i24i000,
1496 NSOL,39,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i24o000,
1497 NSOL,40,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o24o000,
1498 PRVAR, 2, 3, 4, 5, 6, 7,
1499 PRVAR, 8, 9,10,11,12,13,
1500 PRVAR,14,15,16,17,18,19,
1501 PRVAR,20,21,22,23,24,25,
1502 PRVAR,26,27,28,29,30,31,
1503 PRVAR,32,33,34,35,36,37,
1504 PRVAR,38,39,40,
1505 /COM,
1506 /COM, *****
1507 /COM, * Temperature Profile from center to lower right (45 deg.) *
1508 /COM, *****
1509 NSOL, 2,(NODE( 0.0, -OFFS,0.0)),TEMP,,c02i045,
1510 NSOL, 3,(NODE( QCELL, (-OFFS-QCELL),0.0)),TEMP,,h02o045,
1511 NSOL, 4,(NODE( HCELL, (-OFFS-HCELL),0.0)),TEMP,,s02o045,
1512 NSOL, 5,(NODE( SCELL, (-OFFS-SCCELL),0.0)),TEMP,,a02o045,
1513 NSOL, 6,(NODE( ACELL, (-OFFS-ACELL),0.0)),TEMP,,t02o045,
1514 NSOL, 7,(NODE( (PITCH-ACELL), (ACELL-1.5*PITCH),0.0)),TEMP,,t07i045,
1515 NSOL, 8,(NODE( (PITCH-SCCELL), (SCCELL-1.5*PITCH),0.0)),TEMP,,a07i045,
1516 NSOL, 9,(NODE( (PITCH-HCELL), (HCELL-1.5*PITCH),0.0)),TEMP,,s07i045,
1517 NSOL,10,(NODE( (PITCH-QCELL), (QCELL-1.5*PITCH),0.0)),TEMP,,h07i045,
1518 NSOL,11,(NODE( PITCH, (-1.5*PITCH),0.0)),TEMP,,c07i045,
1519 NSOL,12,(NODE( (PITCH+QCELL), (-1.5*PITCH-QCELL),0.0)),TEMP,,h07o045,
1520 NSOL,13,(NODE( (PITCH+HCELL), (-1.5*PITCH-HCELL),0.0)),TEMP,,s07o045,
1521 NSOL,14,(NODE( (PITCH+SCCELL), (-1.5*PITCH-SCCELL),0.0)),TEMP,,a07o045,
1522 NSOL,15,(NODE( (PITCH+ACELL), (-1.5*PITCH-ACELL),0.0)),TEMP,,t07o045,
1523 NSOL,16,(NODE((2.0*PITCH-ACELL), (ACELL-2.5*PITCH),0.0)),TEMP,,t16i045,
1524 NSOL,17,(NODE((2.0*PITCH-SCCELL), (SCCELL-2.5*PITCH),0.0)),TEMP,,a16i045,
1525 NSOL,18,(NODE((2.0*PITCH-HCELL), (HCELL-2.5*PITCH),0.0)),TEMP,,s16i045,
1526 NSOL,19,(NODE((2.0*PITCH-QCELL), (QCELL-2.5*PITCH),0.0)),TEMP,,h16i045,
1527 NSOL,20,(NODE( (2.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c16i045,
1528 NSOL,21,(NODE((2.0*PITCH+QCELL), (-2.5*PITCH-QCELL),0.0)),TEMP,,h16o045,
1529 NSOL,22,(NODE((2.0*PITCH+HCELL), (-2.5*PITCH-HCELL),0.0)),TEMP,,s16o045,
1530 NSOL,23,(NODE((2.0*PITCH+SCCELL), (-2.5*PITCH-SCCELL),0.0)),TEMP,,a16o045,
1531 NSOL,24,(NODE((2.0*PITCH+ACELL), (-2.5*PITCH-ACELL),0.0)),TEMP,,t16o045,
1532 NSOL,25,(NODE( (GX32-GWALL), (0.0-GY24+SGCD1),0.0)),TEMP,,g16i045,
1533 NSOL,26,(NODE( MI45, (-1.0*MI45),0.0)),TEMP,,m16i045,
1534 NSOL,27,(NODE( MO45, (-1.0*MO45),0.0)),TEMP,,m16o045,
1535 NSOL,28,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i16i045,
1536 NSOL,29,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i16o045,
1537 NSOL,30,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o16o045,
1538 /COM, Add centers of assemblies 6, 14, 15, 17, 22, 23
1539 NSOL,31,(NODE( (1.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c06i045,
1540 NSOL,32,(NODE( (2.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c14i045,
1541 NSOL,33,(NODE( (2.0*PITCH), (-1.5*PITCH),0.0)),TEMP,,c15i045,
1542 NSOL,34,(NODE( (1.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c17i045,
1543 NSOL,35,(NODE( (3.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c22i045,
1544 NSOL,36,(NODE( (3.0*PITCH), (-1.5*PITCH),0.0)),TEMP,,c23i045,
1545 PRVAR, 2, 3, 4, 5, 6, 7,
1546 PRVAR, 8, 9,10,11,12,13,
1547 PRVAR,14,15,16,17,18,19,
1548 PRVAR,20,21,22,23,24,25,
1549 PRVAR,26,27,28,29,30,31,
1550 PRVAR,32,33,34,35,36,
1551 /COM,
1552 /COM, *****
1553 /COM, * Temperature Profile from center to side of WP (90 deg.) *
1554 /COM, *****
1555 NSOL, 2,(NODE( 0.0,0.0,0.0)),TEMP,,c01i090,
1556 NSOL, 3,(NODE( QCELL,0.0,0.0)),TEMP,,h01o090,
1557 NSOL, 4,(NODE( HCELL,0.0,0.0)),TEMP,,s01o090,
1558 NSOL, 5,(NODE( SCELL,0.0,0.0)),TEMP,,a01o090,

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1559 NSOL, 6, (NODE(          ACELL,0.0,0.0)),TEMP,,t01o090,
1560 NSOL, 7, (NODE(          (PITCH+ACELL),0.0,0.0)),TEMP,,t05i090,
1561 NSOL, 8, (NODE(          (PITCH-SCCELL),0.0,0.0)),TEMP,,a05i090,
1562 NSOL, 9, (NODE(          (PITCH-HCELL),0.0,0.0)),TEMP,,s05i090,
1563 NSOL, 10, (NODE(         (PITCH-QCELL),0.0,0.0)),TEMP,,h05i090,
1564 NSOL, 11, (NODE(          PITCH,0.0,0.0)),TEMP,,c05i090,
1565 NSOL, 12, (NODE(         (PITCH+QCELL),0.0,0.0)),TEMP,,h05o090,
1566 NSOL, 13, (NODE(         (PITCH+HCELL),0.0,0.0)),TEMP,,s05o090,
1567 NSOL, 14, (NODE(         (PITCH+SCCELL),0.0,0.0)),TEMP,,a05o090,
1568 NSOL, 15, (NODE(         (PITCH+ACELL),0.0,0.0)),TEMP,,t05i090,
1569 NSOL, 16, (NODE( (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1570 NSOL, 17, (NODE( (2.0*PITCH-SCCELL),0.0,0.0)),TEMP,,a13i090,
1571 NSOL, 18, (NODE( (2.0*PITCH-HCELL),0.0,0.0)),TEMP,,s13i090,
1572 NSOL, 19, (NODE( (2.0*PITCH-QCELL),0.0,0.0)),TEMP,,h13i090,
1573 NSOL, 20, (NODE(         (2.0*PITCH),0.0,0.0)),TEMP,,c13i090,
1574 NSOL, 21, (NODE( (2.0*PITCH+QCELL),0.0,0.0)),TEMP,,h13o090,
1575 NSOL, 22, (NODE( (2.0*PITCH+HCELL),0.0,0.0)),TEMP,,s13o090,
1576 NSOL, 23, (NODE( (2.0*PITCH+SCCELL),0.0,0.0)),TEMP,,a13o090,
1577 NSOL, 26, (NODE( (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1578 NSOL, 27, (NODE( (3.0*PITCH-ACELL),0.0,0.0)),TEMP,,t21i090,
1579 NSOL, 28, (NODE( (3.0*PITCH-SCCELL),0.0,0.0)),TEMP,,a21i090,
1580 NSOL, 29, (NODE( (3.0*PITCH-HCELL),0.0,0.0)),TEMP,,s21i090,
1581 NSOL, 30, (NODE( (3.0*PITCH-QCELL),0.0,0.0)),TEMP,,h21i090,
1582 NSOL, 31, (NODE(         (3.0*PITCH),0.0,0.0)),TEMP,,c21i090,
1583 NSOL, 32, (NODE( (3.0*PITCH+QCELL),0.0,0.0)),TEMP,,h21o090,
1584 NSOL, 33, (NODE( (3.0*PITCH+HCELL),0.0,0.0)),TEMP,,s21o090,
1585 NSOL, 34, (NODE( (3.0*PITCH+SCCELL),0.0,0.0)),TEMP,,t21o090,
1586 NSOL, 35, (NODE(         (GX44-GWALL),0.0,0.0)),TEMP,,g04i090,
1587 NSOL, 36, (NODE(          GX44,0.0,0.0)),TEMP,,g04o090,
1588 NSOL, 37, (NODE(          MIRAD,0.0,0.0)),TEMP,,m04i090,
1589 NSOL, 38, (NODE(         (MIRAD+MWALL),0.0,0.0)),TEMP,,m04o090,
1590 NSOL, 39, (NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
1591 NSOL, 40, (NODE(         (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
1592 NSOL, 41, (NODE(         (DCRAD,0.0,0.0)),TEMP,,o04o090,
1593 PRVAR, 2, 3, 4, 5, 6, 7,
1594 PRVAR, 8, 9, 10, 11, 12, 13,
1595 PRVAR, 14, 15, 16, 17, 18, 19,
1596 PRVAR, 20, 21, 22, 23, 24, 25,
1597 PRVAR, 26, 27, 28, 29, 30, 31,
1598 PRVAR, 32, 33, 34, 35, 36, 37,
1599 PRVAR, 38, 39, 40, 41,
1600 /COM,
1601 /COM,
1602 /COM, * Temperature Profile from center to upper right (135 deg.) *
1603 /COM,
1604 NSOL, 2, (NODE(          0.0,          OFFS,0.0)),TEMP,,c01i135,
1605 NSOL, 3, (NODE(          QCELL,        (OFFS+QCELL),0.0)),TEMP,,h01o135,
1606 NSOL, 4, (NODE(          HCELL,        (OFFS+HCELL),0.0)),TEMP,,s01o135,
1607 NSOL, 5, (NODE(          SCCELL,        (OFFS+SCCELL),0.0)),TEMP,,a01o135,
1608 NSOL, 6, (NODE(          ACELL,        (OFFS+ACELL),0.0)),TEMP,,t01o135,
1609 NSOL, 7, (NODE(         (PITCH-ACELL), (1.5*PITCH-ACELL),0.0)),TEMP,,t04i135,
1610 NSOL, 8, (NODE(         (PITCH-SCCELL), (1.5*PITCH-SCCELL),0.0)),TEMP,,a04i135,
1611 NSOL, 9, (NODE(         (PITCH-HCELL), (1.5*PITCH-HCELL),0.0)),TEMP,,s04i135,
1612 NSOL, 10, (NODE(        (PITCH-QCELL), (1.5*PITCH-QCELL),0.0)),TEMP,,h04i135,
1613 NSOL, 11, (NODE(          PITCH,        (1.5*PITCH),0.0)),TEMP,,c04i135,
1614 NSOL, 12, (NODE(        (PITCH+QCELL), (1.5*PITCH+QCELL),0.0)),TEMP,,h04o135,
1615 NSOL, 13, (NODE(        (PITCH+HCELL), (1.5*PITCH+HCELL),0.0)),TEMP,,s04o135,
1616 NSOL, 14, (NODE(        (PITCH+SCCELL), (1.5*PITCH+SCCELL),0.0)),TEMP,,a04o135,
1617 NSOL, 15, (NODE(        (PITCH+ACELL), (1.5*PITCH+ACELL),0.0)),TEMP,,t04o135,
1618 NSOL, 16, (NODE( (2.0*PITCH-ACELL), (2.5*PITCH-ACELL),0.0)),TEMP,,t11i135,
1619 NSOL, 17, (NODE( (2.0*PITCH-SCCELL), (2.5*PITCH-SCCELL),0.0)),TEMP,,a11i135,
1620 NSOL, 18, (NODE( (2.0*PITCH-HCELL), (2.5*PITCH-HCELL),0.0)),TEMP,,s11i135,
1621 NSOL, 19, (NODE( (2.0*PITCH-QCELL), (2.5*PITCH-QCELL),0.0)),TEMP,,h11i135,
1622 NSOL, 20, (NODE(         (2.0*PITCH), (2.5*PITCH),0.0)),TEMP,,c11i135,
1623 NSOL, 21, (NODE( (2.0*PITCH+QCELL), (2.5*PITCH+QCELL),0.0)),TEMP,,h11o135,
1624 NSOL, 22, (NODE( (2.0*PITCH+HCELL), (2.5*PITCH+HCELL),0.0)),TEMP,,s11o135,
1625 NSOL, 23, (NODE( (2.0*PITCH+SCCELL), (2.5*PITCH+SCCELL),0.0)),TEMP,,a11o135,
1626 NSOL, 24, (NODE( (2.0*PITCH+ACELL), (2.5*PITCH+ACELL),0.0)),TEMP,,t11o135,
1627 NSOL, 25, (NODE(         (GX32-GWALL), (GY24-SGCD1),0.0)),TEMP,,g11i135,
1628 NSOL, 26, (NODE(          MI45,        (1.0*MI45),0.0)),TEMP,,m11i135,

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1629 NSOL,27,(NODE(      MO45,      (1.0*MO45),0.0)),TEMP,,m11o135,
1630 NSOL,28,(NODE(      DI45,      (1.0*DI45),0.0)),TEMP,,i11i135,
1631 NSOL,29,(NODE(      DM45,      (1.0*DM45),0.0)),TEMP,,i11o135,
1632 NSOL,30,(NODE(      DO45,      (1.0*DO45),0.0)),TEMP,,o11o135,
1633 /COM,      Add centers of assemblies 5, 10, 12, 13, 20, 21
1634 NSOL,31,(NODE(      (1.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c06i135,
1635 NSOL,32,(NODE(      (1.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c14i135,
1636 NSOL,33,(NODE(      (2.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c15i135,
1637 NSOL,34,(NODE(      (2.0*PITCH),      (1.5*PITCH),0.0)),TEMP,,c17i135,
1638 NSOL,35,(NODE(      (3.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c22i135,
1639 NSOL,36,(NODE(      (3.0*PITCH),      (1.5*PITCH),0.0)),TEMP,,c23i135,
1640 PRVAR, 2, 3, 4, 5, 6, 7,
1641 PRVAR, 8, 9,10,11,12,13,
1642 PRVAR,14,15,16,17,18,19,
1643 PRVAR,20,21,22,23,24,25,
1644 PRVAR,26,27,28,29,30,31,
1645 PRVAR,32,33,34,35,36,
1646 /COM,
1647 /COM,      *****
1648 /COM,      * Temperature Profile from center to top of WP (180 deg.) *
1649 /COM,      *****
1650 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,t02i000,
1651 NSOL, 3,(NODE(0.0,      (ATWCL),0.0)),TEMP,,a02i000,
1652 NSOL, 4,(NODE(0.0,      (STWCL),0.0)),TEMP,,s02i000,
1653 NSOL, 5,(NODE(0.0,      (STWCL+QCELL),0.0)),TEMP,,h02i000,
1654 NSOL, 6,(NODE(0.0,      (0.5*PITCH),0.0)),TEMP,,c02i000,
1655 NSOL, 7,(NODE(0.0,      (0.5*PITCH+QCELL),0.0)),TEMP,,h02o000,
1656 NSOL, 8,(NODE(0.0,      (0.5*PITCH+HCELL),0.0)),TEMP,,s02o000,
1657 NSOL, 9,(NODE(0.0,      (0.5*PITCH+SCELL),0.0)),TEMP,,a02o000,
1658 NSOL,10,(NODE(0.0,      (1.0*PITCH),0.0)),TEMP,,t08i000,
1659 NSOL,11,(NODE(0.0,      (1.0*PITCH+ATWCL),0.0)),TEMP,,a08i000,
1660 NSOL,12,(NODE(0.0,      (1.0*PITCH+STWCL),0.0)),TEMP,,s08i000,
1661 NSOL,13,(NODE(0.0,      (1.0*PITCH+TQPCL),0.0)),TEMP,,h08i000,
1662 NSOL,14,(NODE(0.0,      (1.5*PITCH),0.0)),TEMP,,c08i000,
1663 NSOL,15,(NODE(0.0,      (1.5*PITCH+QCELL),0.0)),TEMP,,h08o000,
1664 NSOL,16,(NODE(0.0,      (1.5*PITCH+HCELL),0.0)),TEMP,,s08o000,
1665 NSOL,17,(NODE(0.0,      (1.5*PITCH+SCELL),0.0)),TEMP,,a08o000,
1666 NSOL,18,(NODE(0.0,      (2.0*PITCH),0.0)),TEMP,,t18i000,
1667 NSOL,19,(NODE(0.0,      (2.0*PITCH+ATWCL),0.0)),TEMP,,a18i000,
1668 NSOL,20,(NODE(0.0,      (2.0*PITCH+STWCL),0.0)),TEMP,,s18i000,
1669 NSOL,21,(NODE(0.0,      (2.0*PITCH+TQPCL),0.0)),TEMP,,h18i000,
1670 NSOL,22,(NODE(0.0,      (2.5*PITCH),0.0)),TEMP,,c18i000,
1671 NSOL,23,(NODE(0.0,      (2.5*PITCH+QCELL),0.0)),TEMP,,h18o000,
1672 NSOL,24,(NODE(0.0,      (2.5*PITCH+HCELL),0.0)),TEMP,,s18o000,
1673 NSOL,25,(NODE(0.0,      (2.5*PITCH+SCELL),0.0)),TEMP,,a18o000,
1674 NSOL,26,(NODE(0.0,      (3.0*PITCH),0.0)),TEMP,,t24i000,
1675 NSOL,27,(NODE(0.0,      (3.0*PITCH+ATWCL),0.0)),TEMP,,a24i000,
1676 NSOL,28,(NODE(0.0,      (3.0*PITCH+STWCL),0.0)),TEMP,,s24i000,
1677 NSOL,29,(NODE(0.0,      (3.0*PITCH+TQPCL),0.0)),TEMP,,h24i000,
1678 NSOL,30,(NODE(0.0,      (3.5*PITCH),0.0)),TEMP,,c24i000,
1679 NSOL,31,(NODE(0.0,      (3.5*PITCH+QCELL),0.0)),TEMP,,h24o000,
1680 NSOL,32,(NODE(0.0,      (3.5*PITCH+HCELL),0.0)),TEMP,,s24o000,
1681 NSOL,33,(NODE(0.0,      (3.5*PITCH+SCELL),0.0)),TEMP,,t24o000,
1682 NSOL,34,(NODE(0.0,      (GY11-TPGPT),0.0)),TEMP,,g24i000,
1683 NSOL,35,(NODE(0.0,      (GY11),0.0)),TEMP,,g24o000,
1684 NSOL,36,(NODE(0.0,      (MIRAD),0.0)),TEMP,,m24i000,
1685 NSOL,37,(NODE(0.0,      (MIRAD+MWALL),0.0)),TEMP,,m24o000,
1686 NSOL,38,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i24i000,
1687 NSOL,39,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i24o000,
1688 NSOL,40,(NODE(0.0,      (DCRAD),0.0)),TEMP,,o24o000,
1689 PRVAR, 2, 3, 4, 5, 6, 7,
1690 PRVAR, 8, 9,10,11,12,13,
1691 PRVAR,14,15,16,17,18,19,
1692 PRVAR,20,21,22,23,24,25,
1693 PRVAR,26,27,28,29,30,31,
1694 PRVAR,32,33,34,35,36,37,
1695 PRVAR,38,39,40,
1696 FINISH
1697 /COM,      *****
1698 /COM,      End of batch input file

```

```
1699 /COM, *****
1700 /EXIT,
1701 /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 03/31/1995
2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz

* *
* File name: ma40x1.inp *
* 40 BWR MPC with High T.L. Disposal Container *
* Helium Fill Gas *
* *
* Material Property file: props01.dat *
* *
* SNF Conductivity file: pwr15e.parm (check for Changes) *
* GE-7 8x8 SNF Assembly *
* *
* SNF Heat Loads file: bwr1049.dat *
* SNF Type: 10 years old, 49 GWD/MTU *
* *
* Surface Temp. file: c21x5a.parm *
* 100 MTU/acre (24.7 kgU/m²) AML (High Thermal Loading) *
* 5.0 m Diameter Drift with Concrete Invert *
* Drift spacing = 22.5 m *
* WP c/c spacing = 16.165 m *
* *

Increase the number of database pages from 16 (256) to 32 Mb

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

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
MASS = KILOGRAMS(KG)
TIME = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT = AMPS

Define Transient time parameters

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

Read in average effective conductivities from SNF model

*** NOTE *** CP= .710 TIME= 18:10:06
Restore ANSYS parameters from file= pwr15e.parm.

/INPUT FILE= pwr15e.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Read in surface temps. from repository model

*** NOTE *** CP= .940 TIME= 18:10:06
Restore ANSYS parameters from file= c21x5a.parm.

/INPUT FILE= c21x5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define MPC/waste package parameters

(MPC dimensions converted from inches to meters)

Required Constants:

PARAMETER PI = 3.141593

Required container wall parameters:

MIRAD = inner radius of MPC shell (m)
MWALL = MPC shell thickness (m)
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)

PARAMETER MIRAD = .7404100

PARAMETER MWALL = .2540000E-01

PARAMETER DCRAD = .9008000

PARAMETER OWALL = .1000000

PARAMETER IWALL = .2000000E-01

Required outer guide hardware parameters:

Set 1: TPGPL = top/bottom guide plate length (m)
TPGPT = top/bottom guide plate thickness (m)

PARAMETER TPGPL = .1606296

PARAMETER TPGPT = .6350000E-02

Set 2: SGCCW = Width; corner guide to far corner side guide (m)

SGCMW = Width; Side guide corner to Middle side guide (m)
SGCD1 = Vert. Dist. Down to Corner of Guide (m)

PARAMETER SGCCW = .5367528

PARAMETER SGCMW = .1722374

PARAMETER SGCD1 = .1772666

SET 3: GCORV = corner guide Vertical width (m)
GCORH = corner guide Horizontal width (m)
GX32 = X coord. of upper contact from drawing. (m)
GY32 = Y coord. of upper contact from drawing. (m)

PARAMETER GCORV = .1971040

PARAMETER GCORH = .1705864

PARAMETER GX32 = .4739989

PARAMETER GY32 = .5687987

SET 4: GLEN1 = side guide Low width (m)
GLEN2 = side guide High width (m)
GLENT = side guide total width (m)
GWALL = guide thickness (m)

PARAMETER GLEN1 = .1709166

PARAMETER GLEN2 = .3539998

PARAMETER GLENT = .7331964

PARAMETER GWALL = .9525000E-02

Required Tube/Fuel parameters:

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
AWALL = Al/boron tube thickness (m)
TWALL = stainless tube cladding thickness (m)
ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

PARAMETER HCELL = .7620000E-01

PARAMETER SWALL = .6350000E-02

PARAMETER AWALL = .6350000E-02

PARAMETER TWALL = .2387600E-02

PARAMETER ACTVL = 3.810000

PARAMETER PEAKF = 1.400000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)
FUEL = volumetric heat production (W/m3) f(yrs)
FVOLUME = assy_volume=cell_width^2*active_length
PITCH = basket cell outer width (m)
QCELL = 1/4 of basket cell opening (m)
SCCELL = 1/2 of basket cell opening+SS wall(m)
ACCELL = 1/2 of basket cell opening+SS+AL (m)
ATWCL = Dist. to edge of B-AL plate (m)
STWCL = Dist. to edge of Steel Bask. Plate (m)
TQPCL = Top quarter of cell dist. (m)

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 = .8849015E-01

PARAMETER PITCH = .1825752

PARAMETER QCELL = .3810000E-01

PARAMETER SCELL = .8255000E-01

PARAMETER ACELL = .8890000E-01

PARAMETER ATWCL = .8737600E-02

PARAMETER STWCL = .1508760E-01

PARAMETER TQPCL = .5318760E-01

Determine the required contact points for the outer guide hardware
GX## = x coord. of guide/shell contact
GY## = y coord. of guide/shell contact

Set 1:

PARAMETER GX11 = .8031480E-01

PARAMETER GY11 = .7360411

Set 3:

PARAMETER GX31 = .6350603

PARAMETER GY31 = .3812197

Set 2:

PARAMETER GX24 = .9830753E-01

PARAMETER GY24 = .7338546

PARAMETER GX23 = .1078325

PARAMETER GY23 = .7325156

PARAMETER GX22 = .2705449

PARAMETER GY22 = .6892114

PARAMETER GX21 = .2800699

PARAMETER GY21 = .6853961

Set 4:

PARAMETER GY41 = .4762500E-02

PARAMETER GX41 = .7403947

PARAMETER GY44 = .3587623

PARAMETER GX44 = .6476856

PARAMETER GY43 = .1878457

PARAMETER GX43 = .7161850

PARAMETER GY42 = .1783207
PARAMETER GX42 = .7186158

Define 45 degree point of reference:

MI45 = x coord. MIRAD at 45 deg.
MO45 = x coord. MIRAD+MWALL at 45 deg.
DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
DM45 = x coord. DCRAD-OWALL at 45 deg.
DO45 = x coord. DCRAD at 45 deg.
OFFS = 45 degree Y off set to go through centers

PARAMETER MI45 = .5235489
PARAMETER MO45 = .5415094
PARAMETER DI45 = .5521090
PARAMETER DM45 = .5662511
PARAMETER DO45 = .6369618
PARAMETER OFFS = .9128760E-01

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:10:07 MAR 31, 1995 CP= 1.900
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 13.67000 14.19000 14.54000
15.06000 15.58000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Define K for material 2

TEMPERATURE TABLE ERASED.

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

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

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

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 593.3300 621.1100 648.8900
 676.6700 704.4400 732.2200

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

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

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

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

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

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

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 143.8900
 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 7.180000	7.580000 7.050000	7.440000	7.310000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 18		
SLOC= 13	6.930000 6.490000	6.820000 6.390000	6.700000	6.600000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 24		
SLOC= 19	6.290000 5.920000	6.190000 5.840000	6.100000	6.010000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 30		
SLOC= 25	5.760000 5.450000	5.680000 5.380000	5.600000	5.520000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 36		
SLOC= 31	5.310000 5.050000	5.240000 4.990000	5.180000	5.110000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 42		
SLOC= 37	4.930000 4.700000	4.870000 4.650000	4.810000	4.760000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 48		
SLOC= 43	4.600000 4.400000	4.550000 4.350000	4.500000	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 12.87000	12.44000 13.01000	12.58000	12.72000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 12		
SLOC= 7	13.15000 13.69000	13.28000 13.82000	13.42000	13.55000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 18		
SLOC= 13	13.95000 14.46000	14.08000 14.59000	14.21000	14.34000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 24		
SLOC= 19	14.72000 15.21000	14.84000 15.33000	14.96000	15.09000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 30		
SLOC= 25	15.45000 15.93000	15.57000 16.05000	15.69000	15.81000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 36		
SLOC= 31	16.17000 16.64000	16.29000 16.76000	16.40000	16.52000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 42		
SLOC= 37	16.88000 17.35000	16.99000 17.46000	17.11000	17.23000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 48		
SLOC= 43	17.58000 18.06000	17.70000 18.18000	17.82000	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	.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= bwr1049.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: bwr1049.dat **
** Execution Date: 03/07/95 **
** Start Age (years): 10.0 **
** Decay Period (years): 10000 **
** Enrichment (percent): 3.74 **
** Burnup (MWd/MTU): 49000 **
** Assembly Type: BWR **
** SNF U Mass (MTU/assy): 0.200 **
**
** ASSY(#,1) is the SNF assembly heat in Watts. **
** ASSY(#,0) is the time post emplacement in years. **

PARAMETER ASSY(1,1) = 409.4200 409.2500 409.0700 408.9000
408.7300 408.5500

PARAMETER ASSY(7,1) = 408.3800 408.2000 408.0300 407.8600
407.6800 406.8200

PARAMETER ASSY(13,1) = 405.9700 405.1200 404.2800 403.4400

	402.6100	401.7900		
PARAMETER ASSY(19,1) =	400.9700 397.7400	400.1500 396.9500	399.3400	398.5400
PARAMETER ASSY(25,1) =	396.1600 393.0600	395.3800 386.0700	394.6000	393.8300
PARAMETER ASSY(31,1) =	379.4900 357.2900	373.4300 352.6900	367.7000	362.3600
PARAMETER ASSY(37,1) =	348.3000 331.0000	343.5600 327.1800	339.0300	334.9300
PARAMETER ASSY(43,1) =	323.5200 310.5600	319.9200 280.3200	316.4600	313.4600
PARAMETER ASSY(49,1) =	255.6100 183.3200	233.4000 169.5700	214.5200	197.6200
PARAMETER ASSY(55,1) =	157.9000 122.2500	147.4800 115.4800	138.1500	129.7800
PARAMETER ASSY(61,1) =	109.3700 90.35000	103.8500 64.29000	99.33000	94.47000
PARAMETER ASSY(67,1) =	51.61000 31.79000	43.92000 29.32000	38.89000	34.91000
PARAMETER ASSY(73,1) =	27.23000 21.02000	25.32000 19.82000	23.69000	22.28000
PARAMETER ASSY(79,1) =	18.76000 15.49000	17.81000 10.52000	16.96000	16.20000
PARAMETER ASSY(85,1) =	8.210000 5.640000	7.000000 5.430000	6.340000	5.950000
PARAMETER ASSY(91,1) =	5.250000 4.510000	5.030000 4.350000	4.830000	4.660000
PARAMETER ASSY(97,1) =	4.210000 3.750000	4.080000	3.960000	3.850000
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    55.00000    60.00000    65.00000
                        70.00000    75.00000
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= 15.821
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= 15.821      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      3882.420

```

```

PROPERTY TABLE C      MAT= 14 NUM. POINTS= 1
SLOC= 1      284.0100
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 and MPC outer radius
(K's 9,10,11,12,13,14,15,16,17,18,19,20)
(L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
(A's 1,2,3,4,5)

KEYPOINT    9  X,Y,Z=    .000000E+00   -.900800    .000000E+00  IN CSYS=  0
KEYPOINT   10  X,Y,Z=    .900800    .000000E+00   .000000E+00  IN CSYS=  0
KEYPOINT   11  X,Y,Z=    .000000E+00    .900800    .000000E+00  IN CSYS=  0
KEYPOINT   12  X,Y,Z=    .000000E+00   -.800800    .000000E+00  IN CSYS=  0
KEYPOINT   13  X,Y,Z=    .800800    .000000E+00   .000000E+00  IN CSYS=  0
KEYPOINT   14  X,Y,Z=    .000000E+00    .800800    .000000E+00  IN CSYS=  0
KEYPOINT   15  X,Y,Z=    .000000E+00   -.780800    .000000E+00  IN CSYS=  0
KEYPOINT   16  X,Y,Z=    .780800    .000000E+00   .000000E+00  IN CSYS=  0
KEYPOINT   17  X,Y,Z=    .000000E+00    .780800    .000000E+00  IN CSYS=  0
KEYPOINT   18  X,Y,Z=    .000000E+00   -.765810    .000000E+00  IN CSYS=  0
KEYPOINT   19  X,Y,Z=    .765810    .000000E+00   .000000E+00  IN CSYS=  0
KEYPOINT   20  X,Y,Z=    .000000E+00    .765810    .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

LINE CONNECTS KEYPOINTS      13     16
LINE NO.=    6 KP1=    13 TAN1=    1.0000    .0000    .0000
              KP2=    16 TAN2=   -1.0000    .0000    .0000

ARC BETWEEN KEYPOINTS      10 AND    9 ORIENTATION KEYPOINT=    1
RADIUS=    .90080
LINE NO.=    7 KP1=    10 TAN1=    .0000    1.0000    .0000
              KP2=    9  TAN2=   -1.0000    .0000    .0000

ARC BETWEEN KEYPOINTS      11 AND   10 ORIENTATION KEYPOINT=    1
RADIUS=    .90080
LINE NO.=    8 KP1=    11 TAN1=   -1.0000    .0000    .0000
              KP2=    10 TAN2=    .0000   -1.0000    .0000

ARC BETWEEN KEYPOINTS      13 AND   12 ORIENTATION KEYPOINT=    1
RADIUS=    .80080
LINE NO.=    9 KP1=    13 TAN1=    .0000    1.0000    .0000
              KP2=    12 TAN2=   -1.0000    .0000    .0000

ARC BETWEEN KEYPOINTS      14 AND   13 ORIENTATION KEYPOINT=    1
RADIUS=    .80080
LINE NO.=   10 KP1=    14 TAN1=   -1.0000    .0000    .0000
              KP2=    13 TAN2=    .0000   -1.0000    .0000

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

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

ARC BETWEEN KEYPOINTS      15 AND   16 ORIENTATION KEYPOINT=    1
RADIUS=    .78080

```

```

LINE NO.= 13 KP1= 15 TAN1= -1.0000 .0000 .0000
              KP2= 16 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 16 AND 17 ORIENTATION KEYPOINT= 1
RADIUS= .78080
LINE NO.= 14 KP1= 16 TAN1= .0000 -1.0000 .0000
              KP2= 17 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 14 17
LINE NO.= 15 KP1= 14 TAN1= .0000 1.0000 .0000
              KP2= 17 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 12 15
LINE NO.= 16 KP1= 12 TAN1= .0000 -1.0000 .0000
              KP2= 15 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
RADIUS= .76581
LINE NO.= 17 KP1= 19 TAN1= .0000 1.0000 .0000
              KP2= 18 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
RADIUS= .76581
LINE NO.= 18 KP1= 20 TAN1= -1.0000 .0000 .0000
              KP2= 19 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 17 20
LINE NO.= 19 KP1= 17 TAN1= .0000 1.0000 .0000
              KP2= 20 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 18
LINE NO.= 20 KP1= 15 TAN1= .0000 -1.0000 .0000
              KP2= 18 TAN2= .0000 1.0000 .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 5 7 12 9
(TRAVERSED IN SAME DIRECTION AS LINE 5)

```

AREA NUMBER = 1

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 11 8 5 10
(TRAVERSED IN SAME DIRECTION AS LINE 11)

```

AREA NUMBER = 2

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 6 9 16 13
(TRAVERSED IN SAME DIRECTION AS LINE 6)

```

AREA NUMBER = 3

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 15 10 6 14
(TRAVERSED IN SAME DIRECTION AS LINE 15)

```

AREA NUMBER = 4

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 19 14 13 20 17 18
(TRAVERSED IN SAME DIRECTION AS LINE 19)

```

AREA NUMBER = 5

```

*****
Define MPC shell inner edge and area
(K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
( 38, 39, 40, 41, 42, 43, 44)
(L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
( 38,39, 40, 41, 42, 43, 44, 45)
(A's 6)

```

KEYPOINT	21	X,Y,Z=	.000000E+00	.740410	.000000E+00	IN CSYS=	0
KEYPOINT	22	X,Y,Z=	.803148E-01	.736041	.000000E+00	IN CSYS=	0
KEYPOINT	23	X,Y,Z=	.983075E-01	.733855	.000000E+00	IN CSYS=	0
KEYPOINT	24	X,Y,Z=	.107833	.732516	.000000E+00	IN CSYS=	0
KEYPOINT	25	X,Y,Z=	.270545	.689211	.000000E+00	IN CSYS=	0
KEYPOINT	26	X,Y,Z=	.280070	.685396	.000000E+00	IN CSYS=	0
KEYPOINT	27	X,Y,Z=	.473999	.568799	.000000E+00	IN CSYS=	0
KEYPOINT	28	X,Y,Z=	.635060	.381220	.000000E+00	IN CSYS=	0
KEYPOINT	29	X,Y,Z=	.647686	.358762	.000000E+00	IN CSYS=	0
KEYPOINT	30	X,Y,Z=	.716185	.187846	.000000E+00	IN CSYS=	0
KEYPOINT	31	X,Y,Z=	.718616	.178321	.000000E+00	IN CSYS=	0
KEYPOINT	32	X,Y,Z=	.740395	.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	33	X,Y,Z=	.740395	-.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	34	X,Y,Z=	.718616	-.178321	.000000E+00	IN CSYS=	0
KEYPOINT	35	X,Y,Z=	.716185	-.187846	.000000E+00	IN CSYS=	0
KEYPOINT	36	X,Y,Z=	.647686	-.358762	.000000E+00	IN CSYS=	0
KEYPOINT	37	X,Y,Z=	.635060	-.381220	.000000E+00	IN CSYS=	0
KEYPOINT	38	X,Y,Z=	.473999	-.568799	.000000E+00	IN CSYS=	0
KEYPOINT	39	X,Y,Z=	.280070	-.685396	.000000E+00	IN CSYS=	0
KEYPOINT	40	X,Y,Z=	.270545	-.689211	.000000E+00	IN CSYS=	0
KEYPOINT	41	X,Y,Z=	.107833	-.732516	.000000E+00	IN CSYS=	0
KEYPOINT	42	X,Y,Z=	.983075E-01	-.733855	.000000E+00	IN CSYS=	0
KEYPOINT	43	X,Y,Z=	.803148E-01	-.736041	.000000E+00	IN CSYS=	0
KEYPOINT	44	X,Y,Z=	.000000E+00	-.740410	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS 20 21
 LINE NO.= 21 KP1= 20 TAN1= .0000 1.0000 .0000
 KP2= 21 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 22 KP1= 22 TAN1= .9941 -.1085 .0000
 KP2= 21 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 23 KP1= 23 TAN1= .9911 -.1328 .0000
 KP2= 22 TAN2= -.9941 .1085 .0000

ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 24 KP1= 24 TAN1= .9893 -.1456 .0000
 KP2= 23 TAN2= -.9911 .1328 .0000

ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 25	KP1= 25	TAN1= .9309	-.3654	.0000
	KP2= 24	TAN2= -.9893	.1456	.0000
ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 26	KP1= 26	TAN1= .9257	-.3783	.0000
	KP2= 25	TAN2= -.9309	.3654	.0000
ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 27	KP1= 27	TAN1= .7682	-.6402	.0000
	KP2= 26	TAN2= -.9257	.3783	.0000
ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 28	KP1= 28	TAN1= .5156	-.8568	.0000
	KP2= 27	TAN2= -.7690	.6393	.0000
ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 29	KP1= 29	TAN1= .4748	-.8801	.0000
	KP2= 28	TAN2= -.5051	.8630	.0000
ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 30	KP1= 30	TAN1= .2537	-.9673	.0000
	KP2= 29	TAN2= -.4845	.8748	.0000
ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 31	KP1= 31	TAN1= .2408	-.9706	.0000
	KP2= 30	TAN2= -.2537	.9673	.0000
ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 32	KP1= 32	TAN1= .0064	-1.0000	.0000
	KP2= 31	TAN2= -.2408	.9706	.0000
ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 33	KP1= 33	TAN1= -.0064	-1.0000	.0000
	KP2= 32	TAN2= -.0064	1.0000	.0000
ARC BETWEEN KEYPOINTS 34 AND 33 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 34	KP1= 34	TAN1= -.2408	-.9706	.0000
	KP2= 33	TAN2= .0064	1.0000	.0000
ARC BETWEEN KEYPOINTS 35 AND 34 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 35	KP1= 35	TAN1= -.2537	-.9673	.0000
	KP2= 34	TAN2= .2408	.9706	.0000
ARC BETWEEN KEYPOINTS 36 AND 35 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 36	KP1= 36	TAN1= -.4845	-.8748	.0000
	KP2= 35	TAN2= .2537	.9673	.0000
ARC BETWEEN KEYPOINTS 37 AND 36 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 37	KP1= 37	TAN1= -.5051	-.8630	.0000
	KP2= 36	TAN2= .4748	.8801	.0000
ARC BETWEEN KEYPOINTS 38 AND 37 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 38	KP1= 38	TAN1= -.7690	-.6393	.0000
	KP2= 37	TAN2= .5156	.8568	.0000
ARC BETWEEN KEYPOINTS 39 AND 38 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				

```

LINE NO.= 39 KP1= 39 TAN1= -.9257 -.3783 .0000
              KP2= 38 TAN2= .7682 .6402 .0000

ARC BETWEEN KEYPOINTS 40 AND 39 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 40 KP1= 40 TAN1= -.9309 -.3654 .0000
              KP2= 39 TAN2= .9257 .3783 .0000

ARC BETWEEN KEYPOINTS 41 AND 40 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 41 KP1= 41 TAN1= -.9893 -.1456 .0000
              KP2= 40 TAN2= .9309 .3654 .0000

ARC BETWEEN KEYPOINTS 42 AND 41 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 42 KP1= 42 TAN1= -.9911 -.1328 .0000
              KP2= 41 TAN2= .9893 .1456 .0000

ARC BETWEEN KEYPOINTS 43 AND 42 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 43 KP1= 43 TAN1= -.9941 -.1085 .0000
              KP2= 42 TAN2= .9911 .1328 .0000

ARC BETWEEN KEYPOINTS 44 AND 43 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 44 KP1= 44 TAN1= -1.0000 .0000 .0000
              KP2= 43 TAN2= .9941 .1085 .0000

LINE CONNECTS KEYPOINTS 18 44
LINE NO.= 45 KP1= 18 TAN1= .0000 -1.0000 .0000
              KP2= 44 TAN2= .0000 1.0000 .0000

```

```

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 45 STEP 1

```

25 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 17 TO 18 STEP 1

```

27 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

```

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE 17)

```

AREA NUMBER = 6

```

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 45 STEP 1

```

45 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

```

*****
Define tube guides
(K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
( 79,80,81,82)
(L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)
( 111,112,113,114,115)
(A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)

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Set 1: top plate

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KEYPOINT 45 X,Y,Z= .803148E-01 .726516 .000000E+00 IN CSYS= 0
KEYPOINT 46 X,Y,Z= .000000E+00 .736041 .000000E+00 IN CSYS= 0

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KEYPOINT 47 X,Y,Z= .000000E+00 .726516 .000000E+00 IN CSYS= 0

Set 2: top side guide

KEYPOINT 48 X,Y,Z= .983075E-01 .556588 .000000E+00 IN CSYS= 0

KEYPOINT 49 X,Y,Z= .107833 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 50 X,Y,Z= .270545 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 51 X,Y,Z= .280070 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 52 X,Y,Z= .464474 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 53 X,Y,Z= .464474 .556588 .000000E+00 IN CSYS= 0

KEYPOINT 54 X,Y,Z= .473999 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 55 X,Y,Z= .473999 .556588 .000000E+00 IN CSYS= 0

Set 3: top corner

KEYPOINT 56 X,Y,Z= .464474 .568799 .000000E+00 IN CSYS= 0

KEYPOINT 57 X,Y,Z= .464474 .371695 .000000E+00 IN CSYS= 0

KEYPOINT 58 X,Y,Z= .473999 .381220 .000000E+00 IN CSYS= 0

KEYPOINT 59 X,Y,Z= .635060 .371695 .000000E+00 IN CSYS= 0

Set 4: side guide

KEYPOINT 60 X,Y,Z= .638161 .358762 .000000E+00 IN CSYS= 0

KEYPOINT 61 X,Y,Z= .638161 -.358762 .000000E+00 IN CSYS= 0

KEYPOINT 62 X,Y,Z= .647686 .187846 .000000E+00 IN CSYS= 0

KEYPOINT 63 X,Y,Z= .647686 .178321 .000000E+00 IN CSYS= 0

KEYPOINT 64 X,Y,Z= .647686 .476250E-02 .000000E+00 IN CSYS= 0

KEYPOINT 65 X,Y,Z= .647686 -.476250E-02 .000000E+00 IN CSYS= 0

KEYPOINT 66 X,Y,Z= .647686 -.178321 .000000E+00 IN CSYS= 0

KEYPOINT 67 X,Y,Z= .647686 -.187846 .000000E+00 IN CSYS= 0

Set 3: bottom corner

KEYPOINT 68 X,Y,Z= .464474 -.568799 .000000E+00 IN CSYS= 0

KEYPOINT 69 X,Y,Z= .464474 -.371695 .000000E+00 IN CSYS= 0

KEYPOINT 70 X,Y,Z= .473999 -.381220 .000000E+00 IN CSYS= 0

KEYPOINT 71 X,Y,Z= .635060 -.371695 .000000E+00 IN CSYS= 0

Set 2: bottom side guide

KEYPOINT 72 X,Y,Z= .983075E-01 -.556588 .000000E+00 IN CSYS= 0

KEYPOINT 73 X,Y,Z= .107833 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 74 X,Y,Z= .270545 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 75 X,Y,Z= .280070 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 76 X,Y,Z= .464474 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT	77	X,Y,Z=	.464474	-.556588	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.473999	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.473999	-.556588	.000000E+00	IN CSYS= 0

Set 1: bottom plate

KEYPOINT	80	X,Y,Z=	.803148E-01	-.726516	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.000000E+00	-.736041	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.000000E+00	-.726516	.000000E+00	IN CSYS= 0

Now Fill in the required lines:
Set 1: bottom plate

LINE CONNECTS KEYPOINTS	21	46				
LINE NO.= 46	KP1= 21	TAN1=	.0000	1.0000	.0000	
	KP2= 46	TAN2=	.0000	-1.0000	.0000	
LINE CONNECTS KEYPOINTS	46	47				
LINE NO.= 47	KP1= 46	TAN1=	.0000	1.0000	.0000	
	KP2= 47	TAN2=	.0000	-1.0000	.0000	
LINE CONNECTS KEYPOINTS	46	22				
LINE NO.= 48	KP1= 46	TAN1=	-1.0000	.0000	.0000	
	KP2= 22	TAN2=	1.0000	.0000	.0000	
LINE CONNECTS KEYPOINTS	22	45				
LINE NO.= 49	KP1= 22	TAN1=	.0000	1.0000	.0000	
	KP2= 45	TAN2=	.0000	-1.0000	.0000	
LINE CONNECTS KEYPOINTS	45	47				
LINE NO.= 50	KP1= 45	TAN1=	1.0000	.0000	.0000	
	KP2= 47	TAN2=	-1.0000	.0000	.0000	

Set 2: top side guide

LINE CONNECTS KEYPOINTS	48	23				
LINE NO.= 51	KP1= 48	TAN1=	.0000	-1.0000	.0000	
	KP2= 23	TAN2=	.0000	1.0000	.0000	
LINE CONNECTS KEYPOINTS	48	49				
LINE NO.= 52	KP1= 48	TAN1=	-.7071	-.7071	.0000	
	KP2= 49	TAN2=	.7071	.7071	.0000	
LINE CONNECTS KEYPOINTS	24	49				
LINE NO.= 53	KP1= 24	TAN1=	.0000	1.0000	.0000	
	KP2= 49	TAN2=	.0000	-1.0000	.0000	
LINE CONNECTS KEYPOINTS	49	50				
LINE NO.= 54	KP1= 49	TAN1=	-1.0000	.0000	.0000	
	KP2= 50	TAN2=	1.0000	.0000	.0000	
LINE CONNECTS KEYPOINTS	53	48				
LINE NO.= 55	KP1= 53	TAN1=	1.0000	.0000	.0000	
	KP2= 48	TAN2=	-1.0000	.0000	.0000	
LINE CONNECTS KEYPOINTS	50	25				
LINE NO.= 56	KP1= 50	TAN1=	.0000	-1.0000	.0000	
	KP2= 25	TAN2=	.0000	1.0000	.0000	
LINE CONNECTS KEYPOINTS	26	51				
LINE NO.= 57	KP1= 26	TAN1=	.0000	1.0000	.0000	
	KP2= 51	TAN2=	.0000	-1.0000	.0000	
LINE CONNECTS KEYPOINTS	50	51				
LINE NO.= 58	KP1= 50	TAN1=	-1.0000	.0000	.0000	

	KP2=	51	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		51	52			
LINE NO.=	59	KP1=	51	TAN1=	-1.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		52	53			
LINE NO.=	60	KP1=	52	TAN1=	.0000	-1.0000
		KP2=	53	TAN2=	.0000	-1.0000

Set 3: top corner

LINE CONNECTS KEYPOINTS		56	27			
LINE NO.=	61	KP1=	56	TAN1=	-1.0000	.0000
		KP2=	27	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		52	56			
LINE NO.=	62	KP1=	52	TAN1=	.0000	-1.0000
		KP2=	56	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		27	54			
LINE NO.=	63	KP1=	27	TAN1=	.0000	1.0000
		KP2=	54	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		54	55			
LINE NO.=	64	KP1=	54	TAN1=	.0000	1.0000
		KP2=	55	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		52	54			
LINE NO.=	65	KP1=	52	TAN1=	-1.0000	.0000
		KP2=	54	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		53	55			
LINE NO.=	66	KP1=	53	TAN1=	-1.0000	.0000
		KP2=	55	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		55	58			
LINE NO.=	67	KP1=	55	TAN1=	.0000	1.0000
		KP2=	58	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		57	53			
LINE NO.=	68	KP1=	57	TAN1=	.0000	-1.0000
		KP2=	53	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		57	58			
LINE NO.=	69	KP1=	57	TAN1=	-.7071	-.7071
		KP2=	58	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS		58	28			
LINE NO.=	70	KP1=	58	TAN1=	-1.0000	.0000
		KP2=	28	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		59	57			
LINE NO.=	71	KP1=	59	TAN1=	1.0000	.0000
		KP2=	57	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		28	59			
LINE NO.=	72	KP1=	28	TAN1=	.0000	1.0000
		KP2=	59	TAN2=	.0000	-1.0000

Set 4: side guide

LINE CONNECTS KEYPOINTS		60	29			
LINE NO.=	73	KP1=	60	TAN1=	-1.0000	.0000
		KP2=	29	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		61	60			
LINE NO.=	74	KP1=	61	TAN1=	.0000	-1.0000
		KP2=	60	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS	29	62			
LINE NO.= 75 KP1=	29	TAN1=	.0000	1.0000	.0000
KP2=	62	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	62	63			
LINE NO.= 76 KP1=	62	TAN1=	.0000	1.0000	.0000
KP2=	63	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	62	30			
LINE NO.= 77 KP1=	62	TAN1=	-1.0000	.0000	.0000
KP2=	30	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	31	63			
LINE NO.= 78 KP1=	31	TAN1=	1.0000	.0000	.0000
KP2=	63	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	63	64			
LINE NO.= 79 KP1=	63	TAN1=	.0000	1.0000	.0000
KP2=	64	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	64	65			
LINE NO.= 80 KP1=	64	TAN1=	.0000	1.0000	.0000
KP2=	65	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	64	32			
LINE NO.= 81 KP1=	64	TAN1=	-1.0000	.0000	.0000
KP2=	32	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	33	65			
LINE NO.= 82 KP1=	33	TAN1=	1.0000	.0000	.0000
KP2=	65	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	65	66			
LINE NO.= 83 KP1=	65	TAN1=	.0000	1.0000	.0000
KP2=	66	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	66	67			
LINE NO.= 84 KP1=	66	TAN1=	.0000	1.0000	.0000
KP2=	67	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	66	34			
LINE NO.= 85 KP1=	66	TAN1=	-1.0000	.0000	.0000
KP2=	34	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	35	67			
LINE NO.= 86 KP1=	35	TAN1=	1.0000	.0000	.0000
KP2=	67	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	67	36			
LINE NO.= 87 KP1=	67	TAN1=	.0000	1.0000	.0000
KP2=	36	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	36	61			
LINE NO.= 88 KP1=	36	TAN1=	1.0000	.0000	.0000
KP2=	61	TAN2=	-1.0000	.0000	.0000

Set 3: bottom corner

LINE CONNECTS KEYPOINTS	37	71			
LINE NO.= 89 KP1=	37	TAN1=	.0000	-1.0000	.0000
KP2=	71	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	69	71			
LINE NO.= 90 KP1=	69	TAN1=	-1.0000	.0000	.0000
KP2=	71	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	69	70			
LINE NO.= 91 KP1=	69	TAN1=	-.7071	.7071	.0000
KP2=	70	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS		37	70			
LINE NO.=	92 KP1=	37	TAN1=	1.0000	.0000	.0000
	KP2=	70	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		70	79			
LINE NO.=	93 KP1=	70	TAN1=	.0000	1.0000	.0000
	KP2=	79	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		79	78			
LINE NO.=	94 KP1=	79	TAN1=	.0000	1.0000	.0000
	KP2=	78	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		78	38			
LINE NO.=	95 KP1=	78	TAN1=	.0000	1.0000	.0000
	KP2=	38	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		38	68			
LINE NO.=	96 KP1=	38	TAN1=	1.0000	.0000	.0000
	KP2=	68	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		68	76			
LINE NO.=	97 KP1=	68	TAN1=	.0000	-1.0000	.0000
	KP2=	76	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	77			
LINE NO.=	98 KP1=	76	TAN1=	.0000	-1.0000	.0000
	KP2=	77	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		77	69			
LINE NO.=	99 KP1=	77	TAN1=	.0000	-1.0000	.0000
	KP2=	69	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	78			
LINE NO.=	100 KP1=	76	TAN1=	-1.0000	.0000	.0000
	KP2=	78	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		77	79			
LINE NO.=	101 KP1=	77	TAN1=	-1.0000	.0000	.0000
	KP2=	79	TAN2=	1.0000	.0000	.0000

Set 2: bottom side guide

LINE CONNECTS KEYPOINTS		72	77			
LINE NO.=	102 KP1=	72	TAN1=	-1.0000	.0000	.0000
	KP2=	77	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	103 KP1=	72	TAN1=	-.7071	.7071	.0000
	KP2=	73	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		76	75			
LINE NO.=	104 KP1=	76	TAN1=	1.0000	.0000	.0000
	KP2=	75	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105 KP1=	75	TAN1=	1.0000	.0000	.0000
	KP2=	74	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		74	73			
LINE NO.=	106 KP1=	74	TAN1=	1.0000	.0000	.0000
	KP2=	73	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		73	41			
LINE NO.=	107 KP1=	73	TAN1=	.0000	1.0000	.0000
	KP2=	41	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		42	72			
LINE NO.=	108 KP1=	42	TAN1=	.0000	-1.0000	.0000
	KP2=	72	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 40 74
 LINE NO.= 109 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 74 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 75 39
 LINE NO.= 110 KP1= 75 TAN1= .0000 1.0000 .0000
 KP2= 39 TAN2= .0000 -1.0000 .0000

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 80 43
 LINE NO.= 111 KP1= 80 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 82 80
 LINE NO.= 112 KP1= 82 TAN1= -1.0000 .0000 .0000
 KP2= 80 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 81
 LINE NO.= 113 KP1= 82 TAN1= .0000 1.0000 .0000
 KP2= 81 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 43 81
 LINE NO.= 114 KP1= 43 TAN1= 1.0000 .0000 .0000
 KP2= 81 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 81 44
 LINE NO.= 115 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 44 TAN2= .0000 -1.0000 .0000

Radiation/Back Fill Gas Gaps:
 Set 1: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 48 22
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 7
 Set 2: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 25 53 54 56
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 27 57 59 62 61
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 9
 Set 3: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 63 64 67 70
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 10
 Set 4: SIDE

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 75 77
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 32 78 79 81
 (TRAVERSED IN SAME DIRECTION AS LINE 32)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 34 82 83 85
(TRAVERSED IN SAME DIRECTION AS LINE 34)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 36 86 87
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 14
Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 38 92 93 94 95
(TRAVERSED IN SAME DIRECTION AS LINE 38)

AREA NUMBER = 15
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 96 97 104 110
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 41 109 106 107
(TRAVERSED IN SAME DIRECTION AS LINE 41)

AREA NUMBER = 17
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 114 115
(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 18
SOLID GUIDES:
Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 48 49 50
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 19
Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 51 52 53
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 55 60 59 58 54
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 56 58 57
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 22
Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 61 62 65 63

```
(TRAVERSED IN SAME DIRECTION AS LINE 61)
AREA NUMBER = 23
DEFINE AREA BY LIST OF LINES
LINE LIST = 65 60 66 64
(TRAVERSED IN SAME DIRECTION AS LINE 65)
AREA NUMBER = 24
DEFINE AREA BY LIST OF LINES
LINE LIST = 66 68 69 67
(TRAVERSED IN SAME DIRECTION AS LINE 66)
AREA NUMBER = 25
DEFINE AREA BY LIST OF LINES
LINE LIST = 70 69 71 72
(TRAVERSED IN SAME DIRECTION AS LINE 70)
AREA NUMBER = 26
Set 4: SIDE
DEFINE AREA BY LIST OF LINES
LINE LIST = 73 74 88 87 84 83 80 79 76 75
(TRAVERSED IN SAME DIRECTION AS LINE 73)
AREA NUMBER = 27
DEFINE AREA BY LIST OF LINES
LINE LIST = 31 77 76 78
(TRAVERSED IN SAME DIRECTION AS LINE 31)
AREA NUMBER = 28
DEFINE AREA BY LIST OF LINES
LINE LIST = 33 81 80 82
(TRAVERSED IN SAME DIRECTION AS LINE 33)
AREA NUMBER = 29
DEFINE AREA BY LIST OF LINES
LINE LIST = 35 85 84 86
(TRAVERSED IN SAME DIRECTION AS LINE 35)
AREA NUMBER = 30
Set 3: BOTTOM
DEFINE AREA BY LIST OF LINES
LINE LIST = 89 90 91 92
(TRAVERSED IN SAME DIRECTION AS LINE 89)
AREA NUMBER = 31
DEFINE AREA BY LIST OF LINES
LINE LIST = 91 93 101 99
(TRAVERSED IN SAME DIRECTION AS LINE 91)
AREA NUMBER = 32
DEFINE AREA BY LIST OF LINES
LINE LIST = 101 94 100 98
(TRAVERSED IN SAME DIRECTION AS LINE 101)
AREA NUMBER = 33
DEFINE AREA BY LIST OF LINES
LINE LIST = 100 95 96 97
(TRAVERSED IN SAME DIRECTION AS LINE 100)
```

AREA NUMBER = 34
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES
LINE LIST = 102 98 104 105 106 103
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
LINE LIST = 40 110 105 109
(TRAVERSED IN SAME DIRECTION AS LINE 40)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES
LINE LIST = 42 107 103 108
(TRAVERSED IN SAME DIRECTION AS LINE 42)

AREA NUMBER = 37
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES
LINE LIST = 111 112 113 114
(TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 38

Define center edge half-tube
(K's 83,84,85,86,87,88,89,90,91,92,93,94)
(L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
(129,130,131,132,133)
(A's 39,40,41,42,43,44,45)

KEYPOINT	83	X,Y,Z=	.000000E+00	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	84	X,Y,Z=	.000000E+00	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	85	X,Y,Z=	.000000E+00	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	86	X,Y,Z=	.000000E+00	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	87	X,Y,Z=	.000000E+00	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	88	X,Y,Z=	.000000E+00	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	89	X,Y,Z=	.889000E-01	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	90	X,Y,Z=	.825500E-01	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	91	X,Y,Z=	.762000E-01	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	92	X,Y,Z=	.889000E-01	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	93	X,Y,Z=	.825500E-01	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	94	X,Y,Z=	.762000E-01	.167488	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	83	84
LINE NO.= 116	KP1= 83	TAN1= .0000 -1.0000 .0000
	KP2= 84	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	84	85
LINE NO.= 117	KP1= 84	TAN1= .0000 -1.0000 .0000
	KP2= 85	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	86	87
LINE NO.= 118	KP1= 86	TAN1= .0000 -1.0000 .0000
	KP2= 87	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 87 88
 LINE NO.= 119 KP1= 87 TAN1= .0000 -1.0000 .0000
 KP2= 88 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 89 83
 LINE NO.= 120 KP1= 89 TAN1= 1.0000 .0000 .0000
 KP2= 83 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 84 90
 LINE NO.= 121 KP1= 84 TAN1= -1.0000 .0000 .0000
 KP2= 90 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 85 91
 LINE NO.= 122 KP1= 85 TAN1= -1.0000 .0000 .0000
 KP2= 91 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 86 94
 LINE NO.= 123 KP1= 86 TAN1= -1.0000 .0000 .0000
 KP2= 94 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 87 93
 LINE NO.= 124 KP1= 87 TAN1= -1.0000 .0000 .0000
 KP2= 93 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 88 92
 LINE NO.= 125 KP1= 88 TAN1= -1.0000 .0000 .0000
 KP2= 92 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 90 89
 LINE NO.= 126 KP1= 90 TAN1= -.7071 .7071 .0000
 KP2= 89 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 91 90
 LINE NO.= 127 KP1= 91 TAN1= -.7071 .7071 .0000
 KP2= 90 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 94 93
 LINE NO.= 128 KP1= 94 TAN1= -.7071 -.7071 .0000
 KP2= 93 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 93 92
 LINE NO.= 129 KP1= 93 TAN1= -.7071 -.7071 .0000
 KP2= 92 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 85 86
 LINE NO.= 130 KP1= 85 TAN1= .0000 -1.0000 .0000
 KP2= 86 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 91 94
 LINE NO.= 131 KP1= 91 TAN1= .0000 -1.0000 .0000
 KP2= 94 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 90 93
 LINE NO.= 132 KP1= 90 TAN1= .0000 -1.0000 .0000
 KP2= 93 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 89 92
 LINE NO.= 133 KP1= 89 TAN1= .0000 -1.0000 .0000
 KP2= 92 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 130 123 131 122
 (TRAVERSED IN SAME DIRECTION AS LINE 130)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 116 121 126 120
 (TRAVERSED IN SAME DIRECTION AS LINE 116)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES

LINE LIST = 117 122 127 121
(TRAVERSED IN SAME DIRECTION AS LINE 117)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES

LINE LIST = 118 124 128 123
(TRAVERSED IN SAME DIRECTION AS LINE 118)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES

LINE LIST = 119 125 129 124
(TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 43

DEFINE AREA BY LIST OF LINES

LINE LIST = 131 128 132 127
(TRAVERSED IN SAME DIRECTION AS LINE 131)

AREA NUMBER = 44

DEFINE AREA BY LIST OF LINES

LINE LIST = 132 129 133 126
(TRAVERSED IN SAME DIRECTION AS LINE 132)

AREA NUMBER = 45

Define center full-tube

(K's 95,96,97,98,99,100,101,102,103,104,105,106)

(L's 134,135,136,137,138,139,140,141,142,143,144,145)

(146,147,148,149,150,151,152,153)

(A's 46,47,48,49,50,51,52,53,54)

KEYPOINT	95	X,Y,Z=	.936752E-01	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	96	X,Y,Z=	.271475	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	97	X,Y,Z=	.100025	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	98	X,Y,Z=	.265125	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	99	X,Y,Z=	.106375	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	100	X,Y,Z=	.258775	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	101	X,Y,Z=	.106375	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	102	X,Y,Z=	.258775	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	103	X,Y,Z=	.100025	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	104	X,Y,Z=	.265125	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	105	X,Y,Z=	.936752E-01	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	106	X,Y,Z=	.271475	.180188	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	95	97			
LINE NO.= 134	KP1=	95	TAN1=	-.7071	.0000
	KP2=	97	TAN2=	.7071	.0000

LINE CONNECTS KEYPOINTS	97	99			
LINE NO.= 135	KP1=	97	TAN1=	-.7071	.0000
	KP2=	99	TAN2=	.7071	.0000

LINE CONNECTS KEYPOINTS	101	103			
LINE NO.= 136 KP1=	101	TAN1=	.7071	-.7071	.0000
KP2=	103	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	103	105			
LINE NO.= 137 KP1=	103	TAN1=	.7071	-.7071	.0000
KP2=	105	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	96	98			
LINE NO.= 138 KP1=	96	TAN1=	.7071	-.7071	.0000
KP2=	98	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	98	100			
LINE NO.= 139 KP1=	98	TAN1=	.7071	-.7071	.0000
KP2=	100	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	102	104			
LINE NO.= 140 KP1=	102	TAN1=	-.7071	-.7071	.0000
KP2=	104	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	104	106			
LINE NO.= 141 KP1=	104	TAN1=	-.7071	-.7071	.0000
KP2=	106	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	96	95			
LINE NO.= 142 KP1=	96	TAN1=	1.0000	.0000	.0000
KP2=	95	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	97	98			
LINE NO.= 143 KP1=	97	TAN1=	-1.0000	.0000	.0000
KP2=	98	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	99	100			
LINE NO.= 144 KP1=	99	TAN1=	-1.0000	.0000	.0000
KP2=	100	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	101	102			
LINE NO.= 145 KP1=	101	TAN1=	-1.0000	.0000	.0000
KP2=	102	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	103	104			
LINE NO.= 146 KP1=	103	TAN1=	-1.0000	.0000	.0000
KP2=	104	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	105	106			
LINE NO.= 147 KP1=	105	TAN1=	-1.0000	.0000	.0000
KP2=	106	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	95	105			
LINE NO.= 148 KP1=	95	TAN1=	.0000	-1.0000	.0000
KP2=	105	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	97	103			
LINE NO.= 149 KP1=	97	TAN1=	.0000	-1.0000	.0000
KP2=	103	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	99	101			
LINE NO.= 150 KP1=	99	TAN1=	.0000	-1.0000	.0000
KP2=	101	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	100	102			
LINE NO.= 151 KP1=	100	TAN1=	.0000	-1.0000	.0000
KP2=	102	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	98	104			
LINE NO.= 152 KP1=	98	TAN1=	.0000	-1.0000	.0000
KP2=	104	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	106	96			
LINE NO.= 153 KP1=	106	TAN1=	.0000	1.0000	.0000

KP2= 96 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 144 151 145 150
(TRAVERSED IN SAME DIRECTION AS LINE 144)

AREA NUMBER = 46

DEFINE AREA BY LIST OF LINES

LINE LIST = 142 138 143 134
(TRAVERSED IN SAME DIRECTION AS LINE 142)

AREA NUMBER = 47

DEFINE AREA BY LIST OF LINES

LINE LIST = 143 139 144 135
(TRAVERSED IN SAME DIRECTION AS LINE 143)

AREA NUMBER = 48

DEFINE AREA BY LIST OF LINES

LINE LIST = 145 140 146 136
(TRAVERSED IN SAME DIRECTION AS LINE 145)

AREA NUMBER = 49

DEFINE AREA BY LIST OF LINES

LINE LIST = 146 141 147 137
(TRAVERSED IN SAME DIRECTION AS LINE 146)

AREA NUMBER = 50

DEFINE AREA BY LIST OF LINES

LINE LIST = 148 134 149 137
(TRAVERSED IN SAME DIRECTION AS LINE 148)

AREA NUMBER = 51

DEFINE AREA BY LIST OF LINES

LINE LIST = 149 135 150 136
(TRAVERSED IN SAME DIRECTION AS LINE 149)

AREA NUMBER = 52

DEFINE AREA BY LIST OF LINES

LINE LIST = 151 139 152 140
(TRAVERSED IN SAME DIRECTION AS LINE 151)

AREA NUMBER = 53

DEFINE AREA BY LIST OF LINES

LINE LIST = 152 138 153 141
(TRAVERSED IN SAME DIRECTION AS LINE 152)

AREA NUMBER = 54

Define edge half-tube

(K's 107,108,109,110,111,112,113,114,115,116,117)

(L's 154,155,156,157,158,159,160,161,162,163,164,165)

(166,167,168,169)

(A's 55,56,57,58,59,60)

KEYPOINT	107	X,Y,Z=	.000000E+00	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	108	X,Y,Z=	.762000E-01	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	109	X,Y,Z=	.000000E+00	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	110	X,Y,Z=	.762000E-01	.562813	.000000E+00	IN CSYS= 0

KEYPOINT	111	X,Y,Z=	.000000E+00	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	112	X,Y,Z=	.825500E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	113	X,Y,Z=	.000000E+00	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	114	X,Y,Z=	.825500E-01	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	115	X,Y,Z=	.889000E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	116	X,Y,Z=	.000000E+00	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	117	X,Y,Z=	.889000E-01	.550113	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	116	113			
LINE NO.= 154	KP1=	116	TAN1=	.0000	-1.0000
	KP2=	113	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS	113	109			
LINE NO.= 155	KP1=	113	TAN1=	.0000	-1.0000
	KP2=	109	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS	107	111			
LINE NO.= 156	KP1=	107	TAN1=	.0000	-1.0000
	KP2=	111	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS	114	117			
LINE NO.= 157	KP1=	114	TAN1=	-.7071	.7071
	KP2=	117	TAN2=	.7071	-.7071

LINE CONNECTS KEYPOINTS	110	114			
LINE NO.= 158	KP1=	110	TAN1=	-.7071	.7071
	KP2=	114	TAN2=	.7071	-.7071

LINE CONNECTS KEYPOINTS	112	115			
LINE NO.= 159	KP1=	112	TAN1=	-1.0000	.0000
	KP2=	115	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS	108	112			
LINE NO.= 160	KP1=	108	TAN1=	-.7071	-.7071
	KP2=	112	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS	116	117			
LINE NO.= 161	KP1=	116	TAN1=	-1.0000	.0000
	KP2=	117	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS	113	114			
LINE NO.= 162	KP1=	113	TAN1=	-1.0000	.0000
	KP2=	114	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS	109	110			
LINE NO.= 163	KP1=	109	TAN1=	-1.0000	.0000
	KP2=	110	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS	108	107			
LINE NO.= 164	KP1=	108	TAN1=	1.0000	.0000
	KP2=	107	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS	111	112			
LINE NO.= 165	KP1=	111	TAN1=	-1.0000	.0000
	KP2=	112	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS	109	107			
LINE NO.= 166	KP1=	109	TAN1=	.0000	-1.0000
	KP2=	107	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS	110	108			
LINE NO.= 167	KP1=	110	TAN1=	.0000	-1.0000
	KP2=	108	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS 114 112
 LINE NO.= 168 KP1= 114 TAN1= .0000 -1.0000 .0000
 KP2= 112 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 115 117
 LINE NO.= 169 KP1= 115 TAN1= .0000 1.0000 .0000
 KP2= 117 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 166 163 167 164
 (TRAVERSED IN SAME DIRECTION AS LINE 166)

AREA NUMBER = 55

DEFINE AREA BY LIST OF LINES
 LINE LIST = 161 157 162 154
 (TRAVERSED IN SAME DIRECTION AS LINE 161)

AREA NUMBER = 56

DEFINE AREA BY LIST OF LINES
 LINE LIST = 162 158 163 155
 (TRAVERSED IN SAME DIRECTION AS LINE 162)

AREA NUMBER = 57

DEFINE AREA BY LIST OF LINES
 LINE LIST = 164 160 165 156
 (TRAVERSED IN SAME DIRECTION AS LINE 164)

AREA NUMBER = 58

DEFINE AREA BY LIST OF LINES
 LINE LIST = 167 158 168 160
 (TRAVERSED IN SAME DIRECTION AS LINE 167)

AREA NUMBER = 59

DEFINE AREA BY LIST OF LINES
 LINE LIST = 168 157 169 159
 (TRAVERSED IN SAME DIRECTION AS LINE 168)

AREA NUMBER = 60

Define edge full-tube
 (K's 118,119,120,121,122,123,124,125,126,127,128,129)
 (L's 170,171,172,173,174,175,176,177,178,179,180,181)
 (182,183,184,185,186,187,188)
 (A's 61,62,63,64,65,66,67,68)

KEYPOINT	118	X,Y,Z=	.471526	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	119	X,Y,Z=	.623926	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	120	X,Y,Z=	.471526	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	121	X,Y,Z=	.623926	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	122	X,Y,Z=	.465176	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	123	X,Y,Z=	.630276	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	124	X,Y,Z=	.465176	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	125	X,Y,Z=	.630276	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	126	X,Y,Z=	.458826	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	127	X,Y,Z=	.630276	.238760E-02	.000000E+00	IN CSYS= 0

KEYPOINT 128 X,Y,Z= .458826 .180188 .000000E+00 IN CSYS= 0

KEYPOINT 129 X,Y,Z= .630276 .180188 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 122 126
 LINE NO.= 170 KP1= 122 TAN1= .7071 .7071 .0000
 KP2= 126 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 118 122
 LINE NO.= 171 KP1= 118 TAN1= .7071 .7071 .0000
 KP2= 122 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 120 124
 LINE NO.= 172 KP1= 120 TAN1= .7071 -.7071 .0000
 KP2= 124 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 124 128
 LINE NO.= 173 KP1= 124 TAN1= .7071 -.7071 .0000
 KP2= 128 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 123 127
 LINE NO.= 174 KP1= 123 TAN1= .0000 1.0000 .0000
 KP2= 127 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 119 123
 LINE NO.= 175 KP1= 119 TAN1= -.7071 .7071 .0000
 KP2= 123 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 121 125
 LINE NO.= 176 KP1= 121 TAN1= -.7071 -.7071 .0000
 KP2= 125 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 129 125
 LINE NO.= 177 KP1= 129 TAN1= .0000 1.0000 .0000
 KP2= 125 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 127 126
 LINE NO.= 178 KP1= 127 TAN1= 1.0000 .0000 .0000
 KP2= 126 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 122 123
 LINE NO.= 179 KP1= 122 TAN1= -1.0000 .0000 .0000
 KP2= 123 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 118 119
 LINE NO.= 180 KP1= 118 TAN1= -1.0000 .0000 .0000
 KP2= 119 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 120 121
 LINE NO.= 181 KP1= 120 TAN1= -1.0000 .0000 .0000
 KP2= 121 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 124 125
 LINE NO.= 182 KP1= 124 TAN1= -1.0000 .0000 .0000
 KP2= 125 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 128 129
 LINE NO.= 183 KP1= 128 TAN1= -1.0000 .0000 .0000
 KP2= 129 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 126 128
 LINE NO.= 184 KP1= 126 TAN1= .0000 -1.0000 .0000
 KP2= 128 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 122 124
 LINE NO.= 185 KP1= 122 TAN1= .0000 -1.0000 .0000
 KP2= 124 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 118 120
 LINE NO.= 186 KP1= 118 TAN1= .0000 -1.0000 .0000

KP2= 120 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 119 121
 LINE NO.= 187 KP1= 119 TAN1= .0000 -1.0000 .0000
 KP2= 121 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 125 123
 LINE NO.= 188 KP1= 125 TAN1= .0000 1.0000 .0000
 KP2= 123 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 180 187 181 186
 (TRAVERSED IN SAME DIRECTION AS LINE 180)

AREA NUMBER = 61

DEFINE AREA BY LIST OF LINES
 LINE LIST = 178 174 179 170
 (TRAVERSED IN SAME DIRECTION AS LINE 178)

AREA NUMBER = 62

DEFINE AREA BY LIST OF LINES
 LINE LIST = 179 175 180 171
 (TRAVERSED IN SAME DIRECTION AS LINE 179)

AREA NUMBER = 63

DEFINE AREA BY LIST OF LINES
 LINE LIST = 181 176 182 172
 (TRAVERSED IN SAME DIRECTION AS LINE 181)

AREA NUMBER = 64

DEFINE AREA BY LIST OF LINES
 LINE LIST = 182 177 183 173
 (TRAVERSED IN SAME DIRECTION AS LINE 182)

AREA NUMBER = 65

DEFINE AREA BY LIST OF LINES
 LINE LIST = 184 170 185 173
 (TRAVERSED IN SAME DIRECTION AS LINE 184)

AREA NUMBER = 66

DEFINE AREA BY LIST OF LINES
 LINE LIST = 185 171 186 172
 (TRAVERSED IN SAME DIRECTION AS LINE 185)

AREA NUMBER = 67

DEFINE AREA BY LIST OF LINES
 LINE LIST = 187 175 188 176
 (TRAVERSED IN SAME DIRECTION AS LINE 187)

AREA NUMBER = 68

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Set element shapes and sizes for tubes
 8x8 mesh in fuel with 2
 divisions per tube layer

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

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=

```
IN RANGE    130 TO    133 STEP    1
      4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    142 TO    153 STEP    1
      16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    166 TO    169 STEP    1
      20 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    178 TO    188 STEP    1
      31 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
  TO NDIV = 8, SPACING RATIO = 1.000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    120 TO    125 STEP    1
      6 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    161 TO    165 STEP    1
      11 LINES (OF 188 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    116 TO    119 STEP    1
      4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    126 TO    129 STEP    1
      8 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    134 TO    141 STEP    1
      16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    154 TO    160 STEP    1
      23 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    170 TO    177 STEP    1
      31 LINES (OF 188 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    188 STEP    1
      188 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
```

Mesh areas
first fuel, then stainless, then aluminum

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 45
MAXIMUM ELEMENT NUMBER = 32

GENERATE NODES AND ELEMENTS
IN AREAS 46 TO 46 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 126
MAXIMUM ELEMENT NUMBER = 96

GENERATE NODES AND ELEMENTS
IN AREAS 55 TO 55 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 171
MAXIMUM ELEMENT NUMBER = 128

GENERATE NODES AND ELEMENTS
IN AREAS 61 TO 61 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 252
MAXIMUM ELEMENT NUMBER = 192

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 41 TO 42 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 272
MAXIMUM ELEMENT NUMBER = 208

GENERATE NODES AND ELEMENTS
IN AREAS 44 TO 44 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 286
MAXIMUM ELEMENT NUMBER = 224

GENERATE NODES AND ELEMENTS
IN AREAS 48 TO 49 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 322
MAXIMUM ELEMENT NUMBER = 256

GENERATE NODES AND ELEMENTS
IN AREAS 52 TO 53 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 350
MAXIMUM ELEMENT NUMBER = 288

GENERATE NODES AND ELEMENTS
IN AREAS 57 TO 59 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 384


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MAXIMUM ELEMENT NUMBER      =    320

GENERATE NODES AND ELEMENTS
  IN AREAS      63 TO      64  IN STEPS OF      1

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    420
MAXIMUM ELEMENT NUMBER      =    352

GENERATE NODES AND ELEMENTS
  IN AREAS      67 TO      68  IN STEPS OF      1

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    448
MAXIMUM ELEMENT NUMBER      =    384

MATERIAL NUMBER SET TO     13

ELEMENT TYPE SET TO        1

GENERATE NODES AND ELEMENTS
  IN AREAS      40 TO      43  IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    468
MAXIMUM ELEMENT NUMBER      =    400

GENERATE NODES AND ELEMENTS
  IN AREAS      45 TO      45  IN STEPS OF      1

NUMBER OF AREAS MESHED      =      1
MAXIMUM NODE NUMBER        =    482
MAXIMUM ELEMENT NUMBER      =    416

GENERATE NODES AND ELEMENTS
  IN AREAS      47 TO      50  IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    518
MAXIMUM ELEMENT NUMBER      =    448

GENERATE NODES AND ELEMENTS
  IN AREAS      51 TO      54  IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    546
MAXIMUM ELEMENT NUMBER      =    480

GENERATE NODES AND ELEMENTS
  IN AREAS      56 TO      60  IN STEPS OF      4

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    572
MAXIMUM ELEMENT NUMBER      =    504

GENERATE NODES AND ELEMENTS
  IN AREAS      62 TO      65  IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =    608
MAXIMUM ELEMENT NUMBER      =    536

GENERATE NODES AND ELEMENTS
  IN AREAS      66 TO      66  IN STEPS OF      1

NUMBER OF AREAS MESHED      =      1
MAXIMUM NODE NUMBER        =    622
MAXIMUM ELEMENT NUMBER      =    552

```

Copy tube mesh

center half tube above and below
(A's 69-75,76-82)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 39 TO 45 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 848
MAXIMUM ELEMENT NUMBER = 744
(A's 83-89,90-96,97-103)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 39 TO 45 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1187
MAXIMUM ELEMENT NUMBER = 1032

center fuel tube above and below
(A's 104-112,113-121)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1605
MAXIMUM ELEMENT NUMBER = 1416
(A's 122-130,131-139,140-148)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2232
MAXIMUM ELEMENT NUMBER = 1992
(A's 149-157)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .183 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2441
MAXIMUM ELEMENT NUMBER = 2184
(A's 158-166,167-175)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 149 TO 157 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2859
MAXIMUM ELEMENT NUMBER = 2568
(A's 176-184,185-193,194-202)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 149 TO 157 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3486
MAXIMUM ELEMENT NUMBER = 3144

side edge fuel tube above and below
(A's 203-210)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 61 TO 68 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3681
MAXIMUM ELEMENT NUMBER = 3320

(A's 211-218,219-226)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0
 MAXIMUM NODE NUMBER = 4071
 MAXIMUM ELEMENT NUMBER = 3672

edge half tube bottom (13)
 (A's 227-232)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 55 TO 60 IN STEPS OF 1

MAXIMUM NODE NUMBER = 4176
 MAXIMUM ELEMENT NUMBER = 3760

Define thin stainless layers
 (K's 380,381,382,383,384,385,286,387,388,389, through 397)
 (A's 233 - 301)

KEYPOINT	380	X,Y,Z=	.912876E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	381	X,Y,Z=	.912876E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	382	X,Y,Z=	.912876E-01	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	383	X,Y,Z=	.936752E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	384	X,Y,Z=	.271475	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	385	X,Y,Z=	.276250	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	386	X,Y,Z=	.456438	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	387	X,Y,Z=	.456438	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	388	X,Y,Z=	.456438	.367538	.000000E+00	IN CSYS= 0
KEYPOINT	389	X,Y,Z=	.458826	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	390	X,Y,Z=	.630276	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	391	X,Y,Z=	.630276	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	392	X,Y,Z=	.458826	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	393	X,Y,Z=	.456438	-.367538	.000000E+00	IN CSYS= 0
KEYPOINT	394	X,Y,Z=	.456438	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	395	X,Y,Z=	.456438	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	396	X,Y,Z=	.276250	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	397	X,Y,Z=	.271475	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	398	X,Y,Z=	.936752E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	399	X,Y,Z=	.912876E-01	-.550113	.000000E+00	IN CSYS= 0
KEYPOINT	400	X,Y,Z=	.912876E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	401	X,Y,Z=	.912876E-01	-.721563	.000000E+00	IN CSYS= 0

DEFINE AREA BY LIST OF KEYPOINTS
 KEYPOINT LIST = 152 116 117 153

AREA NUMBER = 233
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 382 381 153
AREA NUMBER = 234
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 381 383 213 153
AREA NUMBER = 235
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 115 380 382
AREA NUMBER = 236
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 153 213 207 149
AREA NUMBER = 237
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 213 383 384 212
AREA NUMBER = 238
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 384 385 285
AREA NUMBER = 239
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 285 385 386 284
AREA NUMBER = 240
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 285 279 206
AREA NUMBER = 241
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 284 386 388 278
AREA NUMBER = 242
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 388 387 272
AREA NUMBER = 243
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 387 389 333
AREA NUMBER = 244
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 333 327 266
AREA NUMBER = 245
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 333 389 390 332
AREA NUMBER = 246
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 272 273 279

AREA NUMBER = 247
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 206 279 273 200
AREA NUMBER = 248
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 273 267 194
AREA NUMBER = 249
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 206 207 201
AREA NUMBER = 250
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 207 201
AREA NUMBER = 251
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 201 195 137
AREA NUMBER = 252
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 146 140
AREA NUMBER = 253
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 88 134 137 92
AREA NUMBER = 254
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 137 195 105
AREA NUMBER = 255
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 105 95 89
AREA NUMBER = 256
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 105 195 194 106
AREA NUMBER = 257
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 194 267 261
AREA NUMBER = 258
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 261 255 96
AREA NUMBER = 259
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 261 267 266 260
AREA NUMBER = 260
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 266 327 128

AREA NUMBER = 261
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 128 126 254
AREA NUMBER = 262
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 128 327 326 129
AREA NUMBER = 263
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 126 345
AREA NUMBER = 264
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 345 339 290
AREA NUMBER = 265
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 345 126 127 344
AREA NUMBER = 266
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 255 297
AREA NUMBER = 267
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 255 297
AREA NUMBER = 268
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 297 291 218
AREA NUMBER = 269
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 95 225
AREA NUMBER = 270
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 95 225
AREA NUMBER = 271
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 83 164
AREA NUMBER = 272
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 225 219 161
AREA NUMBER = 273
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 219 237
AREA NUMBER = 274
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 158 176

AREA NUMBER = 275
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 237 231 173
AREA NUMBER = 276
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 237 219 218 236
AREA NUMBER = 277
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 218 291 309
AREA NUMBER = 278
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 309 303 230
AREA NUMBER = 279
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 309 291 290 308
AREA NUMBER = 280
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 290 339 357
AREA NUMBER = 281
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 357 351 302
AREA NUMBER = 282
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 357 339 338 356
AREA NUMBER = 283
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 350 391 392 351
AREA NUMBER = 284
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 351 392 394 302
AREA NUMBER = 285
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 302 394 393 320
AREA NUMBER = 286
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 393 395 314
AREA NUMBER = 287
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 302 303 321
AREA NUMBER = 288
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 303 321

AREA NUMBER = 289
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 321 315 242
AREA NUMBER = 290
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 231 249
AREA NUMBER = 291
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 231 249
AREA NUMBER = 292
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 170 188
AREA NUMBER = 293
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 249 243 185
AREA NUMBER = 294
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 243 398 400 185
AREA NUMBER = 295
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 185 400 399 363
AREA NUMBER = 296
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 185 182 362
AREA NUMBER = 297
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 399 401 368
AREA NUMBER = 298
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 398 243 242 397
AREA NUMBER = 299
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 242 315 396 397
AREA NUMBER = 300
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 315 314 395 396
AREA NUMBER = 301

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

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

GENERATE NODES AND ELEMENTS
IN AREAS 233 TO 301 IN STEPS OF 1

NUMBER OF AREAS MESHD = 69
MAXIMUM NODE NUMBER = 4268
MAXIMUM ELEMENT NUMBER = 4123

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 20.550 TIME= 18:10:26
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Create mesh in tube guides
(L's 686,687,688)

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SET DIVISIONS ON LINE 47 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 48 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 49 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 50 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 51 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 52 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 53 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 55 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 56 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 57 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 58 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 59 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 60 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 61 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 62 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 63 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 64 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 65 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 66 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 67 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 68 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 69 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 70 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 71 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 72 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 73 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 74 (IF SELECTED AND UNMESHED)
TO NDIV = 38, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 75 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 76 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 77 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 78 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 79 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 80 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 81 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 82 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 83 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 84 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 85 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 86 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 87 (IF SELECTED AND UNMESHED)

TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 88 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 89 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 90 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 91 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 92 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 93 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 94 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 95 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 96 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 97 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 98 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 99 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 100 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 101 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 102 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 103 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 104 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 105 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 106 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 107 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 108 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 109 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 110 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 111 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 112 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 113 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 114 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 59 STEP 1

2 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 54 STEP 1

3 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 686 KP1= 49 KP2= 52

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

2 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 80 STEP 1

4 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 83 TO 84 STEP 1

6 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 87 TO 87 STEP 1

7 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 687 KP1= 29 KP2= 36

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 104 TO 106 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 688 KP1= 76 KP2= 73

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 688 STEP 1

688 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 19 TO 38 IN STEPS OF 1

*** WARNING *** CP= 21.800 TIME= 18:10:27
Meshing of area 21 produced 10 poorly shaped elements.

*** NOTE *** CP= 21.800 TIME= 18:10:27
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4167 4168 4169 4170 4171 4185 4186 4187 4188 4189

*** WARNING *** CP= 22.170 TIME= 18:10:28
Meshing of area 27 produced 28 poorly shaped elements.

*** NOTE *** CP= 22.170 TIME= 18:10:28
Worst shape angle is 27 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4274 4275 4276 4277 4278 4286 4287 4290 4291 4299
4300 4301 4302 4303 4312 4313 4314 4315 4316 4324
4325 4328 4329 4337 4338 4339 4340 4341

*** WARNING *** CP= 22.510 TIME= 18:10:28
Meshing of area 35 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.510 TIME= 18:10:28
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4438 4439 4440 4441 4442 4443 4444 4445 4446 4447

NUMBER OF AREAS MESHED = 20
MAXIMUM NODE NUMBER = 4871
MAXIMUM ELEMENT NUMBER = 4515

Create mesh in MPC shell
(L's 689,690,691)

SET DIVISIONS ON LINE 22 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 23 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 25 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 29 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 30 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 32 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 34 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 36 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 37 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 38 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 39 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 41 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 43 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 44 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 44 STEP 1

23 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 689 KP1= 21 KP2= 44

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 689 STEP 1

689 LINES (OF 689 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 17 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 18 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 21 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 45 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

CONCATENATE LINES
LINES = 17 18

COMPOSITE LINE NO.= 690 KP1= 18 KP2= 20

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

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 6 TO 6 IN STEPS OF 1

*** WARNING *** CP= 24.850 TIME= 18:10:30
Meshing of area 6 produced 54 poorly shaped elements.

*** NOTE *** CP= 24.860 TIME= 18:10:30

Worst shape angle is 36 degrees.

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

4540	4541	4542	4543	4544	4545	4546	4547	4548	4611
4613	4614	4615	4616	4617	4651	4652	4653	4705	4706
4707	4708	4709	4710	4711	4712	4713	4756	4757	4758
4759	4760	4761	4762	4763	4764	4816	4817	4818	4852
4853	4854	4856	4857	4860	4921	4922	4923	4924	4925
4926	4927	4928	4929						

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 5430
 MAXIMUM ELEMENT NUMBER = 4953

Assume vacuum between shell and inner barrier

SET DIVISIONS ON LINE 14 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 13 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 19 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 20 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

CONCATENATE LINES
 LINES = 14 13

COMPOSITE LINE NO.= 691 KP1= 17 KP2= 15

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.
 No MAT,7,
 No TYPE,1,
 No AMESH,5,
 Delete concatenated lines
 (L's freed up 686,687,688,689,690,691)

DELETE SELECTED LINES FROM 686 TO 691 BY 1

DELETED 6 LINES

Create mesh in inner and outer barrier

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 10 STEP 1

4 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 73, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 691 STEP 1

685 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 6 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 15 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 16 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)

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TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (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

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 = 6018
MAXIMUM ELEMENT NUMBER = 5391

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 = 6459
MAXIMUM ELEMENT NUMBER = 5829
*****
Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

SET DIVISIONS ON LINE 46 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 115 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

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 7 TO 7 IN STEPS OF 1
** AREA 7 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 28.700 TIME= 18:10:34
Meshing of area 7 produced 1 poorly shaped elements.

*** NOTE *** CP= 28.700 TIME= 18:10:34
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
5830

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6459
MAXIMUM ELEMENT NUMBER = 5833

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	8 TO	11	IN STEPS OF	1	
** AREA	9 MESHED WITH	82	QUADRILATERALS,	21	TRIANGLES **
** AREA	10 MESHED WITH	78	QUADRILATERALS,	19	TRIANGLES **
** AREA	11 MESHED WITH	24	QUADRILATERALS,	7	TRIANGLES **

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 6704
MAXIMUM ELEMENT NUMBER = 6168

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	12 TO	13	IN STEPS OF	1	
NUMBER OF AREAS MESHED	=	2			
MAXIMUM NODE NUMBER	=	6746			
MAXIMUM ELEMENT NUMBER	=	6232			

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	14 TO	16	IN STEPS OF	1	
** AREA	14 MESHED WITH	25	QUADRILATERALS,	11	TRIANGLES **
** AREA	15 MESHED WITH	74	QUADRILATERALS,	23	TRIANGLES **
** AREA	16 MESHED WITH	75	QUADRILATERALS,	21	TRIANGLES **

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 6901
MAXIMUM ELEMENT NUMBER = 6461

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	17 TO	17	IN STEPS OF	1	
NUMBER OF AREAS MESHED	=	1			
MAXIMUM NODE NUMBER	=	6985			
MAXIMUM ELEMENT NUMBER	=	6565			

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	18 TO	18	IN STEPS OF	1	
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** AREA 18 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 31.960 TIME= 18:10:38
 Meshing of area 18 produced 1 poorly shaped elements.

*** NOTE *** CP= 31.960 TIME= 18:10:38
 Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
 6566

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 6985
 MAXIMUM ELEMENT NUMBER = 6569

Define mesh and radiation surface elements for
 tube/guides gap
 (L's 686,687)
 (A's 302)

LINE CONNECTS KEYPOINTS 47 111
 LINE NO.= 686 KP1= 47 TAN1= .0000 1.0000 .0000
 KP2= 111 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 366 82
 LINE NO.= 687 KP1= 366 TAN1= .0000 1.0000 .0000
 KP2= 82 TAN2= .0000 -1.0000 .0000

Select lines around tubes

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 686 TO 686 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 165 TO 165 STEP 1

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 159 TO 159 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 580 TO 580 STEP 1

4 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 581 TO 581 STEP 1

5 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 575 TO 575 STEP 1

6 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 577 TO 577 STEP 1

7 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 583 TO 583 STEP 1

8 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 585 TO 585 STEP 1
9 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 588 TO 588 STEP 1
10 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 591 TO 591 STEP 1
11 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 593 TO 593 STEP 1
12 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 596 TO 596 STEP 1
13 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 600 TO 600 STEP 1
14 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 601 TO 601 STEP 1
15 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 512 TO 512 STEP 1
16 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 517 TO 517 STEP 1
17 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 506 TO 506 STEP 1
18 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 624 TO 624 STEP 1
19 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 177 TO 177 STEP 1
20 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 188 TO 188 STEP 1
21 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 174 TO 174 STEP 1
22 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 629 TO 629 STEP 1
23 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 531 TO 531 STEP 1
24 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 536 TO 536 STEP 1
25 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 525 TO 525 STEP 1
26 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 652 TO 652 STEP 1
27 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 550 TO 550 STEP 1
28 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 555 TO 555 STEP 1
29 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 544 TO 544 STEP 1
30 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 653 TO 653 STEP 1
31 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 654 TO 654 STEP 1
32 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 656 TO 656 STEP 1
33 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 658 TO 658 STEP 1
34 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 661 TO 661 STEP 1
35 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 685 TO 685 STEP 1
36 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 684 TO 684 STEP 1
37 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 682 TO 682 STEP 1
38 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 673 TO 673 STEP 1
39 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 675 TO 675 STEP 1
40 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 679 TO 679 STEP 1
41 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 680 TO 680 STEP 1
42 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 570 TO 570 STEP 1
43 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 567 TO 567 STEP 1
44 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 687 TO 687 STEP 1
45 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Select lines around tube guides

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 112 TO 112 STEP 1
46 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 111 STEP 1
47 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 43 TO 43 STEP 1
48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 108 TO 108 STEP 1
49 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 102 TO 102 STEP 1
50 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 99 TO 99 STEP 1
51 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 90 TO 90 STEP 1
52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 89 TO 89 STEP 1
53 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 37 TO 37 STEP 1
54 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 88 TO 88 STEP 1
55 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 74 TO 74 STEP 1
56 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 73 TO 73 STEP 1
57 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 29 TO 29 STEP 1
58 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 72 TO 72 STEP 1
59 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 71 STEP 1
60 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 68 TO 68 STEP 1
61 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 55 TO 55 STEP 1
62 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 51 TO 51 STEP 1
63 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 23 STEP 1
64 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

65 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

66 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Define area

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

AREA NUMBER = 302
Create radiation surface elements

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

339 NODES (OF 6985 DEFINED) SELECTED FROM
66 SELECTED LINES BY NSLL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 7

GENERATE ELEMENTS ON SURFACE DEFINED BY SELECTED NODES
TYPE= 7 REAL= 1 MATERIAL= 1 ESYS= 0

NUMBER OF ELEMENTS GENERATED= 337

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 6985 STEP 1

6985 NODES (OF 6985 DEFINED) SELECTED BY NSEL COMMAND.
Mesh gap

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

SET DIVISIONS ON LINE 686 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 687 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 302 TO 302 IN STEPS OF 1
** AREA 302 MESHED WITH 102 QUADRILATERALS, 190 TRIANGLES **

*** WARNING *** CP= 51.690 TIME= 18:10:57
Meshing of area 302 produced 7 poorly shaped elements.

*** NOTE *** CP= 51.690 TIME= 18:10:57
Worst aspect ratio is 92.192168 : 1.

*** NOTE *** CP= 51.690 TIME= 18:10:57

Worst shape angle is 2 degrees.

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

6914 6922 6978 6979 7110 7133 7159

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7198

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

Create other radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 22 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7202

GENERATE NODES AND ELEMENTS
 ON LINES 25 TO 27 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7225

GENERATE NODES AND ELEMENTS
 ON LINES 28 TO 38 IN STEPS OF 2

NUMBER OF LINES MESHED = 6
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7287

GENERATE NODES AND ELEMENTS
 ON LINES 39 TO 41 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7310

GENERATE NODES AND ELEMENTS
 ON LINES 44 TO 44 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7314

GENERATE NODES AND ELEMENTS
 ON LINES 46 TO 48 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7319

GENERATE NODES AND ELEMENTS
 ON LINES 53 TO 54 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7340

GENERATE NODES AND ELEMENTS


```

      ON LINES      56 TO      57 IN STEPS OF      1

NUMBER OF LINES MESHED      =      2
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7366

GENERATE NODES AND ELEMENTS
      ON LINES      59 TO      59 IN STEPS OF      1

NUMBER OF LINES MESHED      =      1
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7374

GENERATE NODES AND ELEMENTS
      ON LINES      61 TO      64 IN STEPS OF      1

NUMBER OF LINES MESHED      =      4
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7380

GENERATE NODES AND ELEMENTS
      ON LINES      67 TO      70 IN STEPS OF      3

NUMBER OF LINES MESHED      =      2
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7402

GENERATE NODES AND ELEMENTS
      ON LINES      75 TO      75 IN STEPS OF      1

NUMBER OF LINES MESHED      =      1
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7410

GENERATE NODES AND ELEMENTS
      ON LINES      77 TO      79 IN STEPS OF      1

NUMBER OF LINES MESHED      =      3
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7426

GENERATE NODES AND ELEMENTS
      ON LINES      81 TO      83 IN STEPS OF      1

NUMBER OF LINES MESHED      =      3
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7442

GENERATE NODES AND ELEMENTS
      ON LINES      85 TO      87 IN STEPS OF      1

NUMBER OF LINES MESHED      =      3
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7458

GENERATE NODES AND ELEMENTS
      ON LINES      92 TO      97 IN STEPS OF      1

NUMBER OF LINES MESHED      =      6
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7486

GENERATE NODES AND ELEMENTS
      ON LINES     104 TO     104 IN STEPS OF      1

NUMBER OF LINES MESHED      =      1
MAXIMUM NODE NUMBER      =      7016
MAXIMUM ELEMENT NUMBER      =      7494

GENERATE NODES AND ELEMENTS

```

ON LINES 106 TO 107 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7515

GENERATE NODES AND ELEMENTS
 ON LINES 109 TO 110 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7541

GENERATE NODES AND ELEMENTS
 ON LINES 114 TO 115 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7546
 MPC shell/inner barrier gap

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
 ON LINES 17 TO 18 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7692

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 14 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7838

***** ROUTINE COMPLETED ***** CP = 52.020

Create element mesh plots to illustrate model
 View mesh for entire model

GRAPHIC DISPLAY RESET
 XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
 40 BWR MPC/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=
40 BWR MPC/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

6806 ELEMENTS (OF 7838 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=
40 BWR MPC/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

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

685 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

977 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:11:06 MAR 31, 1995 CP= 60.390
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

339 NODES (OF 7016 DEFINED) SELECTED FROM
337 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= tubegap.sub

*** WARNING *** CP= 60.720 TIME= 18:11:07
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= 337 NUMBER OF NODES= 339

800 ZONES CREATE 1600 RAYS

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

348 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

346 NODES (OF 7016 DEFINED) SELECTED FROM
348 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= 76.210 TIME= 18:11:22
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= 348 NUMBER OF NODES= 346

800 ZONES CREATE 1600 RAYS

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

292 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

294 NODES (OF 7016 DEFINED) SELECTED FROM
292 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= shellgap.sub

*** WARNING *** CP= 96.340 TIME= 18:11:43
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= 292 NUMBER OF NODES= 294

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.410

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:11:56 MAR 31, 1995 CP= 109.410
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 7839 tubegap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7839

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7839

SUPERELEMENT 7840 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7840

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7840

SUPERELEMENT 7841 shellgap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7841

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7841
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7841 DEFINED) SELECTED BY ESEL COMMAND.

DELETE ALL SELECTED ELEMENTS.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

7504 ELEMENTS (OF 7504 DEFINED) SELECTED BY ESEL COMMAND.

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

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 109.970 TIME= 18:11:56
Nodes cannot be cleared from line 13 because area 3 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.990 TIME= 18:11:56
Nodes cannot be cleared from line 14 because area 4 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.010 TIME= 18:11:57
Nodes cannot be cleared from line 17 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.030 TIME= 18:11:57
Nodes cannot be cleared from line 18 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.050 TIME= 18:11:57
Nodes cannot be cleared from line 22 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.050 TIME= 18:11:57
Nodes cannot be cleared from line 25 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.060 TIME= 18:11:57
Nodes cannot be cleared from line 27 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.060 TIME= 18:11:57
Nodes cannot be cleared from line 28 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.070 TIME= 18:11:57
Nodes cannot be cleared from line 30 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.070 TIME= 18:11:57
Nodes cannot be cleared from line 32 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.080 TIME= 18:11:57
Nodes cannot be cleared from line 34 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.080 TIME= 18:11:57
Nodes cannot be cleared from line 36 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.080 TIME= 18:11:57
Nodes cannot be cleared from line 38 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.090 TIME= 18:11:57
Nodes cannot be cleared from line 39 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.090 TIME= 18:11:57
Nodes cannot be cleared from line 41 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.100 TIME= 18:11:57
Nodes cannot be cleared from line 44 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.100 TIME= 18:11:57
Nodes cannot be cleared from line 46 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.100 TIME= 18:11:57
Nodes cannot be cleared from line 48 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.110 TIME= 18:11:57
Nodes cannot be cleared from line 53 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.110 TIME= 18:11:57
Nodes cannot be cleared from line 54 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.120 TIME= 18:11:57
Nodes cannot be cleared from line 56 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.120 TIME= 18:11:57
Nodes cannot be cleared from line 57 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.130 TIME= 18:11:57
Nodes cannot be cleared from line 59 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.130 TIME= 18:11:57
Nodes cannot be cleared from line 61 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.130 TIME= 18:11:57
Nodes cannot be cleared from line 62 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.130 TIME= 18:11:57
Nodes cannot be cleared from line 63 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.140 TIME= 18:11:57
Nodes cannot be cleared from line 64 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.140 TIME= 18:11:57
Nodes cannot be cleared from line 67 because area 10 is meshed. Only

elements are deleted.

*** NOTE *** CP= 110.140 TIME= 18:11:57
Nodes cannot be cleared from line 70 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.150 TIME= 18:11:57
Nodes cannot be cleared from line 75 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.150 TIME= 18:11:57
Nodes cannot be cleared from line 77 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.160 TIME= 18:11:57
Nodes cannot be cleared from line 78 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.160 TIME= 18:11:57
Nodes cannot be cleared from line 79 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.160 TIME= 18:11:57
Nodes cannot be cleared from line 81 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.170 TIME= 18:11:57
Nodes cannot be cleared from line 82 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.170 TIME= 18:11:57
Nodes cannot be cleared from line 83 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.170 TIME= 18:11:57
Nodes cannot be cleared from line 85 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.180 TIME= 18:11:57
Nodes cannot be cleared from line 86 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.180 TIME= 18:11:57
Nodes cannot be cleared from line 87 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.180 TIME= 18:11:57
Nodes cannot be cleared from line 92 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.190 TIME= 18:11:57
Nodes cannot be cleared from line 93 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.190 TIME= 18:11:57
Nodes cannot be cleared from line 94 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.190 TIME= 18:11:57
Nodes cannot be cleared from line 95 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.200 TIME= 18:11:57
Nodes cannot be cleared from line 96 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.200 TIME= 18:11:57
Nodes cannot be cleared from line 97 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.200 TIME= 18:11:57
Nodes cannot be cleared from line 104 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.200 TIME= 18:11:57
Nodes cannot be cleared from line 106 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.210 TIME= 18:11:57
Nodes cannot be cleared from line 107 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.210 TIME= 18:11:57
Nodes cannot be cleared from line 109 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.220 TIME= 18:11:57
Nodes cannot be cleared from line 110 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.220 TIME= 18:11:57
Nodes cannot be cleared from line 114 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.230 TIME= 18:11:57
Nodes cannot be cleared from line 115 because area 18 is meshed. Only
elements are deleted.

CLEARED 52 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 110.240

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= 110.250 TIME= 18:11:57
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 7 TO 7 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

```
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES      1 TO 7016 BY 1
REAL= 26.1379438      IMAG= .000000000E+00

ALL SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT  FOR ITEM=NODE COMPONENT=
IN RANGE    1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT      ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182      .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT  FOR ITEM=AREA COMPONENT=
IN RANGE    1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT  FOR ITEM=ELEM COMPONENT=
IN RANGE    1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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= 112.130 TIME= 18:11:59
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 *****
900-38303 VERSION=HP 9000/7XX 18:11:59 MAR 31, 1995 CP= 112.130
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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= 113.510 TIME= 18:12:00
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 114.070 TIME= 18:12:01
 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 = 6221.4

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .40695	IXX = 1411.	IXX = 1411.
YC = .38649E-08	IYY = 1427.	IYY = 396.3
ZC = .00000E+00	IZZ = 2838.	IZZ = 1808.
	IXY = -.2533E-05	IXY = .7252E-05
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	6221.35

Range of element maximum matrix coefficients in global coordinates
 Maximum= 517.858581 at element 972.
 Minimum= 9.524656763E-10 at element 7841.

*** WARNING *** CP= 139.530 TIME= 18:12:28
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	16.470	.002
18	3	MATRIX50	.420	.140

Time at end of element matrix formulation CP= 139.53.
HT FLOW CONVERGENCE VALUE= 7350. CRITERION= 7.350

Estimated number of active DOF= 6869.
Maximum wavefront= 691.

Time at end of matrix triangularization CP= 229.32.
Equation solver maximum pivot= 1604.85465 at node 3170 TEMP.
Equation solver minimum pivot= 0.234556167 at node 6681 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 496.3
HT FLOW CONVERGENCE VALUE= 1915. CRITERION= .2617
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -176.7
HT FLOW CONVERGENCE VALUE= 304.5 CRITERION= .7128
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -68.35
HT FLOW CONVERGENCE VALUE= 94.69 CRITERION= .3638
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.32
HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .2716
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.333
HT FLOW CONVERGENCE VALUE= 1.835 CRITERION= .2596
EQUIL ITER 6 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3430
HT FLOW CONVERGENCE VALUE= .3836 CRITERION= .2605
EQUIL ITER 7 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6317E-01
HT FLOW CONVERGENCE VALUE= .4997E-01 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 7

*** ELEMENT RESULT CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP
1 6861 PLANE55 9.570 .001
18 3 MATRIX50 .540 .180

*** NODAL LOAD CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP
1 6861 PLANE55 1.380 .000
18 3 MATRIX50 .000 .000
*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 6869
R.M.S. WAVEFRONT SIZE = 269.8

*** ANSYS BINARY FILE STATISTICS
BUFFER SIZE USED= 4096
4.938 MB WRITTEN ON ELEMENT MATRIX FILE: ma40x1.emat
3.078 MB WRITTEN ON ELEMENT SAVED DATA FILE: ma40x1.esav
12.609 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ma40x1.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ma40x1.dsub
3.734 MB WRITTEN ON RESULTS FILE: ma40x1.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 8 TO 8 STEP 1
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.
147 NODES (OF 7016 DEFINED) SELECTED FROM

2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 7016 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 147

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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 = 147

*** WARNING *** CP= 937.500 TIME= 18:25:56
This load step will be a static (steady-state) step.

*** NOTE *** CP= 938.060 TIME= 18:25:57
The step data was checked and warning messages were found.

Please review output or errors file (ma40x1.err) for these warning messages.

*** NOTE *** CP= 938.060 TIME= 18:25:57
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:25:57 MAR 31, 1995 CP= 938.060
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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= .1216E+05 CRITERION= 12.16
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.40
HT FLOW CONVERGENCE VALUE= 53.15 CRITERION= .2802
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.54
HT FLOW CONVERGENCE VALUE= 14.75 CRITERION= .2728
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.116
HT FLOW CONVERGENCE VALUE= 1.092 CRITERION= .2609
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913
HT FLOW CONVERGENCE VALUE= .2874 CRITERION= .2606
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2456E-01
HT FLOW CONVERGENCE VALUE= .2130E-01 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 5
*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 12
*** 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 4 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 1206.720 TIME= 18:30:29
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:30:29 MAR 31, 1995 CP= 1206.720
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .2130E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1435E-03
HT FLOW CONVERGENCE VALUE= .4273E-05 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 13
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .7544 OSCILLATION LIMIT = .5952
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3892E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6237E-04
HT FLOW CONVERGENCE VALUE= .4918E-05 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 14
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .2019 OSCILLATION LIMIT = .1593
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .3512E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8614E-04
HT FLOW CONVERGENCE VALUE= .1139E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 15
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .9343E-01 OSCILLATION LIMIT = .2211
*** AUTO TIME STEP: NEXT TIME INC = 5.3516 INCREASED (FACTOR = 2.2611)

HT FLOW CONVERGENCE VALUE= .3086E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6099E-04
HT FLOW CONVERGENCE VALUE= .1773E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 16
*** TIME = 9.29630 TIME INC = 5.35160
*** RESPONSE EIGENVALUE = .3346E-01 OSCILLATION LIMIT = .1791
*** AUTO TIME STEP: NEXT TIME INC = 7.8894 INCREASED (FACTOR = 1.4742)

HT FLOW CONVERGENCE VALUE= .2809E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1875E-04
HT FLOW CONVERGENCE VALUE= .1764E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 17
*** TIME = 17.1857 TIME INC = 7.88940
*** RESPONSE EIGENVALUE = .1213E-01 OSCILLATION LIMIT = .9571E-01
*** AUTO STEP TIME: NEXT TIME INC = 7.8894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2623E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2452E-04
HT FLOW CONVERGENCE VALUE= .1410E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 18
*** TIME = 25.0751 TIME INC = 7.88940
*** RESPONSE EIGENVALUE = .7166E-02 OSCILLATION LIMIT = .5653E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.4825 DECREASED (FACTOR = .8217)

HT FLOW CONVERGENCE VALUE= .2518E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1577E-04
HT FLOW CONVERGENCE VALUE= .1029E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 19
*** TIME = 31.5576 TIME INC = 6.48250
*** RESPONSE EIGENVALUE = .5330E-02 OSCILLATION LIMIT = .3455E-01

*ENDDO INDEX= TM

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:41:07 MAR 31, 1995 CP= 1832.220
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 212.7 CRITERION= .3365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7923
 HT FLOW CONVERGENCE VALUE= .7260 CRITERION= .2590
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1239
 HT FLOW CONVERGENCE VALUE= .1412 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 21
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1184E-05 OSCILLATION LIMIT = .9340E-01
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 213.8 CRITERION= .3355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7971
 HT FLOW CONVERGENCE VALUE= .8213 CRITERION= .2603
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1208
 HT FLOW CONVERGENCE VALUE= .1392 CRITERION= .2603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 23
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6029E-06 OSCILLATION LIMIT = .4757E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 638.4 CRITERION= .6894
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
 HT FLOW CONVERGENCE VALUE= 2.538 CRITERION= .2591
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5260
 HT FLOW CONVERGENCE VALUE= .5613 CRITERION= .2591
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4469E-01
 HT FLOW CONVERGENCE VALUE= .3226E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 26
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .2466E-06 OSCILLATION LIMIT = .5836E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 639.8 CRITERION= .6896
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.378
 HT FLOW CONVERGENCE VALUE= 2.585 CRITERION= .2604
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5330
 HT FLOW CONVERGENCE VALUE= .5634 CRITERION= .2604
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4459E-01
 HT FLOW CONVERGENCE VALUE= .3249E-01 CRITERION= .2600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 29
 *** TIME = 631184. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .2803E-06 OSCILLATION LIMIT = .6634E-01
 *** AUTO TIME STEP: NEXT TIME INC = .71005E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 1918. CRITERION= 1.935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.130
 HT FLOW CONVERGENCE VALUE= 7.786 CRITERION= .2600
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.919
 HT FLOW CONVERGENCE VALUE= 1.939 CRITERION= .2598
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
 HT FLOW CONVERGENCE VALUE= .1157 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 32
 *** TIME = .134123E+07 TIME INC = 710046.
 *** RESPONSE EIGENVALUE = .2538E-06 OSCILLATION LIMIT = .1802
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 2136. CRITERION= 2.151

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.923
 HT FLOW CONVERGENCE VALUE= 8.539 CRITERION= .2613
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.122
 HT FLOW CONVERGENCE VALUE= 2.097 CRITERION= .2610
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1819
 HT FLOW CONVERGENCE VALUE= .1230 CRITERION= .2594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 35
 *** TIME = .213017E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2664E-06 OSCILLATION LIMIT = .2102
 *** AUTO TIME STEP: NEXT TIME INC = .51281E+06 DECREASED (FACTOR = .6500)

HT FLOW CONVERGENCE VALUE= 1391. CRITERION= 1.415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.150
 HT FLOW CONVERGENCE VALUE= 4.937 CRITERION= .2588
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.279
 HT FLOW CONVERGENCE VALUE= 1.265 CRITERION= .2588
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1079
 HT FLOW CONVERGENCE VALUE= .7030E-01 CRITERION= .2579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 38
 *** TIME = .264298E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2672E-06 OSCILLATION LIMIT = .1370
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1393. CRITERION= 1.416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.150
 HT FLOW CONVERGENCE VALUE= 4.920 CRITERION= .2597
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.268
 HT FLOW CONVERGENCE VALUE= 1.237 CRITERION= .2600
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1048
 HT FLOW CONVERGENCE VALUE= .6833E-01 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 41
 *** TIME = .315579E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2816E-06 OSCILLATION LIMIT = .1444

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:03:43 MAR 31, 1995 CP= 3165.310
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 320.2 CRITERION= .4119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.113
 HT FLOW CONVERGENCE VALUE= 1.279 CRITERION= .2594
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.065
 HT FLOW CONVERGENCE VALUE= .2807 CRITERION= .2596
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2216E-01
 HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .2594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 44
 *** TIME = .366860E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .1292E-06 OSCILLATION LIMIT = .6624E-01
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 320.4 CRITERION= .4121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.103
 HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .2593
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2710
 HT FLOW CONVERGENCE VALUE= .2867 CRITERION= .2592
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2635E-01
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 47
 *** TIME = .418141E+07 TIME INC = 512811.

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*** RESPONSE EIGENVALUE = .9332E-06 OSCILLATION LIMIT = .4785
*** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 320.2 CRITERION= .4118
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.106
HT FLOW CONVERGENCE VALUE= 1.158 CRITERION= .2590
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2920
HT FLOW CONVERGENCE VALUE= .2807 CRITERION= .2591
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2339E-01
HT FLOW CONVERGENCE VALUE= .1545E-01 CRITERION= .2589 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 50
*** TIME = .469422E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .1949E-06 OSCILLATION LIMIT = .9996E-01
*** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.5385)

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HT FLOW CONVERGENCE VALUE= 492.8 CRITERION= .5565
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.697
HT FLOW CONVERGENCE VALUE= 1.630 CRITERION= .2590
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4541
HT FLOW CONVERGENCE VALUE= .4542 CRITERION= .2589
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4109E-01
HT FLOW CONVERGENCE VALUE= .2486E-01 CRITERION= .2586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 53
*** TIME = .548316E+07 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4968E-06 OSCILLATION LIMIT = .3919
*** AUTO TIME STEP: NEXT TIME INC = .41419E+06 DECREASED (FACTOR = .5250)

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HT FLOW CONVERGENCE VALUE= 258.6 CRITERION= .3657
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8916
HT FLOW CONVERGENCE VALUE= .9057 CRITERION= .2585
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2224
HT FLOW CONVERGENCE VALUE= .2173 CRITERION= .2586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 55
*** TIME = .589736E+07 TIME INC = 414194.
*** RESPONSE EIGENVALUE = .3796E-06 OSCILLATION LIMIT = .1572
*** AUTO STEP TIME: NEXT TIME INC = .41419E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 258.8 CRITERION= .3658
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8909
HT FLOW CONVERGENCE VALUE= .8464 CRITERION= .2585
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2123
HT FLOW CONVERGENCE VALUE= .2147 CRITERION= .2585 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 57
*** TIME = .631155E+07 TIME INC = 414194.
*** RESPONSE EIGENVALUE = .4635E-06 OSCILLATION LIMIT = .1920

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 19:20:24 MAR 31, 1995 CP= 4147.400
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 167.2 CRITERION= .3079
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5772
HT FLOW CONVERGENCE VALUE= .5810 CRITERION= .2584
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1414
HT FLOW CONVERGENCE VALUE= .1372 CRITERION= .2584 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 59
*** TIME = .672575E+07 TIME INC = 414194.
*** RESPONSE EIGENVALUE = .2539E-06 OSCILLATION LIMIT = .1051
*** AUTO STEP TIME: NEXT TIME INC = .41419E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 167.4 CRITERION= .3078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5772
 HT FLOW CONVERGENCE VALUE= .5338 CRITERION= .2583
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1350
 HT FLOW CONVERGENCE VALUE= .1381 CRITERION= .2582 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 61
 *** TIME = .713994E+07 TIME INC = 414194.
 *** RESPONSE EIGENVALUE = .5970E-06 OSCILLATION LIMIT = .2473
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.9048)

HT FLOW CONVERGENCE VALUE= 318.5 CRITERION= .4100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.099
 HT FLOW CONVERGENCE VALUE= 1.072 CRITERION= .2581
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2923
 HT FLOW CONVERGENCE VALUE= .2854 CRITERION= .2581
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2531E-01
 HT FLOW CONVERGENCE VALUE= .1538E-01 CRITERION= .2579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 64
 *** TIME = .792888E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4013E-06 OSCILLATION LIMIT = .3166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 318.6 CRITERION= .4098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.099
 HT FLOW CONVERGENCE VALUE= 1.052 CRITERION= .2578
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2889
 HT FLOW CONVERGENCE VALUE= .2848 CRITERION= .2578
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2548E-01
 HT FLOW CONVERGENCE VALUE= .1529E-01 CRITERION= .2576 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 67
 *** TIME = .871782E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4967E-06 OSCILLATION LIMIT = .3919
 *** AUTO TIME STEP: NEXT TIME INC = .74949E+06 DECREASED (FACTOR = .9500)

HT FLOW CONVERGENCE VALUE= 302.6 CRITERION= .3974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.044
 HT FLOW CONVERGENCE VALUE= 1.014 CRITERION= .2575
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2748
 HT FLOW CONVERGENCE VALUE= .2689 CRITERION= .2575
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2363E-01
 HT FLOW CONVERGENCE VALUE= .1438E-01 CRITERION= .2573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 70
 *** TIME = .946731E+07 TIME INC = 749493.
 *** RESPONSE EIGENVALUE = .4849E-06 OSCILLATION LIMIT = .3634

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:34:04 MAR 31, 1995 CP= 4953.040
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 232.4 CRITERION= .3467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8022
 HT FLOW CONVERGENCE VALUE= .7632 CRITERION= .2574
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2078
 HT FLOW CONVERGENCE VALUE= .2052 CRITERION= .2574 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 72
 *** TIME = .102168E+08 TIME INC = 749493.
 *** RESPONSE EIGENVALUE = .6958E-06 OSCILLATION LIMIT = .5215
 *** AUTO STEP TIME: NEXT TIME INC = .74949E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 232.2 CRITERION= .3466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8020
 HT FLOW CONVERGENCE VALUE= .7559 CRITERION= .2570
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2051
 HT FLOW CONVERGENCE VALUE= .2024 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 74
 *** TIME = .109663E+08 TIME INC = 749493.
 *** RESPONSE EIGENVALUE = .6622E-06 OSCILLATION LIMIT = .4963
 *** AUTO STEP TIME: NEXT TIME INC = .74949E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 232.4 CRITERION= .3464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8020
 HT FLOW CONVERGENCE VALUE= .7589 CRITERION= .2569
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2043
 HT FLOW CONVERGENCE VALUE= .2005 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 76
 *** TIME = .117158E+08 TIME INC = 749493.
 *** RESPONSE EIGENVALUE = .5351E-06 OSCILLATION LIMIT = .4011
 *** AUTO TIME STEP: NEXT TIME INC = .45364E+06 DECREASED (FACTOR = .6053)

HT FLOW CONVERGENCE VALUE= 140.6 CRITERION= .2928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4854
 HT FLOW CONVERGENCE VALUE= .4534 CRITERION= .2565
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1140
 HT FLOW CONVERGENCE VALUE= .1134 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 78
 *** TIME = .121694E+08 TIME INC = 453641.
 *** RESPONSE EIGENVALUE = .5927E-06 OSCILLATION LIMIT = .2689
 *** AUTO STEP TIME: NEXT TIME INC = .45364E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 140.7 CRITERION= .2925
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4854
 HT FLOW CONVERGENCE VALUE= .4551 CRITERION= .2565
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1140
 HT FLOW CONVERGENCE VALUE= .1134 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 80
 *** TIME = .126231E+08 TIME INC = 453641.
 *** RESPONSE EIGENVALUE = .5146E-06 OSCILLATION LIMIT = .2334

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:45:28 MAR 31, 1995 CP= 5623.120
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 114.3 CRITERION= .2808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3954
 HT FLOW CONVERGENCE VALUE= .3689 CRITERION= .2562
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9302E-01
 HT FLOW CONVERGENCE VALUE= .9285E-01 CRITERION= .2562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 82
 *** TIME = .130767E+08 TIME INC = 453641.
 *** RESPONSE EIGENVALUE = .7027E-06 OSCILLATION LIMIT = .3188
 *** AUTO STEP TIME: NEXT TIME INC = .45364E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 114.5 CRITERION= .2806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3954
 HT FLOW CONVERGENCE VALUE= .3615 CRITERION= .2562
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9132E-01
 HT FLOW CONVERGENCE VALUE= .9217E-01 CRITERION= .2562 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 84
*** TIME = .135304E+08 TIME INC = 453641.
*** RESPONSE EIGENVALUE = .6595E-06 OSCILLATION LIMIT = .2992
*** AUTO TIME STEP: NEXT TIME INC = .75811E+06 INCREASED (FACTOR = 1.6712)

HT FLOW CONVERGENCE VALUE= 191.1 CRITERION= .3196
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6607
HT FLOW CONVERGENCE VALUE= .6168 CRITERION= .2559
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1673
HT FLOW CONVERGENCE VALUE= .1652 CRITERION= .2559 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 86
*** TIME = .142885E+08 TIME INC = 758108.
*** RESPONSE EIGENVALUE = .8089E-06 OSCILLATION LIMIT = .6132
*** AUTO STEP TIME: NEXT TIME INC = .75811E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 191.2 CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6607
HT FLOW CONVERGENCE VALUE= .6088 CRITERION= .2557
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1647
HT FLOW CONVERGENCE VALUE= .1627 CRITERION= .2557 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 88
*** TIME = .150466E+08 TIME INC = 758108.
*** RESPONSE EIGENVALUE = .6736E-06 OSCILLATION LIMIT = .5107
*** AUTO TIME STEP: NEXT TIME INC = .73226E+06 DECREASED (FACTOR = .9659)

HT FLOW CONVERGENCE VALUE= 184.6 CRITERION= .3154
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6382
HT FLOW CONVERGENCE VALUE= .5903 CRITERION= .2554
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
HT FLOW CONVERGENCE VALUE= .1567 CRITERION= .2554 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 90
*** TIME = .157788E+08 TIME INC = 732264.
*** RESPONSE EIGENVALUE = .7307E-06 OSCILLATION LIMIT = .5351

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 19:56:46 MAR 31, 1995 CP= 6293.240
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 157.5 CRITERION= .3000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5440
HT FLOW CONVERGENCE VALUE= .4938 CRITERION= .2553
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1339
HT FLOW CONVERGENCE VALUE= .1324 CRITERION= .2552 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 92
*** TIME = .165111E+08 TIME INC = 732264.
*** RESPONSE EIGENVALUE = .7136E-06 OSCILLATION LIMIT = .5225
*** AUTO STEP TIME: NEXT TIME INC = .73226E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 157.4 CRITERION= .2999
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5440
HT FLOW CONVERGENCE VALUE= .4920 CRITERION= .2549
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
HT FLOW CONVERGENCE VALUE= .1329 CRITERION= .2549 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 94
*** TIME = .172434E+08 TIME INC = 732264.
*** RESPONSE EIGENVALUE = .9052E-06 OSCILLATION LIMIT = .6629
*** AUTO STEP TIME: NEXT TIME INC = .73226E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 157.5 CRITERION= .2996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5440
 HT FLOW CONVERGENCE VALUE= .4932 CRITERION= .2548
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1335
 HT FLOW CONVERGENCE VALUE= .1316 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 96
 *** TIME = .179756E+08 TIME INC = 732264.
 *** RESPONSE EIGENVALUE = .7586E-06 OSCILLATION LIMIT = .5555
 *** AUTO TIME STEP: NEXT TIME INC = .47948E+06 DECREASED (FACTOR = .6548)

HT FLOW CONVERGENCE VALUE= 103.0 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3562
 HT FLOW CONVERGENCE VALUE= .3189 CRITERION= .2545
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8204E-01
 HT FLOW CONVERGENCE VALUE= .8169E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 98
 *** TIME = .184551E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .8466E-06 OSCILLATION LIMIT = .4059
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.2 CRITERION= .2746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3562
 HT FLOW CONVERGENCE VALUE= .3171 CRITERION= .2544
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8177E-01
 HT FLOW CONVERGENCE VALUE= .8142E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 100
 *** TIME = .189346E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .7368E-06 OSCILLATION LIMIT = .3533

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:08:08 MAR 31, 1995 CP= 6963.870
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 89.51 CRITERION= .2697
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2731 CRITERION= .2542
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7136E-01
 HT FLOW CONVERGENCE VALUE= .7116E-01 CRITERION= .2542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 102
 *** TIME = .194141E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .9852E-06 OSCILLATION LIMIT = .4724
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.64 CRITERION= .2695
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2705 CRITERION= .2541
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7023E-01
 HT FLOW CONVERGENCE VALUE= .7053E-01 CRITERION= .2541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 104
 *** TIME = .198936E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .8873E-06 OSCILLATION LIMIT = .4255
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.51 CRITERION= .2694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2747 CRITERION= .2539
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7118E-01
 HT FLOW CONVERGENCE VALUE= .7096E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 106
 *** TIME = .203730E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .1030E-05 OSCILLATION LIMIT = .4940
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.64 CRITERION= .2692
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2744 CRITERION= .2538
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7019E-01
 HT FLOW CONVERGENCE VALUE= .7023E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 108
 *** TIME = .208525E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .8804E-06 OSCILLATION LIMIT = .4221
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.51 CRITERION= .2691
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2772 CRITERION= .2536
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7098E-01
 HT FLOW CONVERGENCE VALUE= .7062E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 110
 *** TIME = .213320E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .1034E-05 OSCILLATION LIMIT = .4958
 *** AUTO STEP TIME: NEXT TIME INC = .47948E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.64 CRITERION= .2689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3101
 HT FLOW CONVERGENCE VALUE= .2759 CRITERION= .2535
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7010E-01
 HT FLOW CONVERGENCE VALUE= .6989E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 112
 *** TIME = .218115E+08 TIME INC = 479484.
 *** RESPONSE EIGENVALUE = .8797E-06 OSCILLATION LIMIT = .4218
 *** AUTO TIME STEP: NEXT TIME INC = .27885E+06 DECREASED (FACTOR = .5816)

HT FLOW CONVERGENCE VALUE= 52.05 CRITERION= .2588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1803
 HT FLOW CONVERGENCE VALUE= .1594 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 113
 *** TIME = .220904E+08 TIME INC = 278854.
 *** RESPONSE EIGENVALUE = .6813E-06 OSCILLATION LIMIT = .1900

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:23:13 MAR 31, 1995 CP= 7855.930
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 45.06 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1553
 HT FLOW CONVERGENCE VALUE= .1322 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 114
 *** TIME = .223692E+08 TIME INC = 278854.
 *** RESPONSE EIGENVALUE = .6228E-06 OSCILLATION LIMIT = .1737
 *** AUTO STEP TIME: NEXT TIME INC = .27885E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.92 CRITERION= .2573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1259 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 115


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*** TIME = .226481E+08    TIME INC = 278854.
*** RESPONSE EIGENVALUE = .1918E-05    OSCILLATION LIMIT = .5349
*** AUTO STEP TIME: NEXT TIME INC = .27885E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 45.06    CRITERION= .2571
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1550
    HT FLOW CONVERGENCE VALUE= .1294    CRITERION= .2532    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 116
*** TIME = .229269E+08    TIME INC = 278854.
*** RESPONSE EIGENVALUE = .8004E-06    OSCILLATION LIMIT = .2232
*** AUTO TIME STEP: NEXT TIME INC = .62470E+06    INCREASED (FACTOR = 2.2403)

    HT FLOW CONVERGENCE VALUE= 100.7    CRITERION= .2724
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3469
    HT FLOW CONVERGENCE VALUE= .2943    CRITERION= .2529
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7880E-01
    HT FLOW CONVERGENCE VALUE= .8166E-01    CRITERION= .2529    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 118
*** TIME = .235516E+08    TIME INC = 624703.
*** RESPONSE EIGENVALUE = .1537E-05    OSCILLATION LIMIT = .9601
*** AUTO TIME STEP: NEXT TIME INC = .32534E+06    DECREASED (FACTOR = .5208)

    HT FLOW CONVERGENCE VALUE= 52.55    CRITERION= .2582
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1806
    HT FLOW CONVERGENCE VALUE= .1563    CRITERION= .2528    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 119
*** TIME = .238770E+08    TIME INC = 325340.
*** RESPONSE EIGENVALUE = .7165E-06    OSCILLATION LIMIT = .2331
*** AUTO STEP TIME: NEXT TIME INC = .32534E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 52.42    CRITERION= .2582
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1806
    HT FLOW CONVERGENCE VALUE= .1533    CRITERION= .2527    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 120
*** TIME = .242023E+08    TIME INC = 325340.
*** RESPONSE EIGENVALUE = .7443E-06    OSCILLATION LIMIT = .2422
*** AUTO TIME STEP: NEXT TIME INC = .67174E+06    INCREASED (FACTOR = 2.0647)

    HT FLOW CONVERGENCE VALUE= 108.4    CRITERION= .2749
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730
    HT FLOW CONVERGENCE VALUE= .3130    CRITERION= .2526
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8411E-01
    HT FLOW CONVERGENCE VALUE= .8791E-01    CRITERION= .2525    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 122
*** TIME = .248740E+08    TIME INC = 671737.
*** RESPONSE EIGENVALUE = .1621E-05    OSCILLATION LIMIT = 1.089
*** AUTO TIME STEP: NEXT TIME INC = .18604E+06    DECREASED (FACTOR = .2770)

    HT FLOW CONVERGENCE VALUE= 29.96    CRITERION= .2543
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1033
    HT FLOW CONVERGENCE VALUE= .8879E-01    CRITERION= .2523    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 123
*** TIME = .250601E+08    TIME INC = 186039.
*** RESPONSE EIGENVALUE = .9489E-06    OSCILLATION LIMIT = .1765
*** AUTO STEP TIME: NEXT TIME INC = .18604E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.09    CRITERION= .2541
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1038
    HT FLOW CONVERGENCE VALUE= .8878E-01    CRITERION= .2524    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 124
*** TIME = .252461E+08    TIME INC = 186039.
*** RESPONSE EIGENVALUE = .5675E-06    OSCILLATION LIMIT = .1056

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:38:15 MAR 31, 1995 CP= 8741.830
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9358E-01
 HT FLOW CONVERGENCE VALUE= .7572E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 125
 *** TIME = .254322E+08 TIME INC = 186039.
 *** RESPONSE EIGENVALUE = .1770E-05 OSCILLATION LIMIT = .3293
 *** AUTO STEP TIME: NEXT TIME INC = .18604E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9376E-01
 HT FLOW CONVERGENCE VALUE= .7699E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 126
 *** TIME = .256182E+08 TIME INC = 186039.
 *** RESPONSE EIGENVALUE = .1158E-05 OSCILLATION LIMIT = .2155
 *** AUTO TIME STEP: NEXT TIME INC = .43172E+06 INCREASED (FACTOR = 2.3206)

HT FLOW CONVERGENCE VALUE= 62.97 CRITERION= .2600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1824 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 127
 *** TIME = .260499E+08 TIME INC = 431716.
 *** RESPONSE EIGENVALUE = .1095E-05 OSCILLATION LIMIT = .4727
 *** AUTO STEP TIME: NEXT TIME INC = .43172E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.10 CRITERION= .2598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1794 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 128
 *** TIME = .264816E+08 TIME INC = 431716.
 *** RESPONSE EIGENVALUE = .1059E-05 OSCILLATION LIMIT = .4574
 *** AUTO STEP TIME: NEXT TIME INC = .43172E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.97 CRITERION= .2598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1760 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 129
 *** TIME = .269133E+08 TIME INC = 431716.
 *** RESPONSE EIGENVALUE = .1508E-05 OSCILLATION LIMIT = .6510
 *** AUTO STEP TIME: NEXT TIME INC = .43172E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.10 CRITERION= .2596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1782 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 130
 *** TIME = .273451E+08 TIME INC = 431716.
 *** RESPONSE EIGENVALUE = .1089E-05 OSCILLATION LIMIT = .4702
 *** AUTO STEP TIME: NEXT TIME INC = .43172E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.97 CRITERION= .2595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1763 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 131
 *** TIME = .277768E+08 TIME INC = 431716.

*** RESPONSE EIGENVALUE = .1365E-05 OSCILLATION LIMIT = .5892
 *** AUTO STEP TIME: NEXT TIME INC = .43172E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 63.10 CRITERION= .2593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2172
 HT FLOW CONVERGENCE VALUE= .1776 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 132
 *** TIME = .282085E+08 TIME INC = 431716.
 *** RESPONSE EIGENVALUE = .1163E-05 OSCILLATION LIMIT = .5020
 *** AUTO TIME STEP: NEXT TIME INC = .19339E+06 DECREASED (FACTOR = .4480)

HT FLOW CONVERGENCE VALUE= 28.19 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9728E-01
 HT FLOW CONVERGENCE VALUE= .7938E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 133
 *** TIME = .284019E+08 TIME INC = 193388.
 *** RESPONSE EIGENVALUE = .1684E-05 OSCILLATION LIMIT = .3257
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 6218.59052 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 123.63 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 124.68 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 127.28 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 9537.740 TIME= 20:51:39
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:51:39 MAR 31, 1995 CP= 9537.740
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 26.25 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9034E-01
 HT FLOW CONVERGENCE VALUE= .7291E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 134
 *** TIME = .285953E+08 TIME INC = 193388.
 *** RESPONSE EIGENVALUE = .1931E-05 OSCILLATION LIMIT = .3735
 *** AUTO STEP TIME: NEXT TIME INC = .19339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.12 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9028E-01
 HT FLOW CONVERGENCE VALUE= .7322E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 135
 *** TIME = .287886E+08 TIME INC = 193388.
 *** RESPONSE EIGENVALUE = .1248E-05 OSCILLATION LIMIT = .2413
 *** AUTO TIME STEP: NEXT TIME INC = .40070E+06 INCREASED (FACTOR = 2.0720)

HT FLOW CONVERGENCE VALUE= 54.30 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
 HT FLOW CONVERGENCE VALUE= .1551 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 136
 *** TIME = .291893E+08 TIME INC = 400695.
 *** RESPONSE EIGENVALUE = .1150E-05 OSCILLATION LIMIT = .4608
 *** AUTO STEP TIME: NEXT TIME INC = .40070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.17 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
 HT FLOW CONVERGENCE VALUE= .1521 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 137
 *** TIME = .295900E+08 TIME INC = 400695.
 *** RESPONSE EIGENVALUE = .1250E-05 OSCILLATION LIMIT = .5010
 *** AUTO STEP TIME: NEXT TIME INC = .40070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.30 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
 HT FLOW CONVERGENCE VALUE= .1511 CRITERION= .2510 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 138
*** TIME = .299907E+08 TIME INC = 400695.
*** RESPONSE EIGENVALUE = .1479E-05 OSCILLATION LIMIT = .5925
*** AUTO STEP TIME: NEXT TIME INC = .40070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.17 CRITERION= .2567
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
HT FLOW CONVERGENCE VALUE= .1511 CRITERION= .2507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 139
*** TIME = .303914E+08 TIME INC = 400695.
*** RESPONSE EIGENVALUE = .1320E-05 OSCILLATION LIMIT = .5290
*** AUTO STEP TIME: NEXT TIME INC = .40070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.30 CRITERION= .2565
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
HT FLOW CONVERGENCE VALUE= .1513 CRITERION= .2507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 140
*** TIME = .307921E+08 TIME INC = 400695.
*** RESPONSE EIGENVALUE = .1342E-05 OSCILLATION LIMIT = .5378
*** AUTO STEP TIME: NEXT TIME INC = .40070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.17 CRITERION= .2565
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
HT FLOW CONVERGENCE VALUE= .1506 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 141
*** TIME = .311928E+08 TIME INC = 400695.
*** RESPONSE EIGENVALUE = .1393E-05 OSCILLATION LIMIT = .5580
*** AUTO TIME STEP: NEXT TIME INC = .36481E+06 DECREASED (FACTOR = .9105)

HT FLOW CONVERGENCE VALUE= 49.44 CRITERION= .2553
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1703
HT FLOW CONVERGENCE VALUE= .1374 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 142
*** TIME = .315576E+08 TIME INC = 364813.
*** RESPONSE EIGENVALUE = .1333E-05 OSCILLATION LIMIT = .4863

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*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 21:05:07 MAR 31, 1995 CP= 10334.910
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 76.01 CRITERION= .2617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2119 CRITERION= .2502 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 143
*** TIME = .323466E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1596E-05 OSCILLATION LIMIT = 1.259
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2615
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2096 CRITERION= .2501 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 144
*** TIME = .331355E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1799E-05 OSCILLATION LIMIT = 1.420
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 76.01      CRITERION= .2614
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2083      CRITERION= .2498    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 145
*** TIME = .339245E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1905E-05 OSCILLATION LIMIT = 1.503
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13      CRITERION= .2611
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2090      CRITERION= .2497    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 146
*** TIME = .347134E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1716E-05 OSCILLATION LIMIT = 1.354
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01      CRITERION= .2610
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2079      CRITERION= .2494    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 147
*** TIME = .355023E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1884E-05 OSCILLATION LIMIT = 1.486
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13      CRITERION= .2607
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2084      CRITERION= .2492    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 148
*** TIME = .362913E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 1.366
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01      CRITERION= .2606
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2074      CRITERION= .2489    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 149
*** TIME = .370802E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1871E-05 OSCILLATION LIMIT = 1.476
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13      CRITERION= .2603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2079      CRITERION= .2488    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 150
*** TIME = .378692E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1738E-05 OSCILLATION LIMIT = 1.372
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01      CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2069      CRITERION= .2485    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 151
*** TIME = .386581E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1862E-05 OSCILLATION LIMIT = 1.469
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13      CRITERION= .2599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2074      CRITERION= .2484    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 152
*** TIME = .394470E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1743E-05 OSCILLATION LIMIT = 1.375
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01 CRITERION= .2597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2064 CRITERION= .2481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 153
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1856E-05 OSCILLATION LIMIT = 1.464
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2069 CRITERION= .2479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 154
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1746E-05 OSCILLATION LIMIT = 1.377
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01 CRITERION= .2593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2059 CRITERION= .2476 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 155
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1851E-05 OSCILLATION LIMIT = 1.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2063 CRITERION= .2475 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 156
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1747E-05 OSCILLATION LIMIT = 1.378
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2054 CRITERION= .2472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 157
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1846E-05 OSCILLATION LIMIT = 1.457
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2058 CRITERION= .2471 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 158
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1748E-05 OSCILLATION LIMIT = 1.379
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2049 CRITERION= .2468 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 159
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1843E-05 OSCILLATION LIMIT = 1.454
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2053 CRITERION= .2466 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 160
*** TIME = .457586E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1748E-05 OSCILLATION LIMIT = 1.379
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2581
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2044 CRITERION= .2463 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 161
*** TIME = .465475E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1839E-05 OSCILLATION LIMIT = 1.451
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2578
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2048 CRITERION= .2462 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 162
*** TIME = .473364E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1749E-05 OSCILLATION LIMIT = 1.380
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2577
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2039 CRITERION= .2459 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 163
*** TIME = .481254E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1836E-05 OSCILLATION LIMIT = 1.448
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2574
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2043 CRITERION= .2458 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 164
*** TIME = .489143E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1749E-05 OSCILLATION LIMIT = 1.379
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2035 CRITERION= .2455 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 165
*** TIME = .497033E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1833E-05 OSCILLATION LIMIT = 1.446
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2570
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2038 CRITERION= .2453 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 166
*** TIME = .504922E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1748E-05 OSCILLATION LIMIT = 1.379
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2568
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2030 CRITERION= .2450 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 167
*** TIME = .512811E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1830E-05 OSCILLATION LIMIT = 1.443
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2566
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631

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HT FLOW CONVERGENCE VALUE= .2034 CRITERION= .2449 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 168
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1748E-05 OSCILLATION LIMIT = 1.379
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2025 CRITERION= .2446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 169
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1827E-05 OSCILLATION LIMIT = 1.441
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2028 CRITERION= .2445 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 170
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1748E-05 OSCILLATION LIMIT = 1.379
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2020 CRITERION= .2442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 171
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1824E-05 OSCILLATION LIMIT = 1.439
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2023 CRITERION= .2440 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 172
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1747E-05 OSCILLATION LIMIT = 1.378
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2015 CRITERION= .2437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 173
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1821E-05 OSCILLATION LIMIT = 1.436
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2018 CRITERION= .2436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 174
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1747E-05 OSCILLATION LIMIT = 1.378
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2010 CRITERION= .2433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 175
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1818E-05 OSCILLATION LIMIT = 1.434
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2014 CRITERION= .2432 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 176
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1746E-05 OSCILLATION LIMIT = 1.377
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2006 CRITERION= .2429 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 177
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1815E-05 OSCILLATION LIMIT = 1.432
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2009 CRITERION= .2427 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 178
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1745E-05 OSCILLATION LIMIT = 1.377
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2001 CRITERION= .2424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 179
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1812E-05 OSCILLATION LIMIT = 1.429
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2004 CRITERION= .2423 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 180
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1744E-05 OSCILLATION LIMIT = 1.376
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.02 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1996 CRITERION= .2420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 181
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1809E-05 OSCILLATION LIMIT = 1.427
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.13 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1999 CRITERION= .2419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 182
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1744E-05 OSCILLATION LIMIT = 1.376

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 22:04:34 MAR 31, 1995 CP= 13846.090
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2470
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1304 CRITERION= .2416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 183
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 2.328
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1295 CRITERION= .2415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 184
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2962E-05 OSCILLATION LIMIT = 2.337
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1293 CRITERION= .2412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 185
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2434E-05 OSCILLATION LIMIT = 1.920
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2463
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1292 CRITERION= .2411 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 186
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2915E-05 OSCILLATION LIMIT = 2.299
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2462
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1289 CRITERION= .2409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 187
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2581E-05 OSCILLATION LIMIT = 2.036
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2460
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1290 CRITERION= .2407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 188
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2797E-05 OSCILLATION LIMIT = 2.206
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2458
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1286 CRITERION= .2405 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 189
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2664E-05 OSCILLATION LIMIT = 2.101
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1287 CRITERION= .2403 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 190

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*** TIME = .694268E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2731E-05    OSCILLATION LIMIT = 2.155
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 49.92    CRITERION= .2455
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1283    CRITERION= .2401    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 191
*** TIME = .702157E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2711E-05    OSCILLATION LIMIT = 2.139
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.02    CRITERION= .2452
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1285    CRITERION= .2400    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 192
*** TIME = .710046E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2694E-05    OSCILLATION LIMIT = 2.125
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 49.92    CRITERION= .2451
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1280    CRITERION= .2397    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 193
*** TIME = .717936E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2736E-05    OSCILLATION LIMIT = 2.159
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.02    CRITERION= .2449
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1282    CRITERION= .2396    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 194
*** TIME = .725825E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2673E-05    OSCILLATION LIMIT = 2.109
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 49.92    CRITERION= .2447
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1277    CRITERION= .2393    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 195
*** TIME = .733715E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2750E-05    OSCILLATION LIMIT = 2.170
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.02    CRITERION= .2445
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1279    CRITERION= .2392    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 196
*** TIME = .741604E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2661E-05    OSCILLATION LIMIT = 2.099
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 49.92    CRITERION= .2444
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1275    CRITERION= .2390    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 197
*** TIME = .749493E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2756E-05    OSCILLATION LIMIT = 2.174
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.02    CRITERION= .2441
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1277    CRITERION= .2388    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 198
*** TIME = .757383E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2655E-05 OSCILLATION LIMIT = 2.094
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1272 CRITERION= .2386 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 199
*** TIME = .765272E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2758E-05 OSCILLATION LIMIT = 2.176
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2438
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1274 CRITERION= .2385 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 200
*** TIME = .773162E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2651E-05 OSCILLATION LIMIT = 2.092
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2436
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1269 CRITERION= .2382 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 201
*** TIME = .781051E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2758E-05 OSCILLATION LIMIT = 2.176
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2434
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1271 CRITERION= .2381 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 202
*** TIME = .788940E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.090
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2432
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1267 CRITERION= .2378 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 203
*** TIME = .796830E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2756E-05 OSCILLATION LIMIT = 2.175
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2430
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1268 CRITERION= .2377 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 204
*** TIME = .804719E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2649E-05 OSCILLATION LIMIT = 2.090
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1264 CRITERION= .2375 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 205
*** TIME = .812609E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2754E-05 OSCILLATION LIMIT = 2.173
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2427

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1266 CRITERION= .2373 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 206
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2649E-05 OSCILLATION LIMIT = 2.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1261 CRITERION= .2371 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 207
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2751E-05 OSCILLATION LIMIT = 2.170
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1263 CRITERION= .2370 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 208
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2649E-05 OSCILLATION LIMIT = 2.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1259 CRITERION= .2367 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 209
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2748E-05 OSCILLATION LIMIT = 2.168
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2419
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1261 CRITERION= .2366 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 210
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2649E-05 OSCILLATION LIMIT = 2.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1256 CRITERION= .2363 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 211
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2745E-05 OSCILLATION LIMIT = 2.166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1258 CRITERION= .2362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 212
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1254 CRITERION= .2360 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 213
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2742E-05 OSCILLATION LIMIT = 2.163
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1255 CRITERION= .2358 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 214
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.091
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2410
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1251 CRITERION= .2356 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 215
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2738E-05 OSCILLATION LIMIT = 2.160
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1253 CRITERION= .2355 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 216
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.091
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1248 CRITERION= .2352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 217
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2735E-05 OSCILLATION LIMIT = 2.158
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1250 CRITERION= .2351 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 218
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.091
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1246 CRITERION= .2348 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 219
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2732E-05 OSCILLATION LIMIT = 2.156
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1247 CRITERION= .2347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 220
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.091
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.92 CRITERION= .2399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .2345 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 221
 *** TIME = .938839E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2729E-05 OSCILLATION LIMIT = 2.153
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.02 CRITERION= .2397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1245 CRITERION= .2343 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 222
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2650E-05 OSCILLATION LIMIT = 2.091

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 23:04:10 MAR 31, 1995 CP= 17358.500
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2376
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9799E-01 CRITERION= .2341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 223
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3360E-05 OSCILLATION LIMIT = 2.650
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2374
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9775E-01 CRITERION= .2340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 224
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3300E-05 OSCILLATION LIMIT = 2.604
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2373
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9752E-01 CRITERION= .2338 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 225
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3099E-05 OSCILLATION LIMIT = 2.445
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2371
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9759E-01 CRITERION= .2336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 226
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3284E-05 OSCILLATION LIMIT = 2.591
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9732E-01 CRITERION= .2334 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 227
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3168E-05 OSCILLATION LIMIT = 2.500
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2367
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9740E-01 CRITERION= .2333 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 228
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3229E-05 OSCILLATION LIMIT = 2.548
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9713E-01 CRITERION= .2331 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 229
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3207E-05 OSCILLATION LIMIT = 2.530
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9722E-01 CRITERION= .2330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 230
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3199E-05 OSCILLATION LIMIT = 2.524
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9695E-01 CRITERION= .2328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 231
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3228E-05 OSCILLATION LIMIT = 2.546
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2361
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9704E-01 CRITERION= .2327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 232
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3182E-05 OSCILLATION LIMIT = 2.510
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2360
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9677E-01 CRITERION= .2324 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 233
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3238E-05 OSCILLATION LIMIT = 2.555
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9686E-01 CRITERION= .2323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 234
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3172E-05 OSCILLATION LIMIT = 2.502
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2356
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9659E-01 CRITERION= .2321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 235
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3243E-05 OSCILLATION LIMIT = 2.559
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368

HT FLOW CONVERGENCE VALUE= .9668E-01 CRITERION= .2320 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 236
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3167E-05 OSCILLATION LIMIT = 2.498
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9640E-01 CRITERION= .2318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 237
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3245E-05 OSCILLATION LIMIT = 2.560
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9649E-01 CRITERION= .2317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 238
 *** TIME = .107296E+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= 39.40 CRITERION= .2350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9622E-01 CRITERION= .2315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 239
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3245E-05 OSCILLATION LIMIT = 2.560
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9631E-01 CRITERION= .2313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 240
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9604E-01 CRITERION= .2311 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 241
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3243E-05 OSCILLATION LIMIT = 2.559
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9619E-01 CRITERION= .2310 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 242
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9600E-01 CRITERION= .2308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 243
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3241E-05 OSCILLATION LIMIT = 2.557
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2341
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9612E-01 CRITERION= .2307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 244
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3162E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9590E-01 CRITERION= .2305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 245
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3238E-05 OSCILLATION LIMIT = 2.555
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9602E-01 CRITERION= .2303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 246
 *** TIME = .113607E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9581E-01 CRITERION= .2301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 247
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3235E-05 OSCILLATION LIMIT = 2.553
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2335
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9594E-01 CRITERION= .2300 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 248
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9578E-01 CRITERION= .2298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 249
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3233E-05 OSCILLATION LIMIT = 2.550
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9592E-01 CRITERION= .2297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 250
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2330
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9574E-01 CRITERION= .2295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 251
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3230E-05 OSCILLATION LIMIT = 2.548

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

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9588E-01 CRITERION= .2293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 252
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9569E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 253
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3227E-05 OSCILLATION LIMIT = 2.546
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2325
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9578E-01 CRITERION= .2290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 254
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2324
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9558E-01 CRITERION= .2288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 255
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3224E-05 OSCILLATION LIMIT = 2.543
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2322
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9567E-01 CRITERION= .2287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 256
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9548E-01 CRITERION= .2285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 257
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3221E-05 OSCILLATION LIMIT = 2.541
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .2318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9558E-01 CRITERION= .2283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 258
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = 2.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40 CRITERION= .2317
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .9540E-01 CRITERION= .2281 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 259

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*** TIME = .123864E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3218E-05    OSCILLATION LIMIT = 2.538
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49    CRITERION= .2315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .9555E-01    CRITERION= .2280    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 260
*** TIME = .124653E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3162E-05    OSCILLATION LIMIT = 2.495
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.40    CRITERION= .2314
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .9563E-01    CRITERION= .2278    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 261
*** TIME = .125441E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3215E-05    OSCILLATION LIMIT = 2.536
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49    CRITERION= .2312
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .9581E-01    CRITERION= .2277    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 262
*** TIME = .126230E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3162E-05    OSCILLATION LIMIT = 2.494

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303    VERSION=HP 9000/7XX    00:04:14 APR 01, 1995 CP= 20889.000
FOR SUPPORT CALL SUPPORT PERSON    PHONE SUPPORT PHONE    FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 33.40    CRITERION= .2301
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8116E-01    CRITERION= .2275    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 263
*** TIME = .127019E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3389E-05    OSCILLATION LIMIT = 2.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48    CRITERION= .2299
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8123E-01    CRITERION= .2274    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 264
*** TIME = .127808E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3316E-05    OSCILLATION LIMIT = 2.616
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40    CRITERION= .2298
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8133E-01    CRITERION= .2272    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 265
*** TIME = .128597E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3229E-05    OSCILLATION LIMIT = 2.547
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48    CRITERION= .2296
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8132E-01    CRITERION= .2271    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 266
*** TIME = .129386E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3317E-05 OSCILLATION LIMIT = 2.617
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2295
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8119E-01 CRITERION= .2269 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 267
*** TIME = .130175E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3263E-05 OSCILLATION LIMIT = 2.574
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2294
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8119E-01 CRITERION= .2268 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 268
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3288E-05 OSCILLATION LIMIT = 2.594
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2292
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8106E-01 CRITERION= .2266 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 269
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3281E-05 OSCILLATION LIMIT = 2.589
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2291
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8106E-01 CRITERION= .2265 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 270
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3272E-05 OSCILLATION LIMIT = 2.582
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2290
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8092E-01 CRITERION= .2263 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 271
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3291E-05 OSCILLATION LIMIT = 2.596
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8093E-01 CRITERION= .2262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 272
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3263E-05 OSCILLATION LIMIT = 2.574
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .8078E-01 CRITERION= .2261 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 273
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3295E-05 OSCILLATION LIMIT = 2.599
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2285

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8079E-01 CRITERION= .2259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 274
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3257E-05 OSCILLATION LIMIT = 2.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8064E-01 CRITERION= .2258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 275
 *** TIME = .136487E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3296E-05 OSCILLATION LIMIT = 2.600
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8065E-01 CRITERION= .2257 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 276
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3254E-05 OSCILLATION LIMIT = 2.567
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.40 CRITERION= .2281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8050E-01 CRITERION= .2255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 277
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3295E-05 OSCILLATION LIMIT = 2.600
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8050E-01 CRITERION= .2254 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 278
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3253E-05 OSCILLATION LIMIT = 2.566
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8036E-01 CRITERION= .2252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 279
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3294E-05 OSCILLATION LIMIT = 2.598
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8037E-01 CRITERION= .2251 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 280
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3252E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8023E-01 CRITERION= .2249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 281
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3292E-05 OSCILLATION LIMIT = 2.597
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8024E-01 CRITERION= .2248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 282
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2273
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8010E-01 CRITERION= .2246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 283
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3290E-05 OSCILLATION LIMIT = 2.595
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .8011E-01 CRITERION= .2245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 284
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7997E-01 CRITERION= .2243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 285
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3287E-05 OSCILLATION LIMIT = 2.594
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7997E-01 CRITERION= .2242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 286
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2267
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7984E-01 CRITERION= .2240 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 287
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3285E-05 OSCILLATION LIMIT = 2.592
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7984E-01 CRITERION= .2239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 288
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2264
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7971E-01 CRITERION= .2238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 289
 *** TIME = .147532E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .3283E-05 OSCILLATION LIMIT = 2.590
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7971E-01 CRITERION= .2237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 290
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7958E-01 CRITERION= .2235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 291
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3281E-05 OSCILLATION LIMIT = 2.588
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7958E-01 CRITERION= .2234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 292
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7946E-01 CRITERION= .2232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 293
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3278E-05 OSCILLATION LIMIT = 2.586
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7946E-01 CRITERION= .2231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 294
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7933E-01 CRITERION= .2229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 295
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3276E-05 OSCILLATION LIMIT = 2.585
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7933E-01 CRITERION= .2228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 296
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.39 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7920E-01 CRITERION= .2226 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 297
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3274E-05 OSCILLATION LIMIT = 2.583
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7920E-01 CRITERION= .2225 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 298
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.38 CRITERION= .2250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7908E-01 CRITERION= .2223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 299
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3272E-05 OSCILLATION LIMIT = 2.581
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7907E-01 CRITERION= .2222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 300
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3251E-05 OSCILLATION LIMIT = 2.565
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.38 CRITERION= .2247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7895E-01 CRITERION= .2220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 301
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3269E-05 OSCILLATION LIMIT = 2.579
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .7895E-01 CRITERION= .2219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 302
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3250E-05 OSCILLATION LIMIT = 2.564

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 01:04:26 APR 01, 1995 CP= 24435.120
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2237
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6673E-01 CRITERION= .2218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 303
 *** TIME = .158577E+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= 28.25 CRITERION= .2235
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01

HT FLOW CONVERGENCE VALUE= .6654E-01 CRITERION= .2216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 304
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4689E-05 OSCILLATION LIMIT = 3.699
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6630E-01 CRITERION= .2215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 305
 *** TIME = .160155E+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= 28.25 CRITERION= .2232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6639E-01 CRITERION= .2213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 306
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4637E-05 OSCILLATION LIMIT = 3.658
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6621E-01 CRITERION= .2212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 307
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = 3.482
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6625E-01 CRITERION= .2210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 308
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4578E-05 OSCILLATION LIMIT = 3.612
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2228
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6611E-01 CRITERION= .2209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 309
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4457E-05 OSCILLATION LIMIT = 3.516
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6611E-01 CRITERION= .2208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 310
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4544E-05 OSCILLATION LIMIT = 3.585
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6600E-01 CRITERION= .2206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 311
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4482E-05 OSCILLATION LIMIT = 3.536
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2224
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6599E-01 CRITERION= .2205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 312
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4525E-05 OSCILLATION LIMIT = 3.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6589E-01 CRITERION= .2203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 313
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4495E-05 OSCILLATION LIMIT = 3.547
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6587E-01 CRITERION= .2202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 314
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4514E-05 OSCILLATION LIMIT = 3.561
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6578E-01 CRITERION= .2200 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 315
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4503E-05 OSCILLATION LIMIT = 3.552
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6575E-01 CRITERION= .2199 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 316
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4508E-05 OSCILLATION LIMIT = 3.556
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6567E-01 CRITERION= .2197 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 317
 *** TIME = .169622E+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= 28.25 CRITERION= .2215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6563E-01 CRITERION= .2196 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 318
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4505E-05 OSCILLATION LIMIT = 3.554
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6556E-01 CRITERION= .2194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 319
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4508E-05 OSCILLATION LIMIT = 3.556

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

HT FLOW CONVERGENCE VALUE= 28.25 CRITERION= .2212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6552E-01 CRITERION= .2193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 320
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4503E-05 OSCILLATION LIMIT = 3.553
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.17 CRITERION= .2211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6544E-01 CRITERION= .2191 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 321
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4508E-05 OSCILLATION LIMIT = 3.556
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .2190 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 322
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4503E-05 OSCILLATION LIMIT = 3.552
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.16 CRITERION= .2208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6533E-01 CRITERION= .2188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 323
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4507E-05 OSCILLATION LIMIT = 3.556
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6529E-01 CRITERION= .2187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 324
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4503E-05 OSCILLATION LIMIT = 3.552
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.16 CRITERION= .2205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6522E-01 CRITERION= .2185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 325
 *** TIME = .175934E+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= 28.24 CRITERION= .2203
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .2184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 326
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4503E-05 OSCILLATION LIMIT = 3.553
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.16 CRITERION= .2202
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .6510E-01 CRITERION= .2182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 327

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*** TIME = .177512E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4505E-05    OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.24    CRITERION= .2200
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6506E-01 CRITERION= .2181    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 328
*** TIME = .178300E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4503E-05    OSCILLATION LIMIT = 3.553
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.16    CRITERION= .2199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6499E-01 CRITERION= .2179    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 329
*** TIME = .179089E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4503E-05    OSCILLATION LIMIT = 3.553
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.24    CRITERION= .2197
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6494E-01 CRITERION= .2178    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 330
*** TIME = .179878E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4504E-05    OSCILLATION LIMIT = 3.553
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.16    CRITERION= .2196
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6488E-01 CRITERION= .2176    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 331
*** TIME = .180667E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4502E-05    OSCILLATION LIMIT = 3.552
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.24    CRITERION= .2194
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6483E-01 CRITERION= .2175    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 332
*** TIME = .181456E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4504E-05    OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.16    CRITERION= .2193
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6477E-01 CRITERION= .2173    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 333
*** TIME = .182245E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4500E-05    OSCILLATION LIMIT = 3.551
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.24    CRITERION= .2191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6471E-01 CRITERION= .2172    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 334
*** TIME = .183034E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4505E-05    OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.16    CRITERION= .2190
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .6466E-01 CRITERION= .2170    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 335
*** TIME = .183823E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4499E-05 OSCILLATION LIMIT = 3.549
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2188
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6460E-01 CRITERION= .2169 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 336
*** TIME = .184612E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4505E-05 OSCILLATION LIMIT = 3.554
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.16 CRITERION= .2187
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6455E-01 CRITERION= .2167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 337
*** TIME = .185401E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4497E-05 OSCILLATION LIMIT = 3.548
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6449E-01 CRITERION= .2166 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 338
*** TIME = .186190E+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= 28.16 CRITERION= .2184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6443E-01 CRITERION= .2164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 339
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4496E-05 OSCILLATION LIMIT = 3.547
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6438E-01 CRITERION= .2163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 340
*** TIME = .187768E+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= 28.16 CRITERION= .2181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6432E-01 CRITERION= .2161 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 341
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4495E-05 OSCILLATION LIMIT = 3.546
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.24 CRITERION= .2180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .6426E-01 CRITERION= .2160 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 342
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4506E-05 OSCILLATION LIMIT = 3.555

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 02:05:14 APR 01, 1995 CP= 27981.800
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5307E-01 CRITERION= .2159 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 343
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4978E-05 OSCILLATION LIMIT = 3.928
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5272E-01 CRITERION= .2158 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 344
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5017E-05 OSCILLATION LIMIT = 3.958
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5263E-01 CRITERION= .2156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 345
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4799E-05 OSCILLATION LIMIT = 3.786
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5263E-01 CRITERION= .2155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 346
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5013E-05 OSCILLATION LIMIT = 3.955
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2167
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5257E-01 CRITERION= .2154 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 347
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4847E-05 OSCILLATION LIMIT = 3.824
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5254E-01 CRITERION= .2153 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 348
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4976E-05 OSCILLATION LIMIT = 3.926
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5250E-01 CRITERION= .2151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 349
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4874E-05 OSCILLATION LIMIT = 3.845
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5245E-01 CRITERION= .2150 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 350
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4955E-05 OSCILLATION LIMIT = 3.909
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2162
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5243E-01 CRITERION= .2148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 351
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4889E-05 OSCILLATION LIMIT = 3.857
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5236E-01 CRITERION= .2147 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 352
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4943E-05 OSCILLATION LIMIT = 3.900
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5235E-01 CRITERION= .2146 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 353
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.864
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5228E-01 CRITERION= .2145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 354
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4937E-05 OSCILLATION LIMIT = 3.895
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5227E-01 CRITERION= .2143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 355
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4902E-05 OSCILLATION LIMIT = 3.867
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.15 CRITERION= .2156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5220E-01 CRITERION= .2142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 356
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4933E-05 OSCILLATION LIMIT = 3.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5220E-01 CRITERION= .2141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 357
 *** TIME = .201180E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4904E-05  OSCILLATION LIMIT = 3.869
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.15      CRITERION= .2153
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5212E-01 CRITERION= .2140    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED.  CUM ITER = 358
*** TIME = .201969E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4932E-05  OSCILLATION LIMIT = 3.891
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.07      CRITERION= .2152
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5212E-01 CRITERION= .2138    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED.  CUM ITER = 359
*** TIME = .202758E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4904E-05  OSCILLATION LIMIT = 3.869
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.14      CRITERION= .2151
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5204E-01 CRITERION= .2137    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED.  CUM ITER = 360
*** TIME = .203547E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4931E-05  OSCILLATION LIMIT = 3.891
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.07      CRITERION= .2149
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5204E-01 CRITERION= .2136    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED.  CUM ITER = 361
*** TIME = .204335E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4903E-05  OSCILLATION LIMIT = 3.869
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.14      CRITERION= .2148
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5196E-01 CRITERION= .2135    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED.  CUM ITER = 362
*** TIME = .205124E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4931E-05  OSCILLATION LIMIT = 3.891
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.07      CRITERION= .2147
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5196E-01 CRITERION= .2133    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED.  CUM ITER = 363
*** TIME = .205913E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4903E-05  OSCILLATION LIMIT = 3.868
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.14      CRITERION= .2145
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5188E-01 CRITERION= .2132    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED.  CUM ITER = 364
*** TIME = .206702E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4932E-05  OSCILLATION LIMIT = 3.891
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.07      CRITERION= .2144
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5188E-01 CRITERION= .2130    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 365
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4902E-05 OSCILLATION LIMIT = 3.867
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5180E-01 CRITERION= .2129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 366
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4932E-05 OSCILLATION LIMIT = 3.891
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5180E-01 CRITERION= .2128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 367
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4900E-05 OSCILLATION LIMIT = 3.866
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5172E-01 CRITERION= .2127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 368
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4933E-05 OSCILLATION LIMIT = 3.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5172E-01 CRITERION= .2125 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 369
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4899E-05 OSCILLATION LIMIT = 3.865
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5164E-01 CRITERION= .2124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 370
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4934E-05 OSCILLATION LIMIT = 3.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5165E-01 CRITERION= .2123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 371
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.864
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5156E-01 CRITERION= .2122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 372
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4934E-05 OSCILLATION LIMIT = 3.893
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01

HT FLOW CONVERGENCE VALUE= .5157E-01 CRITERION= .2120 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 373
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4896E-05 OSCILLATION LIMIT = 3.863
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5148E-01 CRITERION= .2119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 374
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4935E-05 OSCILLATION LIMIT = 3.893
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.07 CRITERION= .2132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5149E-01 CRITERION= .2118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 375
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4895E-05 OSCILLATION LIMIT = 3.862
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5140E-01 CRITERION= .2117 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 376
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4936E-05 OSCILLATION LIMIT = 3.894
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.06 CRITERION= .2129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5141E-01 CRITERION= .2115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 377
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4894E-05 OSCILLATION LIMIT = 3.861
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5132E-01 CRITERION= .2114 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 378
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4936E-05 OSCILLATION LIMIT = 3.894
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.06 CRITERION= .2127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5133E-01 CRITERION= .2113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 379
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4893E-05 OSCILLATION LIMIT = 3.860
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5124E-01 CRITERION= .2112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 380
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4937E-05 OSCILLATION LIMIT = 3.895
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.06 CRITERION= .2124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5125E-01 CRITERION= .2110 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 381
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4892E-05 OSCILLATION LIMIT = 3.859
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.14 CRITERION= .2123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5116E-01 CRITERION= .2109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 382
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4937E-05 OSCILLATION LIMIT = 3.895

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 03:05:32 APR 01, 1995 CP= 31535.780
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4687E-01 CRITERION= .2108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 383
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5084E-05 OSCILLATION LIMIT = 4.011
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4667E-01 CRITERION= .2107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 384
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5139E-05 OSCILLATION LIMIT = 4.054
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4668E-01 CRITERION= .2105 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 385
 *** TIME = .223270E+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= 21.12 CRITERION= .2116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4660E-01 CRITERION= .2104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 386
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5138E-05 OSCILLATION LIMIT = 4.054
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4662E-01 CRITERION= .2103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 387
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5025E-05 OSCILLATION LIMIT = 3.965

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

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2113
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4653E-01 CRITERION= .2102 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 388
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5124E-05 OSCILLATION LIMIT = 4.042
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2112
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4656E-01 CRITERION= .2100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 389
 *** TIME = .226426E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5036E-05 OSCILLATION LIMIT = 3.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4646E-01 CRITERION= .2099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 390
 *** TIME = .227215E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5116E-05 OSCILLATION LIMIT = 4.036
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4649E-01 CRITERION= .2098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 391
 *** TIME = .228004E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5041E-05 OSCILLATION LIMIT = 3.977
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4639E-01 CRITERION= .2097 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 392
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5111E-05 OSCILLATION LIMIT = 4.032
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4643E-01 CRITERION= .2096 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 393
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5044E-05 OSCILLATION LIMIT = 3.979
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4632E-01 CRITERION= .2095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 394
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.030
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.05 CRITERION= .2105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4636E-01 CRITERION= .2093 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 395

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*** TIME = .231159E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5045E-05    OSCILLATION LIMIT = 3.980
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.12    CRITERION= .2104
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4626E-01    CRITERION= .2092    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 396
*** TIME = .231948E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5108E-05    OSCILLATION LIMIT = 4.030
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.05    CRITERION= .2103
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4629E-01    CRITERION= .2091    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 397
*** TIME = .232737E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5045E-05    OSCILLATION LIMIT = 3.980
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.12    CRITERION= .2101
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4619E-01    CRITERION= .2090    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 398
*** TIME = .233526E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5107E-05    OSCILLATION LIMIT = 4.029
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.05    CRITERION= .2100
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4623E-01    CRITERION= .2088    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 399
*** TIME = .234315E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5045E-05    OSCILLATION LIMIT = 3.980
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.12    CRITERION= .2099
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4612E-01    CRITERION= .2088    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 400
*** TIME = .235104E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5107E-05    OSCILLATION LIMIT = 4.029
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.04    CRITERION= .2098
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4616E-01    CRITERION= .2086    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 401
*** TIME = .235893E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5044E-05    OSCILLATION LIMIT = 3.980
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.12    CRITERION= .2097
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4606E-01    CRITERION= .2085    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 402
*** TIME = .236682E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5107E-05    OSCILLATION LIMIT = 4.029
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.04    CRITERION= .2096
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .4610E-01    CRITERION= .2084    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 403
*** TIME = .237471E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5043E-05 OSCILLATION LIMIT = 3.979
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2094
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4599E-01 CRITERION= .2083 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 404
*** TIME = .238260E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5107E-05 OSCILLATION LIMIT = 4.029
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2093
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4603E-01 CRITERION= .2081 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 405
*** TIME = .239049E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5042E-05 OSCILLATION LIMIT = 3.978
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2092
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4592E-01 CRITERION= .2080 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 406
*** TIME = .239838E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5108E-05 OSCILLATION LIMIT = 4.030
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2091
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4596E-01 CRITERION= .2079 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 407
*** TIME = .240627E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5041E-05 OSCILLATION LIMIT = 3.977
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2090
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4586E-01 CRITERION= .2078 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 408
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5108E-05 OSCILLATION LIMIT = 4.030
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2089
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4590E-01 CRITERION= .2077 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 409
*** TIME = .242205E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5040E-05 OSCILLATION LIMIT = 3.977
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2087
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4579E-01 CRITERION= .2076 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 410
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5108E-05 OSCILLATION LIMIT = 4.030
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2086

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4583E-01 CRITERION= .2074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 411
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5039E-05 OSCILLATION LIMIT = 3.976
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2085
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4572E-01 CRITERION= .2073 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 412
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.030
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4576E-01 CRITERION= .2072 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 413
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5038E-05 OSCILLATION LIMIT = 3.975
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .2082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4565E-01 CRITERION= .2071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 414
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.030
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2081
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4570E-01 CRITERION= .2069 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 415
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5037E-05 OSCILLATION LIMIT = 3.974
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4559E-01 CRITERION= .2068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 416
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4563E-01 CRITERION= .2067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 417
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5036E-05 OSCILLATION LIMIT = 3.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .2078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4552E-01 CRITERION= .2066 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 418
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4556E-01 CRITERION= .2065 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 419
 *** TIME = .250094E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5035E-05 OSCILLATION LIMIT = 3.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .2075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4545E-01 CRITERION= .2064 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 420
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.04 CRITERION= .2074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4550E-01 CRITERION= .2062 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 421
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5034E-05 OSCILLATION LIMIT = 3.972
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4539E-01 CRITERION= .2061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 422
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5109E-05 OSCILLATION LIMIT = 4.031

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 04:06:21 APR 01, 1995 CP= 35090.990
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2066
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3225E-01 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 423
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8506E-05 OSCILLATION LIMIT = 6.710
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3161E-01 CRITERION= .2059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 424
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9264E-05 OSCILLATION LIMIT = 7.309
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3058E-01 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 425
 *** TIME = .254828E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8375E-05 OSCILLATION LIMIT = 6.608
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3132E-01 CRITERION= .2057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 426
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9195E-05 OSCILLATION LIMIT = 7.254
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3074E-01 CRITERION= .2055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 427
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8546E-05 OSCILLATION LIMIT = 6.742
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3111E-01 CRITERION= .2055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 428
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9080E-05 OSCILLATION LIMIT = 7.163
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3081E-01 CRITERION= .2053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 429
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8645E-05 OSCILLATION LIMIT = 6.820
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3098E-01 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 430
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9013E-05 OSCILLATION LIMIT = 7.111
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 431
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8702E-05 OSCILLATION LIMIT = 6.866
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3088E-01 CRITERION= .2050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 432
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8976E-05 OSCILLATION LIMIT = 7.081
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .2049 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 433
*** TIME = .261139E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8736E-05 OSCILLATION LIMIT = 6.892
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2053
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3080E-01 CRITERION= .2048 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 434
*** TIME = .261928E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8956E-05 OSCILLATION LIMIT = 7.066
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2052
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3081E-01 CRITERION= .2046 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 435
*** TIME = .262717E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8756E-05 OSCILLATION LIMIT = 6.908
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3073E-01 CRITERION= .2046 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 436
*** TIME = .263506E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8946E-05 OSCILLATION LIMIT = 7.058
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2050
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3078E-01 CRITERION= .2044 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 437
*** TIME = .264295E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8767E-05 OSCILLATION LIMIT = 6.917
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3068E-01 CRITERION= .2043 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 438
*** TIME = .265084E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8942E-05 OSCILLATION LIMIT = 7.055
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3074E-01 CRITERION= .2042 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 439
*** TIME = .265873E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8774E-05 OSCILLATION LIMIT = 6.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
HT FLOW CONVERGENCE VALUE= .3062E-01 CRITERION= .2041 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 440
*** TIME = .266662E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8942E-05 OSCILLATION LIMIT = 7.055
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01

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HT FLOW CONVERGENCE VALUE= .3070E-01 CRITERION= .2040 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 441
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8778E-05 OSCILLATION LIMIT = 6.925
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2044
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3058E-01 CRITERION= .2039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 442
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8944E-05 OSCILLATION LIMIT = 7.056
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3066E-01 CRITERION= .2037 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 443
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8781E-05 OSCILLATION LIMIT = 6.928
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2042
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3053E-01 CRITERION= .2037 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 444
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8947E-05 OSCILLATION LIMIT = 7.058
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3062E-01 CRITERION= .2035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 445
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8783E-05 OSCILLATION LIMIT = 6.929
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3048E-01 CRITERION= .2034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 446
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8950E-05 OSCILLATION LIMIT = 7.061
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3058E-01 CRITERION= .2033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 447
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8784E-05 OSCILLATION LIMIT = 6.930
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .2032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 448
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8954E-05 OSCILLATION LIMIT = 7.064
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3054E-01 CRITERION= .2031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 449
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8785E-05 OSCILLATION LIMIT = 6.931
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3039E-01 CRITERION= .2030 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 450
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8958E-05 OSCILLATION LIMIT = 7.068
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2034
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3050E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 451
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8786E-05 OSCILLATION LIMIT = 6.931
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3035E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 452
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8963E-05 OSCILLATION LIMIT = 7.071
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3045E-01 CRITERION= .2026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 453
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8787E-05 OSCILLATION LIMIT = 6.932
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3030E-01 CRITERION= .2025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 454
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8967E-05 OSCILLATION LIMIT = 7.074
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3041E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 455
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8788E-05 OSCILLATION LIMIT = 6.933
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3026E-01 CRITERION= .2023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 456
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8971E-05 OSCILLATION LIMIT = 7.078

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

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .2022 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 457
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8789E-05 OSCILLATION LIMIT = 6.934
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3021E-01 CRITERION= .2021 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 458
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8975E-05 OSCILLATION LIMIT = 7.081
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3032E-01 CRITERION= .2019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 459
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8790E-05 OSCILLATION LIMIT = 6.934
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3017E-01 CRITERION= .2019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 460
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8979E-05 OSCILLATION LIMIT = 7.084
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.30 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3028E-01 CRITERION= .2017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 461
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8791E-05 OSCILLATION LIMIT = 6.935
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .3013E-01 CRITERION= .2016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 462
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8983E-05 OSCILLATION LIMIT = 7.087
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4913.36056 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 164.75 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 165.54 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 167.51 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 38638.280 TIME= 05:07:18
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 05:07:18 APR 01, 1995 CP= 38638.280
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
 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= 11.58 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2635E-01 CRITERION= .2015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 463
 *** TIME = .284807E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8364E-05 OSCILLATION LIMIT = 6.599
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 464
 *** TIME = .285596E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8531E-05 OSCILLATION LIMIT = 6.730
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2595E-01 CRITERION= .2013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 465
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8414E-05 OSCILLATION LIMIT = 6.638
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .2013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 466
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8579E-05 OSCILLATION LIMIT = 6.768
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2592E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 467
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8402E-05 OSCILLATION LIMIT = 6.629
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2574E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 468
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8590E-05 OSCILLATION LIMIT = 6.777
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2588E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 469
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8396E-05 OSCILLATION LIMIT = 6.624
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2572E-01 CRITERION= .2009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 470
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8598E-05 OSCILLATION LIMIT = 6.783
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01

HT FLOW CONVERGENCE VALUE= .2585E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 471
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8393E-05 OSCILLATION LIMIT = 6.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 472
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8604E-05 OSCILLATION LIMIT = 6.788
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2582E-01 CRITERION= .2006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 473
 *** TIME = .292697E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8391E-05 OSCILLATION LIMIT = 6.620
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 474
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8609E-05 OSCILLATION LIMIT = 6.792
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2578E-01 CRITERION= .2004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 475
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8390E-05 OSCILLATION LIMIT = 6.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2563E-01 CRITERION= .2003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 476
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8613E-05 OSCILLATION LIMIT = 6.795
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2575E-01 CRITERION= .2002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 477
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8389E-05 OSCILLATION LIMIT = 6.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2559E-01 CRITERION= .2001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 478
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8617E-05 OSCILLATION LIMIT = 6.798
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2572E-01 CRITERION= .2000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 479
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8389E-05 OSCILLATION LIMIT = 6.618
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2556E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 480
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8620E-05 OSCILLATION LIMIT = 6.801
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .1998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 481
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8389E-05 OSCILLATION LIMIT = 6.618
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 482
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8624E-05 OSCILLATION LIMIT = 6.804
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .2001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 483
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8389E-05 OSCILLATION LIMIT = 6.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 484
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8627E-05 OSCILLATION LIMIT = 6.806
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2563E-01 CRITERION= .1994 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 485
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8390E-05 OSCILLATION LIMIT = 6.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2547E-01 CRITERION= .1994 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 486
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8630E-05 OSCILLATION LIMIT = 6.809

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

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2560E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 487
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8390E-05 OSCILLATION LIMIT = 6.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2544E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 488
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8633E-05 OSCILLATION LIMIT = 6.811
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2557E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 489
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8390E-05 OSCILLATION LIMIT = 6.620
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2540E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 490
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8636E-05 OSCILLATION LIMIT = 6.813
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2554E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 491
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8391E-05 OSCILLATION LIMIT = 6.620
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .1992
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2537E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 492
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8639E-05 OSCILLATION LIMIT = 6.815
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.58 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 493
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8392E-05 OSCILLATION LIMIT = 6.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.65 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2534E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 494

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*** TIME = .309265E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8641E-05    OSCILLATION LIMIT = 6.818
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.58    CRITERION= .1990
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2547E-01    CRITERION= .1985    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED.    CUM ITER = 495
*** TIME = .310053E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8392E-05    OSCILLATION LIMIT = 6.621
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.65    CRITERION= .1988
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2531E-01    CRITERION= .1984    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED.    CUM ITER = 496
*** TIME = .310842E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8644E-05    OSCILLATION LIMIT = 6.820
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.58    CRITERION= .1988
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2544E-01    CRITERION= .1983    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED.    CUM ITER = 497
*** TIME = .311631E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8393E-05    OSCILLATION LIMIT = 6.622
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.65    CRITERION= .1987
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2528E-01    CRITERION= .1982    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED.    CUM ITER = 498
*** TIME = .312420E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8647E-05    OSCILLATION LIMIT = 6.822
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.58    CRITERION= .1986
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2541E-01    CRITERION= .1981    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED.    CUM ITER = 499
*** TIME = .313209E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8394E-05    OSCILLATION LIMIT = 6.622
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.65    CRITERION= .1985
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2525E-01    CRITERION= .1981    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED.    CUM ITER = 500
*** TIME = .313998E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8649E-05    OSCILLATION LIMIT = 6.824
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.58    CRITERION= .1984
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2538E-01    CRITERION= .1979    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED.    CUM ITER = 501
*** TIME = .314787E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8395E-05    OSCILLATION LIMIT = 6.623
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.65    CRITERION= .1983
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2522E-01    CRITERION= .1979    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 502
*** TIME = .315576E+09 TIME INC = .788940.
*** RESPONSE EIGENVALUE = .8652E-05 OSCILLATION LIMIT = 6.826
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*ENDDO INDEX= TM

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

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 06:08:15 APR 01, 1995 CP= 42187.770
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 85.33 CRITERION= .2154
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1907 CRITERION= .1971 <<< 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 = .1163E-04 OSCILLATION LIMIT = 91.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.39 CRITERION= .2147
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .2067 CRITERION= .1963
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4986E-01
HT FLOW CONVERGENCE VALUE= .4177E-01 CRITERION= .1961 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 505
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9504E-05 OSCILLATION LIMIT = 74.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.32 CRITERION= .2138
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1863 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 506
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1165E-04 OSCILLATION LIMIT = 91.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.39 CRITERION= .2131
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .2036 CRITERION= .1945
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4942E-01
HT FLOW CONVERGENCE VALUE= .4104E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 508
*** TIME = .347134E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9543E-05 OSCILLATION LIMIT = 75.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.32 CRITERION= .2122
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1850 CRITERION= .1936 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 509
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1172E-04 OSCILLATION LIMIT = 92.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 85.38 CRITERION= .2115
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .2005 CRITERION= .1928
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4892E-01
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HT FLOW CONVERGENCE VALUE= .4026E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 511
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9562E-05 OSCILLATION LIMIT = 75.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.31 CRITERION= .2106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1836 CRITERION= .1918 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 512
 *** TIME = .370802E+09 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= 85.37 CRITERION= .2099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1974 CRITERION= .1910
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4843E-01
 HT FLOW CONVERGENCE VALUE= .3945E-01 CRITERION= .1909 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 514
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9581E-05 OSCILLATION LIMIT = 75.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.30 CRITERION= .2090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1823 CRITERION= .1901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 515
 *** TIME = .386581E+09 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= 85.36 CRITERION= .2083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1945 CRITERION= .1893
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4794E-01
 HT FLOW CONVERGENCE VALUE= .3869E-01 CRITERION= .1891 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 517
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9601E-05 OSCILLATION LIMIT = 75.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.29 CRITERION= .2074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1809 CRITERION= .1883 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 518
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1191E-04 OSCILLATION LIMIT = 93.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.36 CRITERION= .2067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1916 CRITERION= .1875
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4746E-01
 HT FLOW CONVERGENCE VALUE= .3795E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 520
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9621E-05 OSCILLATION LIMIT = 75.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.29 CRITERION= .2058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1795 CRITERION= .1866 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 521
*** TIME = .418138E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1197E-04 OSCILLATION LIMIT = 94.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.35 CRITERION= .2051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1889 CRITERION= .1858
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4699E-01
HT FLOW CONVERGENCE VALUE= .3722E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 523
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9642E-05 OSCILLATION LIMIT = 76.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.28 CRITERION= .2042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1780 CRITERION= .1848 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 524
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1202E-04 OSCILLATION LIMIT = 94.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.34 CRITERION= .2035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1861 CRITERION= .1840
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4652E-01
HT FLOW CONVERGENCE VALUE= .3649E-01 CRITERION= .1839 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 526
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9664E-05 OSCILLATION LIMIT = 76.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.27 CRITERION= .2026
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1766 CRITERION= .1831 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 527
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1207E-04 OSCILLATION LIMIT = 95.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.33 CRITERION= .2019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1835 CRITERION= .1823
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4606E-01
HT FLOW CONVERGENCE VALUE= .3577E-01 CRITERION= .1821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 529
*** TIME = .457585E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9686E-05 OSCILLATION LIMIT = 76.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.27 CRITERION= .2010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1751 CRITERION= .1813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 530
*** TIME = .465475E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = 95.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.33 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1809 CRITERION= .1805
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4561E-01

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HT FLOW CONVERGENCE VALUE= .3505E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 532
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9709E-05 OSCILLATION LIMIT = 76.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.26 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1735 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 533
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 95.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.32 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1783 CRITERION= .1788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 534
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1067E-04 OSCILLATION LIMIT = 84.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.25 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1882 CRITERION= .1778
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4523E-01
 HT FLOW CONVERGENCE VALUE= .3408E-01 CRITERION= .1777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 536
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1001E-04 OSCILLATION LIMIT = 78.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.31 CRITERION= .1970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1628 CRITERION= .1770 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 537
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1139E-04 OSCILLATION LIMIT = 89.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.24 CRITERION= .1964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1853 CRITERION= .1761
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4502E-01
 HT FLOW CONVERGENCE VALUE= .3356E-01 CRITERION= .1760 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 539
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 79.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.31 CRITERION= .1955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1611 CRITERION= .1752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 540
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1149E-04 OSCILLATION LIMIT = 90.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.24 CRITERION= .1948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1805 CRITERION= .1743
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4450E-01
 HT FLOW CONVERGENCE VALUE= .3278E-01 CRITERION= .1742 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 542
*** TIME = .528590E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1010E-04 OSCILLATION LIMIT = 79.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.30 CRITERION= .1939
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1587 CRITERION= .1735 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 543
*** TIME = .536479E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1159E-04 OSCILLATION LIMIT = 91.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.23 CRITERION= .1932
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1755 CRITERION= .1726
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4399E-01
HT FLOW CONVERGENCE VALUE= .3204E-01 CRITERION= .1725 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 545
*** TIME = .544369E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.29 CRITERION= .1923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1562 CRITERION= .1717 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 546
*** TIME = .552258E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1168E-04 OSCILLATION LIMIT = 92.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.22 CRITERION= .1916
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1705 CRITERION= .1708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 547
*** TIME = .560147E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.28 CRITERION= .1909
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1636 CRITERION= .1700 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 548
*** TIME = .568037E+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= 85.21 CRITERION= .1901
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1637 CRITERION= .1691 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 549
*** TIME = .575926E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1113E-04 OSCILLATION LIMIT = 87.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.28 CRITERION= .1893
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1576 CRITERION= .1682 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 550
*** TIME = .583816E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1098E-04 OSCILLATION LIMIT = 86.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 85.21 CRITERION= .1885
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1602 CRITERION= .1673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 551
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 87.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.27 CRITERION= .1877
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1557 CRITERION= .1665 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 552
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.20 CRITERION= .1870
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1581 CRITERION= .1656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 553
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1117E-04 OSCILLATION LIMIT = 88.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.26 CRITERION= .1862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1538 CRITERION= .1647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 554
 *** TIME = .615373E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.19 CRITERION= .1854
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1560 CRITERION= .1638 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 555
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.25 CRITERION= .1846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1519 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 556
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.44

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 07:19:44 APR 01, 1995 CP= 46376.220
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 55.81 CRITERION= .1722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2222
 HT FLOW CONVERGENCE VALUE= .1167 CRITERION= .1623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 557
 *** TIME = .639041E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 90.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.87 CRITERION= .1716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .1067 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 558
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1203E-04 OSCILLATION LIMIT = 94.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.80 CRITERION= .1709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2088
 HT FLOW CONVERGENCE VALUE= .1096 CRITERION= .1610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 559
 *** TIME = .654820E+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= 55.86 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1975
 HT FLOW CONVERGENCE VALUE= .1058 CRITERION= .1603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 560
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1210E-04 OSCILLATION LIMIT = 95.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.80 CRITERION= .1697
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2083
 HT FLOW CONVERGENCE VALUE= .1082 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 561
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 95.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.86 CRITERION= .1691
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
 HT FLOW CONVERGENCE VALUE= .1046 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 562
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1213E-04 OSCILLATION LIMIT = 95.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.80 CRITERION= .1685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2079
 HT FLOW CONVERGENCE VALUE= .1070 CRITERION= .1583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 563
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 95.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.86 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
 HT FLOW CONVERGENCE VALUE= .1037 CRITERION= .1577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 564
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 95.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.79 CRITERION= .1672
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2075
 HT FLOW CONVERGENCE VALUE= .1060 CRITERION= .1570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 565
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 95.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1666
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
 HT FLOW CONVERGENCE VALUE= .1028 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 566
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1219E-04 OSCILLATION LIMIT = 96.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.79 CRITERION= .1660
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2070
 HT FLOW CONVERGENCE VALUE= .1049 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 567
 *** TIME = .717935E+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= 55.85 CRITERION= .1654
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1980
 HT FLOW CONVERGENCE VALUE= .1018 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 568
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1222E-04 OSCILLATION LIMIT = 96.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.79 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2066
 HT FLOW CONVERGENCE VALUE= .1038 CRITERION= .1544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 569
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 96.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1981
 HT FLOW CONVERGENCE VALUE= .1009 CRITERION= .1538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 570
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1225E-04 OSCILLATION LIMIT = 96.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.78 CRITERION= .1635
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2062
 HT FLOW CONVERGENCE VALUE= .1027 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 571
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 96.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.85 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1982
 HT FLOW CONVERGENCE VALUE= .9989E-01 CRITERION= .1525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 572
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1228E-04 OSCILLATION LIMIT = 96.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.78 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2059

HT FLOW CONVERGENCE VALUE= .1015 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 573
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1225E-04 OSCILLATION LIMIT = 96.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.84 CRITERION= .1617
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1983
 HT FLOW CONVERGENCE VALUE= .9888E-01 CRITERION= .1512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 574
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.78 CRITERION= .1611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2055
 HT FLOW CONVERGENCE VALUE= .1004 CRITERION= .1505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 575
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1227E-04 OSCILLATION LIMIT = 96.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.84 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .9782E-01 CRITERION= .1499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 576
 *** TIME = .788940E+09 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= 55.77 CRITERION= .1598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2051
 HT FLOW CONVERGENCE VALUE= .9923E-01 CRITERION= .1492 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 577
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1229E-04 OSCILLATION LIMIT = 97.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.84 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .9684E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 578
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.77 CRITERION= .1586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2048
 HT FLOW CONVERGENCE VALUE= .9817E-01 CRITERION= .1479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 579
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1232E-04 OSCILLATION LIMIT = 97.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.83 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .9590E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 580
 *** TIME = .820498E+09 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= 55.77 CRITERION= .1574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2044
 HT FLOW CONVERGENCE VALUE= .9713E-01 CRITERION= .1466 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 581
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1234E-04 OSCILLATION LIMIT = 97.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.83 CRITERION= .1568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .9496E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 582
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1242E-04 OSCILLATION LIMIT = 97.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.76 CRITERION= .1562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2041
 HT FLOW CONVERGENCE VALUE= .9604E-01 CRITERION= .1452 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 583
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.83 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .9394E-01 CRITERION= .1446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 584
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.76 CRITERION= .1549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2038
 HT FLOW CONVERGENCE VALUE= .9499E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 585
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1238E-04 OSCILLATION LIMIT = 97.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.82 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .9297E-01 CRITERION= .1433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 586
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.76 CRITERION= .1537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2035
 HT FLOW CONVERGENCE VALUE= .9386E-01 CRITERION= .1426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 587
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1241E-04 OSCILLATION LIMIT = 97.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.82 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .9190E-01 CRITERION= .1420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 588
 *** TIME = .883613E+09 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= 55.75 CRITERION= .1525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2032
 HT FLOW CONVERGENCE VALUE= .9277E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 589
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1243E-04 OSCILLATION LIMIT = 98.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.82 CRITERION= .1519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
 HT FLOW CONVERGENCE VALUE= .9095E-01 CRITERION= .1407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 590
 *** TIME = .899392E+09 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= 55.75 CRITERION= .1513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2029
 HT FLOW CONVERGENCE VALUE= .9176E-01 CRITERION= .1400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 591
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.81 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .9001E-01 CRITERION= .1394 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 592
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1256E-04 OSCILLATION LIMIT = 99.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.75 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2026
 HT FLOW CONVERGENCE VALUE= .9075E-01 CRITERION= .1387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 593
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.81 CRITERION= .1494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .8908E-01 CRITERION= .1381 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 594
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 99.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.74 CRITERION= .1488
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2023
 HT FLOW CONVERGENCE VALUE= .8975E-01 CRITERION= .1374 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 595
 *** TIME = .938839E+09 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= 55.81 CRITERION= .1482
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1984
 HT FLOW CONVERGENCE VALUE= .8813E-01 CRITERION= .1368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 596

*** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1261E-04 OSCILLATION LIMIT = 99.48

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 08:20:41 APR 01, 1995 CP= 49926.360
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2313
 HT FLOW CONVERGENCE VALUE= .7936E-01 CRITERION= .1362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 597
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1004E-04 OSCILLATION LIMIT = 79.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1374
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2124
 HT FLOW CONVERGENCE VALUE= .7013E-01 CRITERION= .1357 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 598
 *** TIME = .962507E+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= 18.03 CRITERION= .1369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2149
 HT FLOW CONVERGENCE VALUE= .7090E-01 CRITERION= .1352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 599
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2136
 HT FLOW CONVERGENCE VALUE= .6973E-01 CRITERION= .1347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 600
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 90.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2150
 HT FLOW CONVERGENCE VALUE= .7040E-01 CRITERION= .1342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 601
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2138
 HT FLOW CONVERGENCE VALUE= .6924E-01 CRITERION= .1337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 602
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 90.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2152
 HT FLOW CONVERGENCE VALUE= .6982E-01 CRITERION= .1332 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 603
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1344
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2141
HT FLOW CONVERGENCE VALUE= .6868E-01 CRITERION= .1328 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 604
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 90.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1339
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2153
HT FLOW CONVERGENCE VALUE= .6924E-01 CRITERION= .1322 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 605
*** TIME = .101773E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1334
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2143
HT FLOW CONVERGENCE VALUE= .6814E-01 CRITERION= .1318 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 606
*** TIME = .102562E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 90.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1329
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2154
HT FLOW CONVERGENCE VALUE= .6865E-01 CRITERION= .1312 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 607
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1324
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2145
HT FLOW CONVERGENCE VALUE= .6763E-01 CRITERION= .1308 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 608
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 90.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1320
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2156
HT FLOW CONVERGENCE VALUE= .6814E-01 CRITERION= .1302 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 609
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2147
HT FLOW CONVERGENCE VALUE= .6713E-01 CRITERION= .1298 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 610
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1310

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2157
 HT FLOW CONVERGENCE VALUE= .6757E-01 CRITERION= .1293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 611
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2150
 HT FLOW CONVERGENCE VALUE= .6660E-01 CRITERION= .1288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 612
 *** TIME = .107296E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2159
 HT FLOW CONVERGENCE VALUE= .6704E-01 CRITERION= .1283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 613
 *** TIME = .108085E+10 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= 18.09 CRITERION= .1295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2152
 HT FLOW CONVERGENCE VALUE= .6608E-01 CRITERION= .1278 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 614
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2160
 HT FLOW CONVERGENCE VALUE= .6650E-01 CRITERION= .1273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 615
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2154
 HT FLOW CONVERGENCE VALUE= .6559E-01 CRITERION= .1268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 616
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2162
 HT FLOW CONVERGENCE VALUE= .6596E-01 CRITERION= .1263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 617
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2156
 HT FLOW CONVERGENCE VALUE= .6505E-01 CRITERION= .1258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 618
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2163
 HT FLOW CONVERGENCE VALUE= .6542E-01 CRITERION= .1253 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 619
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2158
 HT FLOW CONVERGENCE VALUE= .6457E-01 CRITERION= .1248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 620
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2165
 HT FLOW CONVERGENCE VALUE= .6488E-01 CRITERION= .1243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 621
 *** TIME = .114396E+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= 18.09 CRITERION= .1255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2161
 HT FLOW CONVERGENCE VALUE= .6404E-01 CRITERION= .1238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 622
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2166
 HT FLOW CONVERGENCE VALUE= .6435E-01 CRITERION= .1233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 623
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2163
 HT FLOW CONVERGENCE VALUE= .6352E-01 CRITERION= .1228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 624
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 90.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.03 CRITERION= .1241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2168
 HT FLOW CONVERGENCE VALUE= .6378E-01 CRITERION= .1223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 625
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2165
 HT FLOW CONVERGENCE VALUE= .6296E-01 CRITERION= .1218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 626
 *** TIME = .118341E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.02 CRITERION= .1231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2169
 HT FLOW CONVERGENCE VALUE= .6321E-01 CRITERION= .1213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 627
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1226
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2167
 HT FLOW CONVERGENCE VALUE= .6242E-01 CRITERION= .1208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 628
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.02 CRITERION= .1221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2171
 HT FLOW CONVERGENCE VALUE= .6263E-01 CRITERION= .1203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 629
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2169
 HT FLOW CONVERGENCE VALUE= .6188E-01 CRITERION= .1198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 630
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.02 CRITERION= .1211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2173
 HT FLOW CONVERGENCE VALUE= .6208E-01 CRITERION= .1193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 631
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2171
 HT FLOW CONVERGENCE VALUE= .6134E-01 CRITERION= .1188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 632
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.02 CRITERION= .1201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2174
 HT FLOW CONVERGENCE VALUE= .6155E-01 CRITERION= .1183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 633
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2173
 HT FLOW CONVERGENCE VALUE= .6083E-01 CRITERION= .1178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 634
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.02 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2176
 HT FLOW CONVERGENCE VALUE= .6103E-01 CRITERION= .1173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 635
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.09 CRITERION= .1187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2176
 HT FLOW CONVERGENCE VALUE= .6034E-01 CRITERION= .1168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 636
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 90.29

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 09:21:37 APR 01, 1995 CP= 53472.480
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2095
 HT FLOW CONVERGENCE VALUE= .5975E-01 CRITERION= .1164 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 637
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7865E-05 OSCILLATION LIMIT = 62.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2047
 HT FLOW CONVERGENCE VALUE= .5699E-01 CRITERION= .1160 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 638
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8376E-05 OSCILLATION LIMIT = 66.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2050
 HT FLOW CONVERGENCE VALUE= .5714E-01 CRITERION= .1156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 639
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8201E-05 OSCILLATION LIMIT = 64.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2052
 HT FLOW CONVERGENCE VALUE= .5665E-01 CRITERION= .1152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 640
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8379E-05 OSCILLATION LIMIT = 66.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2052

HT FLOW CONVERGENCE VALUE= .5675E-01 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 641
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8196E-05 OSCILLATION LIMIT = 64.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1148
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2055
 HT FLOW CONVERGENCE VALUE= .5622E-01 CRITERION= .1144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 642
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8375E-05 OSCILLATION LIMIT = 66.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2054
 HT FLOW CONVERGENCE VALUE= .5631E-01 CRITERION= .1140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 643
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8193E-05 OSCILLATION LIMIT = 64.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2057
 HT FLOW CONVERGENCE VALUE= .5584E-01 CRITERION= .1136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 644
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8372E-05 OSCILLATION LIMIT = 66.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2056
 HT FLOW CONVERGENCE VALUE= .5593E-01 CRITERION= .1132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 645
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8190E-05 OSCILLATION LIMIT = 64.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2059
 HT FLOW CONVERGENCE VALUE= .5545E-01 CRITERION= .1128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 646
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8368E-05 OSCILLATION LIMIT = 66.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2058
 HT FLOW CONVERGENCE VALUE= .5554E-01 CRITERION= .1124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 647
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8187E-05 OSCILLATION LIMIT = 64.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2062
 HT FLOW CONVERGENCE VALUE= .5505E-01 CRITERION= .1120 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 648
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8364E-05 OSCILLATION LIMIT = 65.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2061
 HT FLOW CONVERGENCE VALUE= .5510E-01 CRITERION= .1116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 649
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8184E-05 OSCILLATION LIMIT = 64.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2064
 HT FLOW CONVERGENCE VALUE= .5462E-01 CRITERION= .1112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 650
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8360E-05 OSCILLATION LIMIT = 65.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1112
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2063
 HT FLOW CONVERGENCE VALUE= .5468E-01 CRITERION= .1107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 651
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8181E-05 OSCILLATION LIMIT = 64.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2067
 HT FLOW CONVERGENCE VALUE= .5422E-01 CRITERION= .1104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 652
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8356E-05 OSCILLATION LIMIT = 65.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1104
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2066
 HT FLOW CONVERGENCE VALUE= .5431E-01 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 653
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8178E-05 OSCILLATION LIMIT = 64.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2070
 HT FLOW CONVERGENCE VALUE= .5387E-01 CRITERION= .1095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 654
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8352E-05 OSCILLATION LIMIT = 65.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2068
 HT FLOW CONVERGENCE VALUE= .5397E-01 CRITERION= .1091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 655
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8174E-05 OSCILLATION LIMIT = 64.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2072
 HT FLOW CONVERGENCE VALUE= .5354E-01 CRITERION= .1087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 656
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8348E-05 OSCILLATION LIMIT = 65.86

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2070
 HT FLOW CONVERGENCE VALUE= .5364E-01 CRITERION= .1083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 657
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8170E-05 OSCILLATION LIMIT = 64.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2075
 HT FLOW CONVERGENCE VALUE= .5322E-01 CRITERION= .1079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 658
 *** TIME = .143587E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8344E-05 OSCILLATION LIMIT = 65.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2073
 HT FLOW CONVERGENCE VALUE= .5330E-01 CRITERION= .1075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 659
 *** TIME = .144376E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8167E-05 OSCILLATION LIMIT = 64.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2078
 HT FLOW CONVERGENCE VALUE= .5289E-01 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 660
 *** TIME = .145165E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8340E-05 OSCILLATION LIMIT = 65.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2076
 HT FLOW CONVERGENCE VALUE= .5297E-01 CRITERION= .1067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 661
 *** TIME = .145954E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8163E-05 OSCILLATION LIMIT = 64.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1068
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2080
 HT FLOW CONVERGENCE VALUE= .5257E-01 CRITERION= .1063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 662
 *** TIME = .146743E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8335E-05 OSCILLATION LIMIT = 65.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.382 CRITERION= .1064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2078
 HT FLOW CONVERGENCE VALUE= .5263E-01 CRITERION= .1059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 663
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8160E-05 OSCILLATION LIMIT = 64.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.443 CRITERION= .1059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2083
 HT FLOW CONVERGENCE VALUE= .5220E-01 CRITERION= .1055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 664

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*** TIME = .148321E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8331E-05    OSCILLATION LIMIT = 65.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.382    CRITERION= .1055
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2081
    HT FLOW CONVERGENCE VALUE= .5224E-01    CRITERION= .1051    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED.    CUM ITER = 665
*** TIME = .149110E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8156E-05    OSCILLATION LIMIT = 64.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.443    CRITERION= .1051
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2085
    HT FLOW CONVERGENCE VALUE= .5184E-01    CRITERION= .1047    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED.    CUM ITER = 666
*** TIME = .149899E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8326E-05    OSCILLATION LIMIT = 65.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.382    CRITERION= .1047
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2083
    HT FLOW CONVERGENCE VALUE= .5188E-01    CRITERION= .1043    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 31 COMPLETED.    CUM ITER = 667
*** TIME = .150688E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8152E-05    OSCILLATION LIMIT = 64.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.442    CRITERION= .1043
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2088
    HT FLOW CONVERGENCE VALUE= .5150E-01    CRITERION= .1039    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 32 COMPLETED.    CUM ITER = 668
*** TIME = .151476E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8322E-05    OSCILLATION LIMIT = 65.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.382    CRITERION= .1039
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2086
    HT FLOW CONVERGENCE VALUE= .5156E-01    CRITERION= .1035    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 33 COMPLETED.    CUM ITER = 669
*** TIME = .152265E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8148E-05    OSCILLATION LIMIT = 64.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.442    CRITERION= .1035
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2090
    HT FLOW CONVERGENCE VALUE= .5115E-01    CRITERION= .1031    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 34 COMPLETED.    CUM ITER = 670
*** TIME = .153054E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8317E-05    OSCILLATION LIMIT = 65.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.382    CRITERION= .1031
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2088
    HT FLOW CONVERGENCE VALUE= .5119E-01    CRITERION= .1026    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 35 COMPLETED.    CUM ITER = 671
*** TIME = .153843E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8144E-05    OSCILLATION LIMIT = 64.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.442    CRITERION= .1027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2093
    HT FLOW CONVERGENCE VALUE= .5082E-01    CRITERION= .1023    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 672
*** TIME = .154632E+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= 4.381 CRITERION= .1023
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2090
HT FLOW CONVERGENCE VALUE= .5085E-01 CRITERION= .1018 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 673
*** TIME = .155421E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8140E-05 OSCILLATION LIMIT = 64.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.442 CRITERION= .1019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2095
HT FLOW CONVERGENCE VALUE= .5047E-01 CRITERION= .1014 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 674
*** TIME = .156210E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8308E-05 OSCILLATION LIMIT = 65.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.381 CRITERION= .1015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2092
HT FLOW CONVERGENCE VALUE= .5049E-01 CRITERION= .1010 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 675
*** TIME = .156999E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8137E-05 OSCILLATION LIMIT = 64.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.442 CRITERION= .1011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2097
HT FLOW CONVERGENCE VALUE= .5012E-01 CRITERION= .1006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 676
*** TIME = .157788E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8304E-05 OSCILLATION LIMIT = 65.51

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 10:22:33 APR 01, 1995 CP= 57018.020
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .1006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1783
HT FLOW CONVERGENCE VALUE= .4448E-01 CRITERION= .1003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 677
*** TIME = .158577E+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= 1.709 CRITERION= .1003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1768
HT FLOW CONVERGENCE VALUE= .4328E-01 CRITERION= .1000E+00 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 678
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6595E-05 OSCILLATION LIMIT = 52.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9998E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1773
 HT FLOW CONVERGENCE VALUE= .4351E-01 CRITERION= .9967E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 679
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6424E-05 OSCILLATION LIMIT = 50.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9966E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1772
 HT FLOW CONVERGENCE VALUE= .4307E-01 CRITERION= .9937E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 680
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6593E-05 OSCILLATION LIMIT = 52.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9936E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1774
 HT FLOW CONVERGENCE VALUE= .4327E-01 CRITERION= .9904E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 681
 *** TIME = .161733E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6420E-05 OSCILLATION LIMIT = 50.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9903E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1773
 HT FLOW CONVERGENCE VALUE= .4286E-01 CRITERION= .9874E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 682
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6589E-05 OSCILLATION LIMIT = 51.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9873E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1776
 HT FLOW CONVERGENCE VALUE= .4306E-01 CRITERION= .9841E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 683
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6417E-05 OSCILLATION LIMIT = 50.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9840E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1775
 HT FLOW CONVERGENCE VALUE= .4263E-01 CRITERION= .9811E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 684
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6585E-05 OSCILLATION LIMIT = 51.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9810E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1777
 HT FLOW CONVERGENCE VALUE= .4278E-01 CRITERION= .9778E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 685
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6414E-05 OSCILLATION LIMIT = 50.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9777E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1777
 HT FLOW CONVERGENCE VALUE= .4239E-01 CRITERION= .9748E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 686
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6582E-05 OSCILLATION LIMIT = 51.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9747E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1779
 HT FLOW CONVERGENCE VALUE= .4256E-01 CRITERION= .9715E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 687
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6410E-05 OSCILLATION LIMIT = 50.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9714E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1779
 HT FLOW CONVERGENCE VALUE= .4215E-01 CRITERION= .9685E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 688
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6578E-05 OSCILLATION LIMIT = 51.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9684E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1780
 HT FLOW CONVERGENCE VALUE= .4230E-01 CRITERION= .9652E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 689
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6407E-05 OSCILLATION LIMIT = 50.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9651E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1781
 HT FLOW CONVERGENCE VALUE= .4192E-01 CRITERION= .9622E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 690
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6574E-05 OSCILLATION LIMIT = 51.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9621E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1782
 HT FLOW CONVERGENCE VALUE= .4208E-01 CRITERION= .9589E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 691
 *** TIME = .169622E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6404E-05 OSCILLATION LIMIT = 50.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9588E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1783
 HT FLOW CONVERGENCE VALUE= .4171E-01 CRITERION= .9559E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 692
 *** TIME = .170411E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6571E-05 OSCILLATION LIMIT = 51.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9558E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1784
 HT FLOW CONVERGENCE VALUE= .4186E-01 CRITERION= .9527E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 693
 *** TIME = .171200E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6401E-05 OSCILLATION LIMIT = 50.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9525E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1785
 HT FLOW CONVERGENCE VALUE= .4171E-01 CRITERION= .9496E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 694
 *** TIME = .171989E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6567E-05 OSCILLATION LIMIT = 51.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9495E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1785
 HT FLOW CONVERGENCE VALUE= .4216E-01 CRITERION= .9464E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 695
 *** TIME = .172778E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6398E-05 OSCILLATION LIMIT = 50.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9462E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1787
 HT FLOW CONVERGENCE VALUE= .4181E-01 CRITERION= .9433E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 696
 *** TIME = .173567E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6563E-05 OSCILLATION LIMIT = 51.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9432E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1787
 HT FLOW CONVERGENCE VALUE= .4240E-01 CRITERION= .9401E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 697
 *** TIME = .174356E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6394E-05 OSCILLATION LIMIT = 50.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9399E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1788
 HT FLOW CONVERGENCE VALUE= .4242E-01 CRITERION= .9371E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 698
 *** TIME = .175145E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6559E-05 OSCILLATION LIMIT = 51.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9369E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1788
 HT FLOW CONVERGENCE VALUE= .4272E-01 CRITERION= .9338E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 699
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-05 OSCILLATION LIMIT = 50.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9337E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1790
 HT FLOW CONVERGENCE VALUE= .4250E-01 CRITERION= .9308E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 700
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6555E-05 OSCILLATION LIMIT = 51.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9306E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1790
 HT FLOW CONVERGENCE VALUE= .4267E-01 CRITERION= .9275E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 701
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6388E-05 OSCILLATION LIMIT = 50.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9274E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1792
 HT FLOW CONVERGENCE VALUE= .4239E-01 CRITERION= .9245E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 702
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6552E-05 OSCILLATION LIMIT = 51.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9244E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1792
 HT FLOW CONVERGENCE VALUE= .4252E-01 CRITERION= .9212E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 703
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6385E-05 OSCILLATION LIMIT = 50.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9211E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1794
 HT FLOW CONVERGENCE VALUE= .4220E-01 CRITERION= .9182E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 704
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6548E-05 OSCILLATION LIMIT = 51.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9181E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1793
 HT FLOW CONVERGENCE VALUE= .4229E-01 CRITERION= .9149E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 705
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6382E-05 OSCILLATION LIMIT = 50.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9148E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1796
 HT FLOW CONVERGENCE VALUE= .4201E-01 CRITERION= .9119E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 706
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6545E-05 OSCILLATION LIMIT = 51.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9118E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1795
 HT FLOW CONVERGENCE VALUE= .4214E-01 CRITERION= .9086E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 707
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6379E-05 OSCILLATION LIMIT = 50.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9085E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1798
 HT FLOW CONVERGENCE VALUE= .4182E-01 CRITERION= .9056E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 708
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6541E-05 OSCILLATION LIMIT = 51.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .9055E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1797
 HT FLOW CONVERGENCE VALUE= .4190E-01 CRITERION= .9023E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 709
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6376E-05 OSCILLATION LIMIT = 50.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .9022E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1800

HT FLOW CONVERGENCE VALUE= .4159E-01 CRITERION= .8993E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 710
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6538E-05 OSCILLATION LIMIT = 51.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .8992E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1799
 HT FLOW CONVERGENCE VALUE= .4165E-01 CRITERION= .8960E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 711
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6373E-05 OSCILLATION LIMIT = 50.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .8959E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1802
 HT FLOW CONVERGENCE VALUE= .4135E-01 CRITERION= .8930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 712
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6535E-05 OSCILLATION LIMIT = 51.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .8929E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1800
 HT FLOW CONVERGENCE VALUE= .4141E-01 CRITERION= .8897E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 713
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6370E-05 OSCILLATION LIMIT = 50.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.709 CRITERION= .8896E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1803
 HT FLOW CONVERGENCE VALUE= .4112E-01 CRITERION= .8867E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 714
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6531E-05 OSCILLATION LIMIT = 51.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.768 CRITERION= .8866E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1802
 HT FLOW CONVERGENCE VALUE= .4123E-01 CRITERION= .8834E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 715
 *** TIME = .188557E+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= 1.709 CRITERION= .8833E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1805
 HT FLOW CONVERGENCE VALUE= .4100E-01 CRITERION= .8804E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 716
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6528E-05 OSCILLATION LIMIT = 51.50

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 11:23:27 APR 01, 1995 CP= 60565.970
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8822E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1588
 HT FLOW CONVERGENCE VALUE= .3795E-01 CRITERION= .8777E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 717
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4833E-05 OSCILLATION LIMIT = 38.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.831 CRITERION= .8794E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1579
 HT FLOW CONVERGENCE VALUE= .3733E-01 CRITERION= .8753E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 718
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5071E-05 OSCILLATION LIMIT = 40.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8771E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1582
 HT FLOW CONVERGENCE VALUE= .3759E-01 CRITERION= .8727E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 719
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4920E-05 OSCILLATION LIMIT = 38.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.831 CRITERION= .8744E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1581
 HT FLOW CONVERGENCE VALUE= .3741E-01 CRITERION= .8702E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 720
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5070E-05 OSCILLATION LIMIT = 40.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8720E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1583
 HT FLOW CONVERGENCE VALUE= .3771E-01 CRITERION= .8676E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 721
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4918E-05 OSCILLATION LIMIT = 38.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.831 CRITERION= .8693E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1583
 HT FLOW CONVERGENCE VALUE= .3746E-01 CRITERION= .8652E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 722
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5068E-05 OSCILLATION LIMIT = 39.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8669E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1585
 HT FLOW CONVERGENCE VALUE= .3764E-01 CRITERION= .8625E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 723
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4916E-05 OSCILLATION LIMIT = 38.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8643E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .3734E-01 CRITERION= .8601E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 724
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5066E-05 OSCILLATION LIMIT = 39.97

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8619E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
 HT FLOW CONVERGENCE VALUE= .3747E-01 CRITERION= .8575E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 725
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4914E-05 OSCILLATION LIMIT = 38.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8592E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
 HT FLOW CONVERGENCE VALUE= .3723E-01 CRITERION= .8551E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 726
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5064E-05 OSCILLATION LIMIT = 39.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8568E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1587
 HT FLOW CONVERGENCE VALUE= .3750E-01 CRITERION= .8524E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 727
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4912E-05 OSCILLATION LIMIT = 38.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8542E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1587
 HT FLOW CONVERGENCE VALUE= .3734E-01 CRITERION= .8500E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 728
 *** TIME = .198813E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5062E-05 OSCILLATION LIMIT = 39.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8518E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1588
 HT FLOW CONVERGENCE VALUE= .3759E-01 CRITERION= .8473E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 729
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4911E-05 OSCILLATION LIMIT = 38.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8491E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1589
 HT FLOW CONVERGENCE VALUE= .3735E-01 CRITERION= .8449E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 730
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5060E-05 OSCILLATION LIMIT = 39.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8467E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1590
 HT FLOW CONVERGENCE VALUE= .3746E-01 CRITERION= .8423E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 731
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4909E-05 OSCILLATION LIMIT = 38.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8441E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
 HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .8399E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 732

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*** TIME = .201969E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5058E-05    OSCILLATION LIMIT = 39.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.892    CRITERION= .8417E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
    HT FLOW CONVERGENCE VALUE= .3728E-01    CRITERION= .8372E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 17 COMPLETED.    CUM ITER = 733
*** TIME = .202758E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4907E-05    OSCILLATION LIMIT = 38.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.832    CRITERION= .8390E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1592
    HT FLOW CONVERGENCE VALUE= .3700E-01    CRITERION= .8348E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 18 COMPLETED.    CUM ITER = 734
*** TIME = .203547E+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= 5.892    CRITERION= .8366E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1592
    HT FLOW CONVERGENCE VALUE= .3712E-01    CRITERION= .8321E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 19 COMPLETED.    CUM ITER = 735
*** TIME = .204335E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4906E-05    OSCILLATION LIMIT = 38.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.832    CRITERION= .8340E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
    HT FLOW CONVERGENCE VALUE= .3691E-01    CRITERION= .8297E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 20 COMPLETED.    CUM ITER = 736
*** TIME = .205124E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5054E-05    OSCILLATION LIMIT = 39.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.892    CRITERION= .8316E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
    HT FLOW CONVERGENCE VALUE= .3704E-01    CRITERION= .8271E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED.    CUM ITER = 737
*** TIME = .205913E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4904E-05    OSCILLATION LIMIT = 38.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.832    CRITERION= .8289E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
    HT FLOW CONVERGENCE VALUE= .3682E-01    CRITERION= .8247E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED.    CUM ITER = 738
*** TIME = .206702E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5053E-05    OSCILLATION LIMIT = 39.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.892    CRITERION= .8265E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
    HT FLOW CONVERGENCE VALUE= .3694E-01    CRITERION= .8220E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED.    CUM ITER = 739
*** TIME = .207491E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4902E-05    OSCILLATION LIMIT = 38.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.832    CRITERION= .8238E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
    HT FLOW CONVERGENCE VALUE= .3669E-01    CRITERION= .8196E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 740
*** TIME = .208280E+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= 5.892 CRITERION= .8215E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
HT FLOW CONVERGENCE VALUE= .3677E-01 CRITERION= .8169E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 741
*** TIME = .209069E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4901E-05 OSCILLATION LIMIT = 38.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8188E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1598
HT FLOW CONVERGENCE VALUE= .3651E-01 CRITERION= .8145E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 742
*** TIME = .209858E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5049E-05 OSCILLATION LIMIT = 39.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8164E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1598
HT FLOW CONVERGENCE VALUE= .3663E-01 CRITERION= .8119E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 743
*** TIME = .210647E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4899E-05 OSCILLATION LIMIT = 38.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8137E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
HT FLOW CONVERGENCE VALUE= .3639E-01 CRITERION= .8095E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 744
*** TIME = .211436E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5047E-05 OSCILLATION LIMIT = 39.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8114E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
HT FLOW CONVERGENCE VALUE= .3650E-01 CRITERION= .8068E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 745
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 38.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8087E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
HT FLOW CONVERGENCE VALUE= .3630E-01 CRITERION= .8044E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 746
*** TIME = .213014E+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= 5.892 CRITERION= .8063E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
HT FLOW CONVERGENCE VALUE= .3637E-01 CRITERION= .8017E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 747
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4896E-05 OSCILLATION LIMIT = 38.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .8036E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
HT FLOW CONVERGENCE VALUE= .3613E-01 CRITERION= .7993E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 748
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5044E-05 OSCILLATION LIMIT = 39.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .8013E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
HT FLOW CONVERGENCE VALUE= .3618E-01 CRITERION= .7967E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 749
*** TIME = .215381E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4895E-05 OSCILLATION LIMIT = 38.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .7986E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
HT FLOW CONVERGENCE VALUE= .3594E-01 CRITERION= .7943E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 750
*** TIME = .216170E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5042E-05 OSCILLATION LIMIT = 39.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .7962E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1604
HT FLOW CONVERGENCE VALUE= .3600E-01 CRITERION= .7916E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 751
*** TIME = .216959E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4893E-05 OSCILLATION LIMIT = 38.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .7935E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
HT FLOW CONVERGENCE VALUE= .3576E-01 CRITERION= .7892E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 752
*** TIME = .217747E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5040E-05 OSCILLATION LIMIT = 39.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .7912E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
HT FLOW CONVERGENCE VALUE= .3581E-01 CRITERION= .7865E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 753
*** TIME = .218536E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4892E-05 OSCILLATION LIMIT = 38.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.832 CRITERION= .7885E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1608
HT FLOW CONVERGENCE VALUE= .3558E-01 CRITERION= .7841E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 754
*** TIME = .219325E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5039E-05 OSCILLATION LIMIT = 39.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.892 CRITERION= .7861E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
HT FLOW CONVERGENCE VALUE= .3562E-01 CRITERION= .7815E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 755
*** TIME = .220114E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4890E-05 OSCILLATION LIMIT = 38.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.832      CRITERION= .7834E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1609
HT FLOW CONVERGENCE VALUE= .3540E-01 CRITERION= .7791E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 756
*** TIME = .220903E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5037E-05 OSCILLATION LIMIT = 39.74

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303      VERSION=HP 9000/7XX 12:24:21 APR 01, 1995 CP= 64108.690
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 11.17      CRITERION= .7868E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1499
HT FLOW CONVERGENCE VALUE= .3523E-01 CRITERION= .7769E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 757
*** TIME = .221692E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3153E-05 OSCILLATION LIMIT = 24.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.11      CRITERION= .7846E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1488
HT FLOW CONVERGENCE VALUE= .3459E-01 CRITERION= .7749E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 758
*** TIME = .222481E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 26.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.17      CRITERION= .7827E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1488
HT FLOW CONVERGENCE VALUE= .3466E-01 CRITERION= .7728E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 759
*** TIME = .223270E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3197E-05 OSCILLATION LIMIT = 25.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.11      CRITERION= .7805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1490
HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .7708E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 760
*** TIME = .224059E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3314E-05 OSCILLATION LIMIT = 26.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.17      CRITERION= .7787E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1490
HT FLOW CONVERGENCE VALUE= .3452E-01 CRITERION= .7687E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 761
*** TIME = .224848E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3197E-05 OSCILLATION LIMIT = 25.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.11      CRITERION= .7765E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1492
HT FLOW CONVERGENCE VALUE= .3432E-01 CRITERION= .7667E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 762
*** TIME = .225637E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .3314E-05 OSCILLATION LIMIT = 26.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7746E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1491
 HT FLOW CONVERGENCE VALUE= .3437E-01 CRITERION= .7646E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 763
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3197E-05 OSCILLATION LIMIT = 25.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7724E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1493
 HT FLOW CONVERGENCE VALUE= .3418E-01 CRITERION= .7626E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 764
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3313E-05 OSCILLATION LIMIT = 26.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7706E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1492
 HT FLOW CONVERGENCE VALUE= .3423E-01 CRITERION= .7605E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 765
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3196E-05 OSCILLATION LIMIT = 25.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7684E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1494
 HT FLOW CONVERGENCE VALUE= .3404E-01 CRITERION= .7585E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 766
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3313E-05 OSCILLATION LIMIT = 26.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7665E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1493
 HT FLOW CONVERGENCE VALUE= .3408E-01 CRITERION= .7564E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 767
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3196E-05 OSCILLATION LIMIT = 25.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7643E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1496
 HT FLOW CONVERGENCE VALUE= .3389E-01 CRITERION= .7544E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 768
 *** TIME = .230370E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3313E-05 OSCILLATION LIMIT = 26.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7624E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1495
 HT FLOW CONVERGENCE VALUE= .3394E-01 CRITERION= .7522E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 769
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3196E-05 OSCILLATION LIMIT = 25.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7602E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1497
 HT FLOW CONVERGENCE VALUE= .3375E-01 CRITERION= .7503E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 770
 *** TIME = .231948E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 26.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7584E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1496
 HT FLOW CONVERGENCE VALUE= .3379E-01 CRITERION= .7481E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 771
 *** TIME = .232737E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3196E-05 OSCILLATION LIMIT = 25.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7562E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1498
 HT FLOW CONVERGENCE VALUE= .3361E-01 CRITERION= .7462E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 772
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 26.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7543E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1497
 HT FLOW CONVERGENCE VALUE= .3364E-01 CRITERION= .7440E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 773
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = 25.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7521E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1500
 HT FLOW CONVERGENCE VALUE= .3347E-01 CRITERION= .7421E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 774
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 26.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7503E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1498
 HT FLOW CONVERGENCE VALUE= .3350E-01 CRITERION= .7399E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 775
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = 25.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7481E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1501
 HT FLOW CONVERGENCE VALUE= .3332E-01 CRITERION= .7380E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 776
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3312E-05 OSCILLATION LIMIT = 26.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7462E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1500
 HT FLOW CONVERGENCE VALUE= .3335E-01 CRITERION= .7358E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 777
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = 25.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7440E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1503

HT FLOW CONVERGENCE VALUE= .3318E-01 CRITERION= .7339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 778
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3311E-05 OSCILLATION LIMIT = 26.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7422E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1501
 HT FLOW CONVERGENCE VALUE= .3320E-01 CRITERION= .7317E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 779
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7400E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1504
 HT FLOW CONVERGENCE VALUE= .3303E-01 CRITERION= .7298E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 780
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3311E-05 OSCILLATION LIMIT = 26.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7381E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1502
 HT FLOW CONVERGENCE VALUE= .3306E-01 CRITERION= .7276E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 781
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3194E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7359E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1505
 HT FLOW CONVERGENCE VALUE= .3289E-01 CRITERION= .7257E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 782
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3311E-05 OSCILLATION LIMIT = 26.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7340E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1504
 HT FLOW CONVERGENCE VALUE= .3291E-01 CRITERION= .7235E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 783
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3194E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7318E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1507
 HT FLOW CONVERGENCE VALUE= .3274E-01 CRITERION= .7216E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 784
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3310E-05 OSCILLATION LIMIT = 26.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7300E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1505
 HT FLOW CONVERGENCE VALUE= .3276E-01 CRITERION= .7194E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 785
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3194E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7278E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1508
 HT FLOW CONVERGENCE VALUE= .3260E-01 CRITERION= .7175E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 786
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3310E-05 OSCILLATION LIMIT = 26.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7259E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1506
 HT FLOW CONVERGENCE VALUE= .3261E-01 CRITERION= .7153E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 787
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3194E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7237E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1510
 HT FLOW CONVERGENCE VALUE= .3245E-01 CRITERION= .7134E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 788
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3310E-05 OSCILLATION LIMIT = 26.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7219E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1508
 HT FLOW CONVERGENCE VALUE= .3247E-01 CRITERION= .7112E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 789
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3194E-05 OSCILLATION LIMIT = 25.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7197E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1511
 HT FLOW CONVERGENCE VALUE= .3231E-01 CRITERION= .7093E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 790
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3309E-05 OSCILLATION LIMIT = 26.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7178E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1509
 HT FLOW CONVERGENCE VALUE= .3232E-01 CRITERION= .7071E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 791
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = 25.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7156E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1512
 HT FLOW CONVERGENCE VALUE= .3216E-01 CRITERION= .7052E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 792
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3309E-05 OSCILLATION LIMIT = 26.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7138E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1510
 HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .7030E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 793
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = 25.19

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7116E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1514
 HT FLOW CONVERGENCE VALUE= .3201E-01 CRITERION= .7011E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 794
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3309E-05 OSCILLATION LIMIT = 26.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.17 CRITERION= .7097E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1512
 HT FLOW CONVERGENCE VALUE= .3202E-01 CRITERION= .6989E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 795
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = 25.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.11 CRITERION= .7075E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1515
 HT FLOW CONVERGENCE VALUE= .3186E-01 CRITERION= .6970E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 796
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3308E-05 OSCILLATION LIMIT = 26.10

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 13:25:23 APR 01, 1995 CP= 67659.680
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .7036E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1204
 HT FLOW CONVERGENCE VALUE= .2578E-01 CRITERION= .6952E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 797
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2900E-05 OSCILLATION LIMIT = 22.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.684 CRITERION= .7018E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1208
 HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .6938E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 798
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3060E-05 OSCILLATION LIMIT = 24.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .7004E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1214
 HT FLOW CONVERGENCE VALUE= .2578E-01 CRITERION= .6920E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 799
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2941E-05 OSCILLATION LIMIT = 23.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.684 CRITERION= .6986E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1209
 HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .6906E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 800

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*** TIME = .255617E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3059E-05    OSCILLATION LIMIT = 24.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.744    CRITERION= .6972E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1215
    HT FLOW CONVERGENCE VALUE= .2568E-01    CRITERION= .6888E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 801
*** TIME = .256406E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2941E-05    OSCILLATION LIMIT = 23.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.684    CRITERION= .6955E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1210
    HT FLOW CONVERGENCE VALUE= .2541E-01    CRITERION= .6874E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 802
*** TIME = .257194E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3060E-05    OSCILLATION LIMIT = 24.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.744    CRITERION= .6941E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1215
    HT FLOW CONVERGENCE VALUE= .2558E-01    CRITERION= .6856E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 803
*** TIME = .257983E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2940E-05    OSCILLATION LIMIT = 23.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.684    CRITERION= .6923E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1211
    HT FLOW CONVERGENCE VALUE= .2532E-01    CRITERION= .6842E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 804
*** TIME = .258772E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3060E-05    OSCILLATION LIMIT = 24.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.744    CRITERION= .6909E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1216
    HT FLOW CONVERGENCE VALUE= .2548E-01    CRITERION= .6824E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 805
*** TIME = .259561E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2940E-05    OSCILLATION LIMIT = 23.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.684    CRITERION= .6891E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1212
    HT FLOW CONVERGENCE VALUE= .2523E-01    CRITERION= .6810E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 806
*** TIME = .260350E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3060E-05    OSCILLATION LIMIT = 24.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.744    CRITERION= .6877E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1217
    HT FLOW CONVERGENCE VALUE= .2538E-01    CRITERION= .6792E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 807
*** TIME = .261139E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2939E-05    OSCILLATION LIMIT = 23.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.684    CRITERION= .6860E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1213
    HT FLOW CONVERGENCE VALUE= .2514E-01    CRITERION= .6778E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 808
*** TIME = .261928E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3060E-05 OSCILLATION LIMIT = 24.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .6846E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1217
HT FLOW CONVERGENCE VALUE= .2529E-01 CRITERION= .6760E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 809
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2939E-05 OSCILLATION LIMIT = 23.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.684 CRITERION= .6828E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1214
HT FLOW CONVERGENCE VALUE= .2505E-01 CRITERION= .6746E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 810
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3061E-05 OSCILLATION LIMIT = 24.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .6814E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1218
HT FLOW CONVERGENCE VALUE= .2519E-01 CRITERION= .6728E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 811
*** TIME = .264295E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2938E-05 OSCILLATION LIMIT = 23.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.684 CRITERION= .6796E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1216
HT FLOW CONVERGENCE VALUE= .2496E-01 CRITERION= .6714E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 812
*** TIME = .265084E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3061E-05 OSCILLATION LIMIT = 24.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .6782E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1219
HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .6696E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 813
*** TIME = .265873E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2938E-05 OSCILLATION LIMIT = 23.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6765E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1217
HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .6682E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 814
*** TIME = .266662E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3061E-05 OSCILLATION LIMIT = 24.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.744 CRITERION= .6751E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1219
HT FLOW CONVERGENCE VALUE= .2499E-01 CRITERION= .6664E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 815
*** TIME = .267451E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2938E-05 OSCILLATION LIMIT = 23.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6733E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1218
 HT FLOW CONVERGENCE VALUE= .2478E-01 CRITERION= .6650E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 816
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3061E-05 OSCILLATION LIMIT = 24.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6719E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1220
 HT FLOW CONVERGENCE VALUE= .2489E-01 CRITERION= .6632E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 817
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = 23.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6702E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1219
 HT FLOW CONVERGENCE VALUE= .2469E-01 CRITERION= .6618E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 818
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3061E-05 OSCILLATION LIMIT = 24.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6687E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1221
 HT FLOW CONVERGENCE VALUE= .2479E-01 CRITERION= .6600E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 819
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = 23.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6670E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1220
 HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .6586E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 820
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6656E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1222
 HT FLOW CONVERGENCE VALUE= .2469E-01 CRITERION= .6568E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 821
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = 23.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6638E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1221
 HT FLOW CONVERGENCE VALUE= .2450E-01 CRITERION= .6554E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 822
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6624E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1222
 HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .6537E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 823
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = 23.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6607E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1222
 HT FLOW CONVERGENCE VALUE= .2441E-01 CRITERION= .6522E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 824
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6593E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1223
 HT FLOW CONVERGENCE VALUE= .2450E-01 CRITERION= .6505E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 825
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6575E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1223
 HT FLOW CONVERGENCE VALUE= .2432E-01 CRITERION= .6490E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 826
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6561E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1224
 HT FLOW CONVERGENCE VALUE= .2440E-01 CRITERION= .6473E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 827
 *** TIME = .276918E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6543E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1224
 HT FLOW CONVERGENCE VALUE= .2422E-01 CRITERION= .6458E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 828
 *** TIME = .277707E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6529E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1225
 HT FLOW CONVERGENCE VALUE= .2430E-01 CRITERION= .6441E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 829
 *** TIME = .278496E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6512E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1225
 HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .6426E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 830
 *** TIME = .279285E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6498E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1225
 HT FLOW CONVERGENCE VALUE= .2420E-01 CRITERION= .6409E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 831
 *** TIME = .280074E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
 HT FLOW CONVERGENCE VALUE= 9.685 CRITERION= .6480E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1226
 HT FLOW CONVERGENCE VALUE= .2404E-01 CRITERION= .6394E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 832
 *** TIME = .280863E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6466E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1226
 HT FLOW CONVERGENCE VALUE= .2410E-01 CRITERION= .6377E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 833
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.686 CRITERION= .6448E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1227
 HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .6362E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 834
 *** TIME = .282441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.745 CRITERION= .6434E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1227
 HT FLOW CONVERGENCE VALUE= .2400E-01 CRITERION= .6345E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 835
 *** TIME = .283229E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2936E-05 OSCILLATION LIMIT = 23.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.686 CRITERION= .6417E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1228
 HT FLOW CONVERGENCE VALUE= .2385E-01 CRITERION= .6330E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 836
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3062E-05 OSCILLATION LIMIT = 24.16
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 1429.42469 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 182.87 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 183.14 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 183.78 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 71195.330 TIME= 14:25:45
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 14:25:45 APR 01, 1995 CP= 71195.330
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6394E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1109
HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .6314E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 837
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2811E-05 OSCILLATION LIMIT = 22.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6378E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1110
HT FLOW CONVERGENCE VALUE= .2158E-01 CRITERION= .6301E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 838
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2956E-05 OSCILLATION LIMIT = 23.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6366E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1113
HT FLOW CONVERGENCE VALUE= .2170E-01 CRITERION= .6286E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 839
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2827E-05 OSCILLATION LIMIT = 22.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6350E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1111
HT FLOW CONVERGENCE VALUE= .2150E-01 CRITERION= .6273E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 840
*** TIME = .287174E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2956E-05 OSCILLATION LIMIT = 23.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6337E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1114
HT FLOW CONVERGENCE VALUE= .2162E-01 CRITERION= .6257E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 841
*** TIME = .287963E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2827E-05 OSCILLATION LIMIT = 22.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6322E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1112
HT FLOW CONVERGENCE VALUE= .2143E-01 CRITERION= .6244E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 842
*** TIME = .288752E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2956E-05 OSCILLATION LIMIT = 23.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6309E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1114
HT FLOW CONVERGENCE VALUE= .2154E-01 CRITERION= .6228E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 843
*** TIME = .289541E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 22.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6293E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1113
HT FLOW CONVERGENCE VALUE= .2135E-01 CRITERION= .6215E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 844
*** TIME = .290330E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2956E-05 OSCILLATION LIMIT = 23.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6281E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1115
HT FLOW CONVERGENCE VALUE= .2145E-01 CRITERION= .6200E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 845
*** TIME = .291119E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 22.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6265E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1114
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .6187E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 846
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6253E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1116
 HT FLOW CONVERGENCE VALUE= .2137E-01 CRITERION= .6171E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 847
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6237E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1115
 HT FLOW CONVERGENCE VALUE= .2120E-01 CRITERION= .6158E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 848
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6224E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1116
 HT FLOW CONVERGENCE VALUE= .2129E-01 CRITERION= .6143E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 849
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.092 CRITERION= .6208E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1115
 HT FLOW CONVERGENCE VALUE= .2112E-01 CRITERION= .6130E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 850
 *** TIME = .295064E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6196E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1117
 HT FLOW CONVERGENCE VALUE= .2121E-01 CRITERION= .6114E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 851
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2826E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6180E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1116
 HT FLOW CONVERGENCE VALUE= .2105E-01 CRITERION= .6101E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 852
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6168E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1117
 HT FLOW CONVERGENCE VALUE= .2112E-01 CRITERION= .6085E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 853
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6152E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1117
 HT FLOW CONVERGENCE VALUE= .2097E-01 CRITERION= .6072E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 854
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2957E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.152 CRITERION= .6139E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1118
 HT FLOW CONVERGENCE VALUE= .2104E-01 CRITERION= .6057E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 855
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6124E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1118
 HT FLOW CONVERGENCE VALUE= .2089E-01 CRITERION= .6044E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 856
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .6111E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1119
 HT FLOW CONVERGENCE VALUE= .2096E-01 CRITERION= .6028E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 857
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6095E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1119
 HT FLOW CONVERGENCE VALUE= .2081E-01 CRITERION= .6015E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 858
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .6083E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1119
 HT FLOW CONVERGENCE VALUE= .2088E-01 CRITERION= .6000E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 859
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1120
 HT FLOW CONVERGENCE VALUE= .2073E-01 CRITERION= .5986E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 860
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .6055E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1120
 HT FLOW CONVERGENCE VALUE= .2080E-01 CRITERION= .5971E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 861
 *** TIME = .303742E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6039E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1121
 HT FLOW CONVERGENCE VALUE= .2066E-01 CRITERION= .5958E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 862
 *** TIME = .304531E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .6026E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1121
 HT FLOW CONVERGENCE VALUE= .2071E-01 CRITERION= .5942E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 863
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .6010E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1121
 HT FLOW CONVERGENCE VALUE= .2058E-01 CRITERION= .5929E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 864
 *** TIME = .306109E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5998E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1121
 HT FLOW CONVERGENCE VALUE= .2063E-01 CRITERION= .5914E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 865
 *** TIME = .306898E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .5982E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1122
 HT FLOW CONVERGENCE VALUE= .2050E-01 CRITERION= .5901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 866
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5970E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1122
 HT FLOW CONVERGENCE VALUE= .2055E-01 CRITERION= .5885E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 867
 *** TIME = .308476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .5954E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1123
 HT FLOW CONVERGENCE VALUE= .2042E-01 CRITERION= .5872E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 868
 *** TIME = .309264E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5941E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1123
 HT FLOW CONVERGENCE VALUE= .2047E-01 CRITERION= .5857E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 869
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .5926E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1124
HT FLOW CONVERGENCE VALUE= .2034E-01 CRITERION= .5843E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 870
*** TIME = .310842E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5913E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1123
HT FLOW CONVERGENCE VALUE= .2038E-01 CRITERION= .5828E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 871
*** TIME = .311631E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.093 CRITERION= .5897E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1125
HT FLOW CONVERGENCE VALUE= .2026E-01 CRITERION= .5815E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 872
*** TIME = .312420E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5885E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1124
HT FLOW CONVERGENCE VALUE= .2030E-01 CRITERION= .5799E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 873
*** TIME = .313209E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.094 CRITERION= .5869E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1126
HT FLOW CONVERGENCE VALUE= .2018E-01 CRITERION= .5786E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 874
*** TIME = .313998E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.153 CRITERION= .5857E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1125
HT FLOW CONVERGENCE VALUE= .2022E-01 CRITERION= .5771E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 875
*** TIME = .314787E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = 22.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.094 CRITERION= .5841E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1126
HT FLOW CONVERGENCE VALUE= .2010E-01 CRITERION= .5758E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 876
*** TIME = .315576E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2958E-05 OSCILLATION LIMIT = 23.34

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*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 15:26:21 APR 01, 1995 CP= 74735.460
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 52.15 CRITERION= .7764E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5408
 HT FLOW CONVERGENCE VALUE= .9754E-01 CRITERION= .5697E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1934E-01
 HT FLOW CONVERGENCE VALUE= .2589E-02 CRITERION= .5694E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 878
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.10 CRITERION= .7714E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5437
 HT FLOW CONVERGENCE VALUE= .9669E-01 CRITERION= .5637E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1916E-01
 HT FLOW CONVERGENCE VALUE= .2533E-02 CRITERION= .5633E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 880
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 156.4 CRITERION= .1662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.636
 HT FLOW CONVERGENCE VALUE= .2783 CRITERION= .5456E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5465E-01
 HT FLOW CONVERGENCE VALUE= .6895E-02 CRITERION= .5447E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 882
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .71005E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 469.2 CRITERION= .4723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.923
 HT FLOW CONVERGENCE VALUE= .7227 CRITERION= .4921E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1366
 HT FLOW CONVERGENCE VALUE= .1472E-01 CRITERION= .4892E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 884
 *** TIME = .426028E+10 TIME INC = .710046E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 521.5 CRITERION= .5237
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -5.534
 HT FLOW CONVERGENCE VALUE= .7017 CRITERION= .4303E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1313
 HT FLOW CONVERGENCE VALUE= .1196E-01 CRITERION= .4274E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 886
 *** TIME = .504922E+10 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 521.6 CRITERION= .5233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -5.604
 HT FLOW CONVERGENCE VALUE= .5866 CRITERION= .3684E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1123
 HT FLOW CONVERGENCE VALUE= .8084E-02 CRITERION= .3659E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 888
 *** TIME = .583816E+10 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 313.1 CRITERION= .3152

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.409
 HT FLOW CONVERGENCE VALUE= .3260 CRITERION= .3301E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6503E-01
 HT FLOW CONVERGENCE VALUE= .4542E-02 CRITERION= .3287E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 890
 *** TIME = .631152E+10 TIME INC = .473364E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 15:42:32 APR 01, 1995 CP= 75685.240
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 233.2 CRITERION= .2355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.562
 HT FLOW CONVERGENCE VALUE= .1656 CRITERION= .3171E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4347E-01
 HT FLOW CONVERGENCE VALUE= .3685E-02 CRITERION= .3167E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 892
 *** TIME = .678488E+10 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 233.3 CRITERION= .2354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.568
 HT FLOW CONVERGENCE VALUE= .1598 CRITERION= .3048E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4213E-01
 HT FLOW CONVERGENCE VALUE= .3435E-02 CRITERION= .3044E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 894
 *** TIME = .725825E+10 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 388.7 CRITERION= .3899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.619
 HT FLOW CONVERGENCE VALUE= .2442 CRITERION= .2850E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6439E-01
 HT FLOW CONVERGENCE VALUE= .4861E-02 CRITERION= .2843E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 896
 *** TIME = .804719E+10 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 388.9 CRITERION= .3899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.634
 HT FLOW CONVERGENCE VALUE= .2279 CRITERION= .2645E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6039E-01
 HT FLOW CONVERGENCE VALUE= .4232E-02 CRITERION= .2639E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 898
 *** TIME = .883613E+10 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 311.1 CRITERION= .3122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.118
 HT FLOW CONVERGENCE VALUE= .1739 CRITERION= .2483E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4648E-01
 HT FLOW CONVERGENCE VALUE= .3079E-02 CRITERION= .2478E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 900
 *** TIME = .946728E+10 TIME INC = .631152E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 15:54:12 APR 01, 1995 CP= 76368.310
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 168.7 CRITERION= .1705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.171
 HT FLOW CONVERGENCE VALUE= .9626E-01 CRITERION= .2389E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2526E-01
 HT FLOW CONVERGENCE VALUE= .1629E-02 CRITERION= .2387E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 902
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 168.7 CRITERION= .1704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.173
 HT FLOW CONVERGENCE VALUE= .9450E-01 CRITERION= .2300E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2435E-01
 HT FLOW CONVERGENCE VALUE= .1516E-02 CRITERION= .2297E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 904
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 210.9 CRITERION= .2122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.471
 HT FLOW CONVERGENCE VALUE= .1121 CRITERION= .2186E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2870E-01
 HT FLOW CONVERGENCE VALUE= .1695E-02 CRITERION= .2183E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 906
 *** TIME = .115185E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 210.9 CRITERION= .2120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.474
 HT FLOW CONVERGENCE VALUE= .1074 CRITERION= .2074E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2726E-01
 HT FLOW CONVERGENCE VALUE= .1551E-02 CRITERION= .2071E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 908
 *** TIME = .123075E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 84.41 CRITERION= .8689E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5925
 HT FLOW CONVERGENCE VALUE= .4402E-01 CRITERION= .2026E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1107E-01
 HT FLOW CONVERGENCE VALUE= .6285E-03 CRITERION= .2025E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 910
 *** TIME = .126230E+11 TIME INC = .315576E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:05:57 APR 01, 1995 CP= 77052.730
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 55.78 CRITERION= .5934E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3854
 HT FLOW CONVERGENCE VALUE= .2870E-01 CRITERION= .1998E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7250E-02

HT FLOW CONVERGENCE VALUE= .4123E-03 CRITERION= .1997E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 912
 *** TIME = .129386E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.84 CRITERION= .5928E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3868
 HT FLOW CONVERGENCE VALUE= .2859E-01 CRITERION= .1967E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7168E-02
 HT FLOW CONVERGENCE VALUE= .4031E-03 CRITERION= .1967E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 914
 *** TIME = .132542E+11 TIME INC = .315576E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 139.5 CRITERION= .1409
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9658
 HT FLOW CONVERGENCE VALUE= .6796E-01 CRITERION= .1897E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1693E-01
 HT FLOW CONVERGENCE VALUE= .9143E-03 CRITERION= .1895E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 916
 *** TIME = .140431E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.6 CRITERION= .1408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9689
 HT FLOW CONVERGENCE VALUE= .6544E-01 CRITERION= .1823E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1632E-01
 HT FLOW CONVERGENCE VALUE= .8179E-03 CRITERION= .1821E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 918
 *** TIME = .148321E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 83.70 CRITERION= .8566E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5817
 HT FLOW CONVERGENCE VALUE= .3789E-01 CRITERION= .1780E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9724E-02
 HT FLOW CONVERGENCE VALUE= .4694E-03 CRITERION= .1779E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 920
 *** TIME = .153054E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.76 CRITERION= .8561E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5835
 HT FLOW CONVERGENCE VALUE= .3629E-01 CRITERION= .1735E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9501E-02
 HT FLOW CONVERGENCE VALUE= .4384E-03 CRITERION= .1734E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 6 COMPLETED. CUM ITER = 922
 *** TIME = .157788E+11 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:19:51 APR 01, 1995 CP= 77870.280
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 93.17 CRITERION= .9478E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5477
 HT FLOW CONVERGENCE VALUE= .3533E-01 CRITERION= .1703E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9923E-02
 HT FLOW CONVERGENCE VALUE= .4768E-03 CRITERION= .1702E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 924
*** TIME = .162522E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.23 CRITERION= .9475E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5494
HT FLOW CONVERGENCE VALUE= .3472E-01 CRITERION= .1667E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9755E-02
HT FLOW CONVERGENCE VALUE= .4591E-03 CRITERION= .1667E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 926
*** TIME = .167255E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 155.3 CRITERION= .1562
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9150
HT FLOW CONVERGENCE VALUE= .5522E-01 CRITERION= .1613E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1557E-01
HT FLOW CONVERGENCE VALUE= .7062E-03 CRITERION= .1612E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 928
*** TIME = .175145E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 155.4 CRITERION= .1562
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9177
HT FLOW CONVERGENCE VALUE= .5343E-01 CRITERION= .1555E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1509E-01
HT FLOW CONVERGENCE VALUE= .6604E-03 CRITERION= .1554E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 930
*** TIME = .183034E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 124.3 CRITERION= .1252
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7344
HT FLOW CONVERGENCE VALUE= .4178E-01 CRITERION= .1511E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1185E-01
HT FLOW CONVERGENCE VALUE= .5055E-03 CRITERION= .1510E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 932
*** TIME = .189346E+11 TIME INC = .631152E+09

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 16:31:28 APR 01, 1995 CP= 78552.350
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 140.0 CRITERION= .1408
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7120
HT FLOW CONVERGENCE VALUE= .4242E-01 CRITERION= .1475E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1267E-01
HT FLOW CONVERGENCE VALUE= .5550E-03 CRITERION= .1475E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 934
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 139.9 CRITERION= .1407
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7117
HT FLOW CONVERGENCE VALUE= .4143E-01 CRITERION= .1443E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1242E-01
HT FLOW CONVERGENCE VALUE= .5329E-03 CRITERION= .1442E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 936
 *** TIME = .201969E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 175.0 CRITERION= .1756
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8918
 HT FLOW CONVERGENCE VALUE= .5013E-01 CRITERION= .1399E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1507E-01
 HT FLOW CONVERGENCE VALUE= .6262E-03 CRITERION= .1398E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 938
 *** TIME = .209858E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 175.0 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8919
 HT FLOW CONVERGENCE VALUE= .4862E-01 CRITERION= .1358E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1468E-01
 HT FLOW CONVERGENCE VALUE= .5927E-03 CRITERION= .1357E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 940
 *** TIME = .217747E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 70.04 CRITERION= .7132E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3581
 HT FLOW CONVERGENCE VALUE= .1960E-01 CRITERION= .1339E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5912E-02
 HT FLOW CONVERGENCE VALUE= .2366E-03 CRITERION= .1339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 942
 *** TIME = .220903E+11 TIME INC = .315576E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:43:04 APR 01, 1995 CP= 79234.960
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 74.79 CRITERION= .7600E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3549
 HT FLOW CONVERGENCE VALUE= .1990E-01 CRITERION= .1326E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6159E-02
 HT FLOW CONVERGENCE VALUE= .2497E-03 CRITERION= .1326E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 944
 *** TIME = .224059E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.86 CRITERION= .7600E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
 HT FLOW CONVERGENCE VALUE= .1976E-01 CRITERION= .1310E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6109E-02
 HT FLOW CONVERGENCE VALUE= .2446E-03 CRITERION= .1310E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 946
 *** TIME = .227215E+11 TIME INC = .315576E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 187.0 CRITERION= .1875
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8890
 HT FLOW CONVERGENCE VALUE= .4728E-01 CRITERION= .1276E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1471E-01
 HT FLOW CONVERGENCE VALUE= .5723E-03 CRITERION= .1275E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 948

*** TIME = .235104E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.1 CRITERION= .1875
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8913
 HT FLOW CONVERGENCE VALUE= .4606E-01 CRITERION= .1239E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1437E-01
 HT FLOW CONVERGENCE VALUE= .5433E-03 CRITERION= .1238E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 950
 *** TIME = .242994E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 112.2 CRITERION= .1129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5345
 HT FLOW CONVERGENCE VALUE= .2744E-01 CRITERION= .1218E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8583E-02
 HT FLOW CONVERGENCE VALUE= .3204E-03 CRITERION= .1218E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 952
 *** TIME = .247727E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.3 CRITERION= .1129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5361
 HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .1195E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8461E-02
 HT FLOW CONVERGENCE VALUE= .3100E-03 CRITERION= .1195E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 6 COMPLETED. CUM ITER = 954
 *** TIME = .252461E+11 TIME INC = .473364E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:56:53 APR 01, 1995 CP= 80050.820
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 106.9 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4857
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .1179E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7900E-02
 HT FLOW CONVERGENCE VALUE= .2900E-03 CRITERION= .1179E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 956
 *** TIME = .257194E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.0 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4871
 HT FLOW CONVERGENCE VALUE= .2451E-01 CRITERION= .1161E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7810E-02
 HT FLOW CONVERGENCE VALUE= .2824E-03 CRITERION= .1160E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 958
 *** TIME = .261928E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 178.3 CRITERION= .1786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8108
 HT FLOW CONVERGENCE VALUE= .3946E-01 CRITERION= .1133E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1265E-01
 HT FLOW CONVERGENCE VALUE= .4462E-03 CRITERION= .1133E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 960
 *** TIME = .269817E+11 TIME INC = .788940E+09

*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 178.3 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8128
 HT FLOW CONVERGENCE VALUE= .3856E-01 CRITERION= .1103E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1238E-01
 HT FLOW CONVERGENCE VALUE= .4260E-03 CRITERION= .1103E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 962
 *** TIME = .277707E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 142.6 CRITERION= .1431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6499
 HT FLOW CONVERGENCE VALUE= .3035E-01 CRITERION= .1082E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9784E-02
 HT FLOW CONVERGENCE VALUE= .3306E-03 CRITERION= .1081E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 964
 *** TIME = .284018E+11 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:08:27 APR 01, 1995 CP= 80732.730
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 128.3 CRITERION= .1287
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5721
 HT FLOW CONVERGENCE VALUE= .2665E-01 CRITERION= .1062E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8657E-02
 HT FLOW CONVERGENCE VALUE= .2895E-03 CRITERION= .1061E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 966
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 128.2 CRITERION= .1287
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5713
 HT FLOW CONVERGENCE VALUE= .2617E-01 CRITERION= .1044E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8533E-02
 HT FLOW CONVERGENCE VALUE= .2809E-03 CRITERION= .1044E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 968
 *** TIME = .296641E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 160.4 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7159
 HT FLOW CONVERGENCE VALUE= .3193E-01 CRITERION= .1019E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1043E-01
 HT FLOW CONVERGENCE VALUE= .3355E-03 CRITERION= .1019E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 970
 *** TIME = .304531E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 160.3 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7153
 HT FLOW CONVERGENCE VALUE= .3119E-01 CRITERION= .9973E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1024E-01
 HT FLOW CONVERGENCE VALUE= .3224E-03 CRITERION= .9970E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 972
 *** TIME = .312420E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 64.18 CRITERION= .6493E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2873
HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .9865E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4115E-02
HT FLOW CONVERGENCE VALUE= .1285E-03 CRITERION= .9864E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 974
*** TIME = .315576E+11 TIME INC = .315576E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 81412.460

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40x1.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 *****
900-38303 VERSION=HP 9000/7XX 17:20:09 APR 01, 1995 CP= 81421.370
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 854 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	854 TEMP	peakclad	161.3	.3156E+11	288.1	.6312E+08
---	------	----------	----------	-------	-----------	-------	-----------

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 63115231.6

***** ROUTINE COMPLETED ***** CP = 81421.720

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:20:11 APR 01, 1995 CP= 81421.760
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****

Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET

XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

5832 ELEMENTS (OF 6864 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= 182
TIME/FREQUENCY= .63115E+08

TITLE=
40 BWR MPC/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=
40 BWR MPC/WP at Time of Peak Temp. (2.000001 years)

*** WARNING *** CP= 81463.080 TIME= 17:21:01
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=
40 BWR MPC/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 135.35 BY 1.2024 TO 288.06

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 10 years

*** WARNING *** CP= 81515.850 TIME= 17:21:58
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= 676
TIME/FREQUENCY= .15779E+10

TITLE=
40 BWR MPC/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 135.35 BY 1.2024 TO 288.06

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 50 years

*** WARNING *** CP= 81568.780 TIME= 17:22:54
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= 876
TIME/FREQUENCY= .31558E+10

TITLE=
40 BWR MPC/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 135.35 BY 1.2024 TO 288.06

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 100 years

*** WARNING *** CP= 81622.060 TIME= 17:23:47
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 81633.800

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
a = aluminum-born tube layer

t = stainless tube cladding
g = tube guide
m = mpc shell
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 *****
900-38303 VERSION=HP 9000/7XX 17:23:59 APR 01, 1995 CP= 81633.810
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 41

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	924	ITEM= TEMP COMP=	NAME= t02i000
VARIABLE 3	IS AT NODE	914	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NODE	850	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NODE	856	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NODE	854	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NODE	852	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NODE	849	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NODE	895	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	894	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	1027	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	963	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	969	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	967	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	965	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	962	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	1008	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	1150	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	1140	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	1076	ITEM= TEMP COMP=	NAME= s18i000

VARIABLE 21 IS AT NODE 1082 ITEM= TEMP COMP= NAME= h18i000
 VARIABLE 22 IS AT NODE 1080 ITEM= TEMP COMP= NAME= c18i000
 VARIABLE 23 IS AT NODE 1078 ITEM= TEMP COMP= NAME= h18o000
 VARIABLE 24 IS AT NODE 1075 ITEM= TEMP COMP= NAME= s18o000
 VARIABLE 25 IS AT NODE 1121 ITEM= TEMP COMP= NAME= a18o000
 VARIABLE 26 IS AT NODE 1120 ITEM= TEMP COMP= NAME= t24i000
 VARIABLE 27 IS AT NODE 4124 ITEM= TEMP COMP= NAME= a24i000
 VARIABLE 28 IS AT NODE 4072 ITEM= TEMP COMP= NAME= s24i000
 VARIABLE 29 IS AT NODE 4075 ITEM= TEMP COMP= NAME= h24i000
 VARIABLE 30 IS AT NODE 4077 ITEM= TEMP COMP= NAME= c24i000
 VARIABLE 31 IS AT NODE 4079 ITEM= TEMP COMP= NAME= h24o000
 VARIABLE 32 IS AT NODE 4073 ITEM= TEMP COMP= NAME= s24o000
 VARIABLE 33 IS AT NODE 4137 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4865 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4860 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5019 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4946 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5435 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5508 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6022 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	160.8	.3156E+11	279.7	.9467E+08
3	NSOL	914 TEMP	a02i000	160.8	.3156E+11	279.7	.9467E+08
4	NSOL	850 TEMP	s02i000	160.8	.3156E+11	279.8	.9467E+08
5	NSOL	856 TEMP	h02i000	161.2	.3156E+11	286.5	.6312E+08
6	NSOL	854 TEMP	c02i000	161.3	.3156E+11	288.1	.6312E+08
7	NSOL	852 TEMP	h02o000	161.2	.3156E+11	285.4	.6312E+08
8	NSOL	849 TEMP	s02o000	160.7	.3156E+11	277.6	.9467E+08
9	NSOL	895 TEMP	a02o000	160.7	.3156E+11	277.5	.9467E+08
10	NSOL	894 TEMP	t08i000	160.7	.3156E+11	277.5	.9467E+08
11	NSOL	1027 TEMP	a08i000	160.7	.3156E+11	277.5	.9467E+08
12	NSOL	963 TEMP	s08i000	160.7	.3156E+11	277.5	.9467E+08
13	NSOL	969 TEMP	h08i000	161.1	.3156E+11	283.1	.9467E+08
14	NSOL	967 TEMP	c08i000	161.1	.3156E+11	283.6	.9467E+08
15	NSOL	965 TEMP	h08o000	160.9	.3156E+11	279.9	.9467E+08
16	NSOL	962 TEMP	s08o000	160.4	.3156E+11	271.2	.1578E+09
17	NSOL	1008 TEMP	a08o000	160.4	.3156E+11	271.1	.1578E+09
18	NSOL	1150 TEMP	t18i000	160.4	.3156E+11	271.0	.1578E+09
19	NSOL	1140 TEMP	a18i000	160.4	.3156E+11	271.0	.1578E+09
20	NSOL	1076 TEMP	s18i000	160.4	.3156E+11	271.1	.1578E+09
21	NSOL	1082 TEMP	h18i000	160.7	.3156E+11	275.4	.1578E+09
22	NSOL	1080 TEMP	c18i000	160.7	.3156E+11	274.8	.1578E+09
23	NSOL	1078 TEMP	h18o000	160.5	.3156E+11	270.0	.1578E+09
24	NSOL	1075 TEMP	s18o000	159.9	.3156E+11	259.8	.1893E+09
25	NSOL	1121 TEMP	a18o000	159.9	.3156E+11	259.7	.1893E+09

26	NSOL	1120	TEMP	t24i000	159.9	.3156E+11	259.7	.1893E+09
27	NSOL	4124	TEMP	a24i000	159.9	.3156E+11	259.6	.1893E+09
28	NSOL	4072	TEMP	s24i000	159.9	.3156E+11	259.7	.1893E+09
29	NSOL	4075	TEMP	h24i000	160.1	.3156E+11	261.6	.1578E+09
30	NSOL	4077	TEMP	c24i000	159.9	.3156E+11	258.2	.1893E+09
31	NSOL	4079	TEMP	h24o000	159.4	.3156E+11	250.2	.2525E+09
32	NSOL	4073	TEMP	s24o000	158.4	.3156E+11	234.4	.2525E+09
33	NSOL	4137	TEMP	t24o000	158.4	.3156E+11	234.2	.2525E+09
34	NSOL	4865	TEMP	g24i000	157.8	.3156E+11	224.6	.3156E+09
35	NSOL	4860	TEMP	g24o000	157.8	.3156E+11	224.4	.6312E+09
36	NSOL	5019	TEMP	m24i000	154.4	.1000E-05	218.5	.9467E+09
37	NSOL	4946	TEMP	m24o000	152.9	.1000E-05	217.7	.9467E+09
38	NSOL	5435	TEMP	i24i000	30.66	.1000E-05	190.8	.1578E+10
39	NSOL	5508	TEMP	i24o000	28.93	.1000E-05	190.3	.1578E+10
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	189.3	.1578E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.580
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	914 TEMP a02i000	850 TEMP s02i000	856 TEMP h02i000	854 TEMP c02i000	852 TEMP h02o000
.10000E-05	243.502	243.505	243.616	251.939	253.870	250.715
.20000E-05	258.192	258.195	258.304	266.224	268.045	265.008
31.558	258.192	258.195	258.304	266.224	268.045	265.008
.31558E+07	269.735	269.738	269.846	277.448	279.198	276.276
.63116E+07	272.489	272.492	272.599	280.099	281.823	278.933
.94673E+07	274.073	274.076	274.182	281.620	283.329	280.460
.12623E+08	275.165	275.169	275.274	282.653	284.347	281.498
.15779E+08	275.982	275.985	276.090	283.419	285.101	282.270
.18935E+08	276.634	276.638	276.742	284.028	285.700	282.884
.22090E+08	277.179	277.182	277.286	284.534	286.197	283.395
.25246E+08	277.569	277.572	277.676	284.885	286.540	283.752
.28402E+08	277.890	277.893	277.996	285.170	286.817	284.042
.31558E+08	278.170	278.173	278.276	285.416	287.055	284.292
.63115E+08	279.509	279.512	279.611	286.479	288.055	285.396
.94673E+08	279.662	279.665	279.761	286.414	287.942	285.365
.12623E+09	279.564	279.567	279.660	286.129	287.616	285.110
.15779E+09	279.512	279.515	279.606	285.916	287.366	284.923
.18935E+09	279.014	279.016	279.105	285.258	286.674	284.292
.22090E+09	278.513	278.516	278.602	284.621	286.007	283.678
.25246E+09	278.044	278.047	278.132	284.025	285.383	283.103
.28402E+09	277.050	277.053	277.135	282.920	284.253	282.017
.31558E+09	276.273	276.275	276.357	282.048	283.362	281.163
.63115E+09	267.312	267.314	267.381	272.211	273.334	271.480
.94673E+09	260.057	260.059	260.116	264.276	265.249	263.661
.12623E+10	252.030	252.032	252.081	255.740	256.601	255.213
.15779E+10	244.262	244.264	244.307	247.543	248.310	247.088
.18935E+10	237.538	237.539	237.577	240.473	241.162	240.073
.22090E+10	231.512	231.513	231.546	234.161	234.786	233.807
.25246E+10	225.794	225.795	225.825	228.210	228.782	227.893
.28402E+10	221.148	221.149	221.177	223.378	223.907	223.089
.31558E+10	216.885	216.886	216.911	218.943	219.434	218.681
.63115E+10	196.210	196.210	196.225	197.475	197.781	197.325
.94673E+10	186.313	186.314	186.325	187.299	187.538	187.185
.12623E+11	180.752	180.753	180.762	181.573	181.773	181.480
.15779E+11	177.082	177.082	177.090	177.794	177.968	177.714
.18935E+11	173.585	173.586	173.593	174.212	174.365	174.142
.22090E+11	170.160	170.160	170.166	170.723	170.861	170.661
.25246E+11	166.724	166.724	166.730	167.232	167.357	167.177
.28402E+11	163.582	163.583	163.588	164.047	164.161	163.997
.31558E+11	160.807	160.807	160.812	161.236	161.341	161.190

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.590
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	849 TEMP s02o000	895 TEMP a02o000	894 TEMP t08i000	1027 TEMP a08i000	963 TEMP s08i000	969 TEMP h08i000
.10000E-05	241.052	240.928	240.924	240.915	241.014	248.146
.20000E-05	255.756	255.634	255.629	255.620	255.717	262.457
31.558	255.756	255.634	255.629	255.620	255.717	262.457
.31558E+07	267.395	267.275	267.270	267.261	267.356	273.783
.63116E+07	270.163	270.043	270.038	270.029	270.123	276.451
.94673E+07	271.760	271.641	271.636	271.627	271.721	277.990
.12623E+08	272.863	272.745	272.740	272.731	272.824	279.039
.15779E+08	273.692	273.574	273.569	273.560	273.653	279.822
.18935E+08	274.354	274.237	274.232	274.223	274.315	280.446
.22090E+08	274.909	274.793	274.788	274.779	274.871	280.968
.25246E+08	275.310	275.193	275.189	275.180	275.271	281.334
.28402E+08	275.641	275.525	275.520	275.512	275.602	281.634
.31558E+08	275.931	275.816	275.811	275.802	275.893	281.894
.63115E+08	277.353	277.242	277.237	277.229	277.316	283.082
.94673E+08	277.576	277.468	277.464	277.455	277.540	283.123
.12623E+09	277.538	277.434	277.430	277.422	277.504	282.931
.15779E+09	277.540	277.438	277.434	277.426	277.506	282.799
.18935E+09	277.095	276.996	276.992	276.985	277.062	282.224
.22090E+09	276.642	276.545	276.541	276.533	276.609	281.659
.25246E+09	276.216	276.121	276.118	276.110	276.185	281.129
.28402E+09	275.261	275.169	275.165	275.158	275.231	280.085
.31558E+09	274.517	274.426	274.423	274.416	274.487	279.265
.63115E+09	265.867	265.791	265.788	265.782	265.842	269.911
.94673E+09	258.844	258.780	258.777	258.773	258.823	262.339
.12623E+10	250.992	250.937	250.935	250.931	250.975	254.079
.15779E+10	243.368	243.320	243.318	243.315	243.353	246.106
.18935E+10	236.755	236.713	236.711	236.709	236.742	239.213
.22090E+10	230.818	230.781	230.780	230.777	230.807	233.044
.25246E+10	225.173	225.140	225.138	225.136	225.163	227.208
.28402E+10	220.584	220.553	220.552	220.550	220.575	222.466
.31558E+10	216.372	216.344	216.343	216.341	216.364	218.113
.63115E+10	195.916	195.900	195.899	195.898	195.912	196.997
.94673E+10	186.092	186.080	186.079	186.078	186.089	186.937
.12623E+11	180.571	180.561	180.561	180.560	180.569	181.277
.15779E+11	176.927	176.918	176.918	176.917	176.925	177.540
.18935E+11	173.451	173.443	173.443	173.442	173.449	173.991
.22090E+11	170.040	170.033	170.033	170.033	170.038	170.526
.25246E+11	166.617	166.611	166.611	166.610	166.615	167.057
.28402E+11	163.486	163.480	163.480	163.480	163.484	163.888
.31558E+11	160.719	160.714	160.713	160.713	160.717	161.091

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.600
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	967 TEMP c08i000	965 TEMP h08o000	962 TEMP s08o000	1008 TEMP a08o000	1150 TEMP t18i000	1140 TEMP a18i000
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.10000E-05	248.900	244.484	233.335	233.199	233.170	233.171
.20000E-05	263.108	258.819	248.083	247.948	247.919	247.920
31.558	263.108	258.819	248.083	247.948	247.919	247.920
.31558E+07	274.371	270.212	259.881	259.747	259.718	259.719
.63116E+07	277.016	272.895	262.684	262.550	262.522	262.522
.94673E+07	278.545	274.451	264.319	264.186	264.157	264.158
.12623E+08	279.583	275.515	265.456	265.324	265.296	265.296
.15779E+08	280.360	276.315	266.320	266.189	266.161	266.161
.18935E+08	280.977	276.952	267.014	266.883	266.855	266.856
.22090E+08	281.495	277.490	267.603	267.472	267.444	267.445
.25246E+08	281.857	277.870	268.033	267.903	267.875	267.876
.28402E+08	282.153	278.184	268.395	268.266	268.238	268.238
.31558E+08	282.410	278.458	268.715	268.587	268.559	268.560
.63115E+08	283.572	279.766	270.397	270.273	270.246	270.247
.94673E+08	283.597	279.910	270.840	270.720	270.694	270.694
.12623E+09	283.393	279.808	270.996	270.879	270.854	270.855
.15779E+09	283.249	279.754	271.165	271.051	271.027	271.027
.18935E+09	282.665	279.259	270.891	270.781	270.757	270.757
.22090E+09	282.092	278.763	270.585	270.477	270.454	270.454
.25246E+09	281.555	278.298	270.298	270.192	270.169	270.170
.28402E+09	280.506	277.314	269.470	269.367	269.344	269.345
.31558E+09	279.682	276.545	268.833	268.731	268.710	268.710
.63115E+09	270.290	267.662	261.177	261.093	261.075	261.076
.94673E+09	262.684	260.444	254.902	254.831	254.816	254.816
.12623E+10	254.399	252.452	247.615	247.555	247.542	247.543
.15779E+10	246.404	244.699	240.453	240.401	240.390	240.390
.18935E+10	239.489	237.978	234.200	234.154	234.145	234.145
.22090E+10	233.302	231.949	228.554	228.513	228.505	228.505
.25246E+10	227.451	226.226	223.143	223.107	223.099	223.100
.28402E+10	222.696	221.572	218.738	218.704	218.697	218.698
.31558E+10	218.330	217.299	214.691	214.660	214.654	214.654
.63115E+10	197.145	196.528	194.949	194.932	194.928	194.928
.94673E+10	187.056	186.582	185.361	185.347	185.345	185.345
.12623E+11	181.378	180.986	179.973	179.962	179.960	179.960
.15779E+11	177.629	177.290	176.414	176.404	176.402	176.402
.18935E+11	174.071	173.774	173.004	172.995	172.994	172.994
.22090E+11	170.599	170.333	169.643	169.636	169.634	169.634
.25246E+11	167.123	166.884	166.262	166.255	166.254	166.254
.28402E+11	163.949	163.732	163.164	163.158	163.157	163.157
.31558E+11	161.147	160.947	160.425	160.419	160.418	160.418

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.620
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1076 TEMP s18i000	1082 TEMP h18i000	1080 TEMP c18i000	1078 TEMP h18o000	1075 TEMP s18o000	1121 TEMP a18o000
.10000E-05	233.258	239.256	238.727	232.739	219.485	219.330
.20000E-05	248.005	253.624	253.003	247.151	234.358	234.204
31.558	248.005	253.624	253.003	247.151	234.358	234.204
.31558E+07	259.802	265.113	264.449	258.772	246.425	246.273
.63116E+07	262.604	267.816	267.134	261.504	249.295	249.143
.94673E+07	264.240	269.396	268.709	263.114	250.999	250.848
.12623E+08	265.377	270.481	269.789	264.228	252.202	252.051
.15779E+08	266.242	271.304	270.610	265.080	253.131	252.981
.18935E+08	266.936	271.963	271.267	265.764	253.883	253.734
.22090E+08	267.525	272.522	271.827	266.351	254.532	254.384
.25246E+08	267.955	272.921	272.226	266.775	255.018	254.870
.28402E+08	268.317	273.255	272.560	267.134	255.435	255.288
.31558E+08	268.638	273.550	272.856	267.454	255.811	255.664
.63115E+08	270.322	275.029	274.350	269.147	257.961	257.820
.94673E+08	270.767	275.319	274.658	269.620	258.801	258.664

.12623E+09	270.926	275.346	274.703	269.808	259.306	259.172
.15779E+09	271.097	275.403	274.775	270.003	259.775	259.645
.18935E+09	270.825	275.022	274.412	269.765	259.808	259.682
.22090E+09	270.520	274.625	274.031	269.491	259.767	259.643
.25246E+09	270.234	274.252	273.672	269.233	259.725	259.605
.28402E+09	269.408	273.354	272.790	268.441	259.125	259.008
.31558E+09	268.772	272.656	272.105	267.832	258.679	258.563
.63115E+09	261.128	264.444	264.016	260.452	252.798	252.703
.94673E+09	254.860	257.732	257.393	254.367	247.855	247.775
.12623E+10	247.581	250.122	249.851	247.228	241.575	241.507
.15779E+10	240.423	242.683	242.466	240.180	235.235	235.176
.18935E+10	234.175	236.209	236.032	234.011	229.622	229.570
.22090E+10	228.532	230.378	230.233	228.427	224.492	224.446
.25246E+10	223.123	224.817	224.697	223.065	219.499	219.458
.28402E+10	218.720	220.290	220.188	218.694	215.420	215.383
.31558E+10	214.674	216.130	216.044	214.675	211.667	211.633
.63115E+10	194.940	195.852	195.822	195.009	193.204	193.184
.94673E+10	185.354	186.070	186.054	185.431	184.038	184.023
.12623E+11	179.967	180.566	180.557	180.042	178.889	178.876
.15779E+11	176.409	176.930	176.924	176.481	175.483	175.473
.18935E+11	172.999	173.460	173.456	173.068	172.193	172.183
.22090E+11	169.639	170.054	170.052	169.705	168.922	168.914
.25246E+11	166.259	166.634	166.634	166.323	165.617	165.610
.28402E+11	163.161	163.506	163.507	163.223	162.580	162.574
.31558E+11	160.422	160.741	160.743	160.483	159.891	159.885

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.630
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1120 TEMP t24i000	4124 TEMP a24i000	4072 TEMP s24i000	4075 TEMP h24i000	4077 TEMP c24i000	4079 TEMP h24o000
.10000E-05	219.321	219.274	219.333	222.237	218.029	206.589
.20000E-05	234.195	234.149	234.205	236.828	232.680	221.670
31.558	234.195	234.149	234.205	236.828	232.680	221.670
.31558E+07	246.264	246.218	246.272	248.722	244.692	234.124
.63116E+07	249.135	249.089	249.143	251.527	247.518	237.063
.94673E+07	250.840	250.794	250.847	253.200	249.217	238.844
.12623E+08	252.043	251.997	252.050	254.369	250.408	240.112
.15779E+08	252.973	252.927	252.980	255.275	251.337	241.108
.18935E+08	253.726	253.681	253.733	256.007	252.088	241.919
.22090E+08	254.376	254.330	254.382	256.642	252.743	242.631
.25246E+08	254.862	254.817	254.868	257.109	253.228	243.169
.28402E+08	255.280	255.235	255.286	257.511	253.648	243.640
.31558E+08	255.656	255.611	255.662	257.873	254.027	244.069
.63115E+08	257.812	257.769	257.818	259.921	256.219	246.667
.94673E+08	258.656	258.614	258.662	260.688	257.106	247.878
.12623E+09	259.165	259.124	259.171	261.132	257.655	248.707
.15779E+09	259.638	259.599	259.644	261.550	258.163	249.457
.18935E+09	259.675	259.636	259.680	261.536	258.240	249.772
.22090E+09	259.637	259.599	259.642	261.456	258.238	249.975
.25246E+09	259.598	259.561	259.603	261.377	258.233	250.160
.28402E+09	259.001	258.965	259.006	260.750	257.672	249.766
.31558E+09	258.557	258.522	258.562	260.280	257.258	249.493
.63115E+09	252.698	252.669	252.703	254.182	251.680	245.215
.94673E+09	247.771	247.746	247.775	249.064	246.953	241.477
.12623E+10	241.503	241.483	241.507	242.657	240.843	236.100
.15779E+10	235.173	235.155	235.177	236.212	234.640	230.497
.18935E+10	229.567	229.552	229.571	230.513	229.130	225.459
.22090E+10	224.444	224.430	224.447	225.311	224.082	220.794
.25246E+10	219.455	219.443	219.459	220.258	219.154	216.177
.28402E+10	215.381	215.369	215.384	216.131	215.125	212.394

.31558E+10	211.631	211.621	211.634	212.332	211.414	208.908
.63115E+10	193.183	193.177	193.185	193.637	193.103	191.604
.94673E+10	184.023	184.018	184.024	184.384	183.978	182.823
.12623E+11	178.876	178.872	178.877	179.181	178.847	177.892
.15779E+11	175.472	175.469	175.474	175.739	175.453	174.628
.18935E+11	172.183	172.180	172.184	172.420	172.170	171.447
.22090E+11	168.913	168.911	168.915	169.128	168.906	168.259
.25246E+11	165.609	165.607	165.610	165.805	165.607	165.024
.28402E+11	162.573	162.571	162.574	162.754	162.574	162.043
.31558E+11	159.884	159.883	159.885	160.052	159.888	159.399

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.640
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4073 TEMP s24o000	4137 TEMP t24o000	4865 TEMP g24i000	4860 TEMP g24o000	5019 TEMP m24i000	4946 TEMP m24o000
.10000E-05	183.521	183.192	167.361	167.091	154.439	152.930
.20000E-05	199.677	199.357	184.579	184.314	172.348	170.860
31.558	199.677	199.357	184.579	184.314	172.348	170.860
.31558E+07	213.180	212.871	199.068	198.811	187.536	186.092
.63116E+07	216.393	216.087	202.518	202.263	191.152	189.719
.94673E+07	218.362	218.058	204.651	204.398	193.406	191.982
.12623E+08	219.803	219.501	206.234	205.983	195.095	193.681
.15779E+08	220.948	220.648	207.502	207.252	196.455	195.049
.18935E+08	221.891	221.592	208.551	208.302	197.585	196.187
.22090E+08	222.722	222.425	209.478	209.231	198.588	197.196
.25246E+08	223.376	223.081	210.222	209.976	199.401	198.017
.28402E+08	223.957	223.663	210.889	210.644	200.135	198.757
.31558E+08	224.491	224.199	211.503	211.260	200.813	199.442
.63115E+08	227.935	227.655	215.583	215.349	205.400	204.084
.94673E+08	229.815	229.545	217.948	217.722	208.159	206.889
.12623E+09	231.216	230.954	219.758	219.539	210.305	209.073
.15779E+09	232.457	232.202	221.351	221.138	212.184	210.987
.18935E+09	233.256	233.008	222.486	222.279	213.598	212.434
.22090E+09	233.871	233.629	223.387	223.185	214.736	213.602
.25246E+09	234.439	234.203	224.221	224.024	215.789	214.682
.28402E+09	234.381	234.150	224.386	224.193	216.143	215.060
.31558E+09	234.390	234.163	224.584	224.395	216.500	215.438
.63115E+09	232.692	232.505	224.583	224.426	217.928	217.054
.94673E+09	230.891	230.734	224.048	223.916	218.455	217.721
.12623E+10	226.937	226.801	221.002	220.889	216.175	215.545
.15779E+10	222.490	222.372	217.291	217.193	213.084	212.539
.18935E+10	218.359	218.256	213.738	213.652	210.015	209.536
.22090E+10	214.433	214.340	210.281	210.204	206.950	206.524
.25246E+10	210.412	210.329	206.639	206.570	203.623	203.241
.28402E+10	207.102	207.026	203.631	203.568	200.865	200.517
.31558E+10	204.047	203.978	200.852	200.794	198.314	197.996
.63115E+10	188.690	188.650	186.750	186.716	185.233	185.048
.94673E+10	180.573	180.541	179.062	179.036	177.890	177.749
.12623E+11	176.026	176.001	174.769	174.748	173.798	173.683
.15779E+11	173.015	172.993	171.925	171.907	171.086	170.987
.18935E+11	170.031	170.012	169.070	169.055	168.334	168.247
.22090E+11	166.991	166.974	166.128	166.113	165.468	165.391
.25246E+11	163.882	163.866	163.101	163.088	162.506	162.437
.28402E+11	161.001	160.987	160.286	160.275	159.744	159.681
.31558E+11	158.440	158.428	157.780	157.770	157.281	157.224

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:07 APR 01, 1995 CP= 81641.660
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5435 TEMP	5508 TEMP	6022 TEMP
	i24i000	i24o000	o24o000
.10000E-05	30.6560	28.9347	26.1379
.20000E-05	73.7006	71.9829	69.2535
.31558E+07	73.7007	71.9829	69.2535
.63116E+07	105.128	103.459	100.945
.94673E+07	111.892	110.239	107.733
.12623E+08	116.228	114.590	112.095
.15779E+08	119.557	117.931	115.446
.18935E+08	122.253	120.639	118.164
.22090E+08	124.551	122.950	120.485
.25246E+08	126.541	124.951	122.497
.28402E+08	128.271	126.691	124.247
.31558E+08	129.826	128.256	125.822
.63115E+08	131.267	129.707	127.283
.94673E+08	141.472	139.989	137.648
.12623E+09	148.122	146.699	144.431
.15779E+09	153.362	151.990	149.786
.18935E+09	157.807	156.478	154.328
.22090E+09	161.541	160.256	158.162
.25246E+09	164.593	163.343	161.299
.28402E+09	167.377	166.161	164.163
.31558E+09	169.092	167.905	165.948
.63115E+09	170.592	169.429	167.508
.94673E+09	181.501	180.555	178.967
.12623E+10	188.585	187.796	186.462
.15779E+10	190.607	189.933	188.793
.18935E+10	190.843	190.263	189.281
.22090E+10	190.320	189.811	188.953
.25246E+10	189.285	188.834	188.075
.28402E+10	187.552	187.148	186.470
.31558E+10	186.063	185.696	185.080
.63115E+10	184.675	184.340	183.782
.94673E+10	176.881	176.688	176.371
.12623E+11	171.317	171.171	170.933
.15779E+11	168.297	168.176	167.983
.18935E+11	166.298	166.195	166.030
.22090E+11	164.097	164.007	163.863
.25246E+11	161.639	161.559	161.432
.28402E+11	159.022	158.950	158.836
.31558E+11	156.536	156.470	156.368
	154.304	154.244	154.150

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 854 ITEM= TEMP COMP= NAME= c02i045

*** WARNING *** CP= 81641.860 TIME= 17:24:08
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 881 ITEM= TEMP COMP= NAME= h02o045

VARIABLE 4 IS AT NODE 862 ITEM= TEMP COMP= NAME= s02o045

VARIABLE 5 IS AT NODE 897 ITEM= TEMP COMP= NAME= a02o045

VARIABLE 6 IS AT NODE 901 ITEM= TEMP COMP= NAME= t02o045

VARIABLE 7 IS AT NODE 1952 ITEM= TEMP COMP= NAME= t07i045

VARIABLE 8 IS AT NODE 1934 ITEM= TEMP COMP= NAME= a07i045
 VARIABLE 9 IS AT NODE 1832 ITEM= TEMP COMP= NAME= s07i045
 VARIABLE 10 IS AT NODE 1859 ITEM= TEMP COMP= NAME= h07i045
 VARIABLE 11 IS AT NODE 1871 ITEM= TEMP COMP= NAME= c07i045
 VARIABLE 12 IS AT NODE 1883 ITEM= TEMP COMP= NAME= h07o045
 VARIABLE 13 IS AT NODE 1816 ITEM= TEMP COMP= NAME= s07o045
 VARIABLE 14 IS AT NODE 1907 ITEM= TEMP COMP= NAME= a07o045
 VARIABLE 15 IS AT NODE 1896 ITEM= TEMP COMP= NAME= t07o045
 VARIABLE 16 IS AT NODE 3415 ITEM= TEMP COMP= NAME= t16i045
 VARIABLE 17 IS AT NODE 3397 ITEM= TEMP COMP= NAME= a16i045
 VARIABLE 18 IS AT NODE 3295 ITEM= TEMP COMP= NAME= s16i045
 VARIABLE 19 IS AT NODE 3322 ITEM= TEMP COMP= NAME= h16i045
 VARIABLE 20 IS AT NODE 3334 ITEM= TEMP COMP= NAME= c16i045
 VARIABLE 21 IS AT NODE 3346 ITEM= TEMP COMP= NAME= h16o045
 VARIABLE 22 IS AT NODE 3279 ITEM= TEMP COMP= NAME= s16o045
 VARIABLE 23 IS AT NODE 3370 ITEM= TEMP COMP= NAME= a16o045
 VARIABLE 24 IS AT NODE 3359 ITEM= TEMP COMP= NAME= t16o045
 VARIABLE 25 IS AT NODE 4698 ITEM= TEMP COMP= NAME= g16i045
 VARIABLE 26 IS AT NODE 5050 ITEM= TEMP COMP= NAME= m16i045
 VARIABLE 27 IS AT NODE 4983 ITEM= TEMP COMP= NAME= m16o045
 VARIABLE 28 IS AT NODE 5472 ITEM= TEMP COMP= NAME= i16i045
 VARIABLE 29 IS AT NODE 5547 ITEM= TEMP COMP= NAME= i16o045
 VARIABLE 30 IS AT NODE 6060 ITEM= TEMP COMP= NAME= o16o045
 Add centers of assemblies 6, 14, 15, 17, 22, 23
 VARIABLE 31 IS AT NODE 1662 ITEM= TEMP COMP= NAME= c06i045
 VARIABLE 32 IS AT NODE 2916 ITEM= TEMP COMP= NAME= c14i045
 VARIABLE 33 IS AT NODE 3125 ITEM= TEMP COMP= NAME= c15i045
 VARIABLE 34 IS AT NODE 2080 ITEM= TEMP COMP= NAME= c17i045
 VARIABLE 35 IS AT NODE 3738 ITEM= TEMP COMP= NAME= c22i045
 VARIABLE 36 IS AT NODE 3933 ITEM= TEMP COMP= NAME= c23i045

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	854 TEMP	c02i045	161.3	.3156E+11	288.1	.6312E+08
3 NSOL	881 TEMP	h02o045	161.1	.3156E+11	283.8	.9467E+08
4 NSOL	862 TEMP	s02o045	160.7	.3156E+11	277.3	.9467E+08
5 NSOL	897 TEMP	a02o045	160.7	.3156E+11	277.2	.9467E+08
6 NSOL	901 TEMP	t02o045	160.7	.3156E+11	277.1	.9467E+08
7 NSOL	1952 TEMP	t07i045	160.7	.3156E+11	276.6	.1578E+09

8	NSOL	1934	TEMP	a07i045	160.7	.3156E+11	276.5	.1578E+09
9	NSOL	1832	TEMP	s07i045	160.7	.3156E+11	276.4	.1578E+09
10	NSOL	1859	TEMP	h07i045	161.0	.3156E+11	280.6	.9467E+08
11	NSOL	1871	TEMP	c07i045	161.1	.3156E+11	281.9	.9467E+08
12	NSOL	1883	TEMP	h07o045	160.7	.3156E+11	275.9	.1578E+09
13	NSOL	1816	TEMP	s07o045	160.3	.3156E+11	268.1	.1578E+09
14	NSOL	1907	TEMP	a07o045	160.3	.3156E+11	267.9	.1578E+09
15	NSOL	1896	TEMP	t07o045	160.3	.3156E+11	267.7	.1578E+09
16	NSOL	3415	TEMP	t16i045	160.2	.3156E+11	266.6	.1578E+09
17	NSOL	3397	TEMP	a16i045	160.2	.3156E+11	266.4	.1578E+09
18	NSOL	3295	TEMP	s16i045	160.2	.3156E+11	266.3	.1578E+09
19	NSOL	3322	TEMP	h16i045	160.4	.3156E+11	268.8	.1578E+09
20	NSOL	3334	TEMP	c16i045	160.4	.3156E+11	268.0	.1578E+09
21	NSOL	3346	TEMP	h16o045	160.0	.3156E+11	259.9	.1893E+09
22	NSOL	3279	TEMP	s16o045	159.5	.3156E+11	251.2	.2525E+09
23	NSOL	3370	TEMP	a16o045	159.5	.3156E+11	251.0	.2525E+09
24	NSOL	3359	TEMP	t16o045	159.5	.3156E+11	250.9	.2525E+09
25	NSOL	4698	TEMP	g16i045	157.8	.3156E+11	226.5	.3156E+09
26	NSOL	5050	TEMP	m16i045	147.6	.1000E-05	216.3	.9467E+09
27	NSOL	4983	TEMP	m16o045	146.0	.1000E-05	215.4	.9467E+09
28	NSOL	5472	TEMP	i16i045	30.91	.1000E-05	190.5	.1578E+10
29	NSOL	5547	TEMP	i16o045	28.93	.1000E-05	189.8	.1578E+10
30	NSOL	6060	TEMP	o16o045	26.14	.1000E-05	188.8	.1578E+10
31	NSOL	1662	TEMP	c06i045	161.3	.3156E+11	286.4	.6312E+08
32	NSOL	2916	TEMP	c14i045	161.0	.3156E+11	281.4	.9467E+08
33	NSOL	3125	TEMP	c15i045	160.8	.3156E+11	276.6	.1578E+09
34	NSOL	2080	TEMP	c17i045	160.7	.3156E+11	273.5	.1578E+09
35	NSOL	3738	TEMP	c22i045	160.6	.3156E+11	271.7	.1578E+09
36	NSOL	3933	TEMP	c23i045	160.2	.3156E+11	264.9	.1578E+09
37	NSOL	4946	TEMP	m24o000	152.9	.1000E-05	217.7	.9467E+09
38	NSOL	5435	TEMP	i24i000	30.66	.1000E-05	190.8	.1578E+10
39	NSOL	5508	TEMP	i24o000	28.93	.1000E-05	190.3	.1578E+10
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	189.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.640
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	854 TEMP c02i045	881 TEMP h02o045	862 TEMP s02o045	897 TEMP a02o045	901 TEMP t02o045	1952 TEMP t07i045
.10000E-05	253.870	248.827	240.694	240.591	240.501	239.904
.20000E-05	268.045	263.205	255.399	255.296	255.206	254.616
31.558	268.045	263.205	255.399	255.296	255.206	254.616
.31558E+07	279.198	274.542	267.036	266.934	266.846	266.272
.63116E+07	281.823	277.222	269.804	269.703	269.615	269.045
.94673E+07	283.329	278.762	271.403	271.302	271.215	270.647
.12623E+08	284.347	279.813	272.508	272.407	272.321	271.756
.15779E+08	285.101	280.596	273.338	273.238	273.151	272.590
.18935E+08	285.700	281.219	274.001	273.902	273.816	273.257
.22090E+08	286.197	281.739	274.558	274.459	274.373	273.817
.25246E+08	286.540	282.104	274.960	274.861	274.776	274.222
.28402E+08	286.817	282.402	275.292	275.194	275.109	274.557
.31558E+08	287.055	282.660	275.583	275.486	275.401	274.852
.63115E+08	288.055	283.825	277.017	276.923	276.841	276.313
.94673E+08	287.942	283.843	277.250	277.159	277.080	276.568
.12623E+09	287.616	283.630	277.222	277.133	277.057	276.559
.15779E+09	287.366	283.479	277.232	277.145	277.070	276.586
.18935E+09	286.674	282.884	276.795	276.711	276.638	276.166
.22090E+09	286.007	282.301	276.348	276.266	276.195	275.734
.25246E+09	285.383	281.755	275.929	275.849	275.779	275.329
.28402E+09	284.253	280.695	274.981	274.902	274.834	274.393
.31558E+09	283.362	279.862	274.242	274.165	274.098	273.665

.63115E+09	273.334	270.379	265.639	265.576	265.521	265.162
.94673E+09	265.249	262.714	258.653	258.599	258.553	258.250
.12623E+10	256.601	254.381	250.829	250.783	250.744	250.483
.15779E+10	248.310	246.353	243.226	243.187	243.153	242.928
.18935E+10	241.162	239.417	236.631	236.597	236.567	236.369
.22090E+10	234.786	233.215	230.709	230.678	230.652	230.476
.25246E+10	228.782	227.354	225.075	225.048	225.024	224.866
.28402E+10	223.907	222.592	220.494	220.470	220.448	220.304
.31558E+10	219.434	218.223	216.290	216.268	216.249	216.116
.63115E+10	197.781	197.044	195.869	195.857	195.846	195.768
.94673E+10	187.538	186.967	186.057	186.047	186.039	185.980
.12623E+11	181.773	181.298	180.542	180.534	180.528	180.480
.15779E+11	177.968	177.557	176.902	176.895	176.890	176.848
.18935E+11	174.365	174.004	173.429	173.423	173.418	173.382
.22090E+11	170.861	170.537	170.021	170.016	170.011	169.979
.25246E+11	167.357	167.065	166.600	166.595	166.591	166.562
.28402E+11	164.161	163.895	163.470	163.466	163.462	163.436
.31558E+11	161.341	161.096	160.704	160.701	160.697	160.673

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.650
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1934 TEMP a07i045	1832 TEMP s07i045	1859 TEMP h07i045	1871 TEMP c07i045	1883 TEMP h07o045	1816 TEMP s07o045
.10000E-05	239.813	239.732	245.173	247.044	239.831	229.731
.20000E-05	254.525	254.444	259.571	261.257	254.251	244.476
31.558	254.525	254.444	259.571	261.257	254.251	244.476
.31558E+07	266.183	266.103	270.975	272.524	265.726	256.278
.63116E+07	268.956	268.877	273.669	275.174	268.439	259.090
.94673E+07	270.559	270.480	275.226	276.710	270.019	260.739
.12623E+08	271.668	271.589	276.292	277.755	271.106	261.891
.15779E+08	272.503	272.424	277.091	278.539	271.928	262.769
.18935E+08	273.170	273.092	277.728	279.163	272.586	263.477
.22090E+08	273.731	273.653	278.263	279.689	273.143	264.080
.25246E+08	274.136	274.058	278.642	280.056	273.541	264.523
.28402E+08	274.472	274.394	278.954	280.359	273.873	264.898
.31558E+08	274.766	274.689	279.226	280.622	274.166	265.232
.63115E+08	276.230	276.156	280.511	281.844	275.625	267.032
.94673E+08	276.488	276.416	280.632	281.921	275.897	267.578
.12623E+09	276.482	276.412	280.509	281.762	275.906	267.826
.15779E+09	276.510	276.442	280.436	281.658	275.948	268.074
.18935E+09	276.093	276.026	279.921	281.115	275.551	267.881
.22090E+09	275.662	275.598	279.408	280.577	275.140	267.646
.25246E+09	275.259	275.196	278.926	280.073	274.753	267.424
.28402E+09	274.324	274.263	277.926	279.056	273.842	266.658
.31558E+09	273.598	273.537	277.143	278.258	273.134	266.073
.63115E+09	265.106	265.056	268.132	269.111	264.818	258.903
.94673E+09	258.203	258.162	260.821	261.690	258.032	252.991
.12623E+10	250.443	250.408	252.759	253.547	250.366	245.982
.15779E+10	242.893	242.863	244.950	245.666	242.883	239.045
.18935E+10	236.339	236.312	238.187	238.842	236.374	232.968
.22090E+10	230.449	230.425	232.125	232.729	230.518	227.464
.25246E+10	224.842	224.821	226.376	226.937	224.935	222.167
.28402E+10	220.282	220.263	221.703	222.229	220.392	217.851
.31558E+10	216.097	216.079	217.412	217.904	216.219	213.884
.63115E+10	195.757	195.747	196.577	196.899	195.890	194.488
.94673E+10	185.972	185.964	186.613	186.871	186.094	185.013
.12623E+11	180.473	180.467	181.009	181.227	180.584	179.688
.15779E+11	176.842	176.837	177.309	177.499	176.944	176.170
.18935E+11	173.377	173.372	173.788	173.957	173.471	172.791
.22090E+11	169.975	169.971	170.345	170.498	170.063	169.455

.25246E+11	166.558	166.555	166.893	167.033	166.641	166.094
.28402E+11	163.432	163.429	163.739	163.868	163.511	163.012
.31558E+11	160.670	160.667	160.954	161.073	160.745	160.286

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.670
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1907 TEMP a07o045	1896 TEMP t07o045	3415 TEMP t16i045	3397 TEMP a16i045	3295 TEMP s16i045	3322 TEMP h16i045
.10000E-05	229.511	229.308	227.946	227.742	227.545	231.371
.20000E-05	244.255	244.053	242.706	242.502	242.304	245.808
31.558	244.255	244.053	242.706	242.502	242.304	245.808
.31558E+07	256.060	255.859	254.536	254.334	254.139	257.396
.63116E+07	258.873	258.673	257.356	257.155	256.960	260.137
.94673E+07	260.523	260.323	259.014	258.813	258.619	261.753
.12623E+08	261.675	261.476	260.174	259.974	259.780	262.874
.15779E+08	262.555	262.357	261.061	260.862	260.669	263.732
.18935E+08	263.263	263.066	261.776	261.578	261.386	264.422
.22090E+08	263.867	263.671	262.386	262.189	261.998	265.014
.25246E+08	264.311	264.116	262.837	262.640	262.450	265.443
.28402E+08	264.687	264.492	263.219	263.024	262.834	265.807
.31558E+08	265.022	264.828	263.560	263.365	263.176	266.131
.63115E+08	266.829	266.642	265.420	265.232	265.049	267.866
.94673E+08	267.381	267.200	266.017	265.835	265.658	268.375
.12623E+09	267.635	267.458	266.310	266.132	265.960	268.594
.15779E+09	267.887	267.715	266.596	266.423	266.256	268.817
.18935E+09	267.700	267.533	266.443	266.275	266.111	268.607
.22090E+09	267.469	267.305	266.241	266.077	265.918	268.357
.25246E+09	267.250	267.091	266.051	265.890	265.735	268.121
.28402E+09	266.489	266.333	265.315	265.158	265.005	267.351
.31558E+09	265.907	265.754	264.754	264.600	264.450	266.760
.63115E+09	258.766	258.640	257.812	257.685	257.562	259.549
.94673E+09	252.876	252.770	252.072	251.966	251.863	253.594
.12623E+10	245.884	245.793	245.194	245.103	245.015	246.557
.15779E+10	238.961	238.883	238.365	238.286	238.210	239.593
.18935E+10	232.894	232.826	232.371	232.302	232.236	233.490
.22090E+10	227.398	227.338	226.933	226.872	226.814	227.960
.25246E+10	222.109	222.055	221.691	221.637	221.584	222.642
.28402E+10	217.798	217.749	217.417	217.368	217.320	218.306
.31558E+10	213.836	213.791	213.488	213.443	213.400	214.318
.63115E+10	194.460	194.435	194.258	194.233	194.208	194.796
.94673E+10	184.992	184.973	184.839	184.819	184.801	185.266
.12623E+11	179.671	179.656	179.545	179.530	179.514	179.906
.15779E+11	176.155	176.142	176.047	176.034	176.021	176.363
.18935E+11	172.779	172.767	172.684	172.673	172.661	172.964
.22090E+11	169.443	169.433	169.360	169.349	169.339	169.613
.25246E+11	166.084	166.075	166.009	166.000	165.991	166.240
.28402E+11	163.003	162.995	162.935	162.927	162.919	163.148
.31558E+11	160.278	160.270	160.216	160.208	160.201	160.413

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.680
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3334 TEMP c16i045	3346 TEMP h16o045	3279 TEMP s16o045	3370 TEMP a16o045	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	230.871	220.725	208.768	208.570	208.394	169.820
.20000E-05	245.120	235.198	223.632	223.437	223.263	187.248
31.558	245.120	235.198	223.632	223.437	223.263	187.248
.31558E+07	256.594	246.917	235.716	235.525	235.355	201.596
.63116E+07	259.298	249.703	238.613	238.423	238.254	205.056
.94673E+07	260.902	251.368	240.356	240.167	239.999	207.186
.12623E+08	262.009	252.536	241.601	241.412	241.245	208.767
.15779E+08	262.861	253.440	242.571	242.384	242.218	210.027
.18935E+08	263.545	254.173	243.365	243.179	243.013	211.071
.22090E+08	264.136	254.808	244.056	243.871	243.706	211.990
.25246E+08	264.562	255.277	244.580	244.396	244.232	212.725
.28402E+08	264.924	255.682	245.037	244.853	244.690	213.383
.31558E+08	265.248	256.047	245.453	245.270	245.108	213.989
.63115E+08	266.989	258.131	247.956	247.780	247.623	217.990
.94673E+08	267.515	258.939	249.103	248.933	248.782	220.283
.12623E+09	267.753	259.422	249.880	249.714	249.568	222.026
.15779E+09	267.993	259.874	250.584	250.423	250.280	223.561
.18935E+09	267.803	259.898	250.859	250.702	250.564	224.633
.22090E+09	267.572	259.851	251.028	250.875	250.740	225.481
.25246E+09	267.354	259.805	251.183	251.033	250.901	226.264
.28402E+09	266.606	259.211	250.768	250.622	250.493	226.382
.31558E+09	266.033	258.770	250.477	250.334	250.206	226.541
.63115E+09	258.992	252.944	246.043	245.924	245.819	226.165
.94673E+09	253.156	248.027	242.183	242.083	241.995	225.354
.12623E+10	246.214	241.783	236.728	236.642	236.567	222.098
.15779E+10	239.327	235.469	231.059	230.985	230.920	218.215
.18935E+10	233.280	229.872	225.968	225.903	225.846	214.530
.22090E+10	227.794	224.751	221.258	221.201	221.150	210.967
.25246E+10	222.512	219.765	216.605	216.554	216.508	207.241
.28402E+10	218.202	215.688	212.792	212.745	212.704	204.168
.31558E+10	214.235	211.933	209.277	209.234	209.196	201.331
.63115E+10	194.783	193.421	191.839	191.814	191.792	186.996
.94673E+10	185.270	184.227	183.009	182.991	182.974	179.235
.12623E+11	179.915	179.054	178.048	178.032	178.018	174.903
.15779E+11	176.374	175.632	174.763	174.750	174.738	172.036
.18935E+11	172.977	172.328	171.566	171.555	171.544	169.164
.22090E+11	169.627	169.048	168.366	168.356	168.347	166.208
.25246E+11	166.255	165.734	165.121	165.112	165.104	163.170
.28402E+11	163.164	162.691	162.132	162.124	162.117	160.347
.31558E+11	160.430	159.995	159.482	159.474	159.467	157.834

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.690
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/MP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5050 TEMP m16i045	4983 TEMP m16o045	5472 TEMP i16i045	5547 TEMP i16o045	6060 TEMP o16o045	1662 TEMP c06i045
.10000E-05	147.636	145.971	30.9087	28.9251	26.1379	252.034
.20000E-05	166.651	164.976	73.9375	71.9528	69.2223	266.214
31.558	166.651	164.976	73.9376	71.9528	69.2223	266.214
.31558E+07	182.380	180.721	104.220	102.306	99.5805	277.374
.63116E+07	186.186	184.532	110.978	109.081	106.360	280.005
.94673E+07	188.559	186.912	115.323	113.442	110.733	281.517
.12623E+08	190.347	188.708	118.657	116.789	114.090	282.542
.15779E+08	191.786	190.154	121.363	119.507	116.818	283.304
.18935E+08	192.984	191.359	123.666	121.823	119.146	283.909
.22090E+08	194.043	192.426	125.662	123.832	121.166	284.414
.25246E+08	194.907	193.296	127.389	125.571	122.915	284.763
.28402E+08	195.688	194.084	128.949	127.142	124.496	285.046

.31558E+08	196.409	194.812	130.394	128.597	125.961	285.291
.63115E+08	201.317	199.777	140.640	138.931	136.386	286.351
.94673E+08	204.297	202.807	147.329	145.689	143.223	286.289
.12623E+09	206.617	205.171	152.597	151.016	148.619	286.007
.15779E+09	208.645	207.236	157.064	155.533	153.195	285.797
.18935E+09	210.187	208.817	160.816	159.333	157.057	285.145
.22090E+09	211.433	210.096	163.886	162.445	160.222	284.513
.25246E+09	212.584	211.278	166.685	165.282	163.108	283.922
.28402E+09	213.011	211.734	168.420	167.051	164.924	282.823
.31558E+09	213.431	212.179	169.937	168.596	166.509	281.958
.63115E+09	215.378	214.350	180.968	179.879	178.157	272.172
.94673E+09	216.284	215.423	188.135	187.228	185.782	264.269
.12623E+10	214.249	213.514	190.220	189.447	188.212	255.761
.15779E+10	211.349	210.716	190.500	189.835	188.771	247.583
.18935E+10	208.432	207.879	190.010	189.428	188.497	240.524
.22090E+10	205.492	205.002	188.998	188.484	187.660	234.220
.25246E+10	202.266	201.829	187.290	186.829	186.093	228.275
.28402E+10	199.592	199.194	185.819	185.400	184.731	223.446
.31558E+10	197.119	196.758	184.444	184.063	183.455	219.013
.63115E+10	184.442	184.236	176.731	176.513	176.166	197.539
.94673E+10	177.246	177.091	171.195	171.030	170.769	187.355
.12623E+11	173.248	173.122	168.192	168.056	167.842	181.623
.15779E+11	170.602	170.494	166.205	166.089	165.906	177.839
.18935E+11	167.901	167.807	164.015	163.913	163.754	174.253
.22090E+11	165.074	164.991	161.565	161.475	161.334	170.761
.25246E+11	162.145	162.071	158.956	158.875	158.749	167.268
.28402E+11	159.409	159.342	156.475	156.401	156.288	164.081
.31558E+11	156.968	156.907	154.247	154.180	154.076	161.268

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:14 APR 01, 1995 CP= 81648.710
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2916 TEMP	3125 TEMP	2080 TEMP	3738 TEMP	3933 TEMP
	c14i045	c15i045	c17i045	c22i045	c23i045
.10000E-05	246.566	241.037	237.391	235.422	226.893
.20000E-05	260.765	255.276	251.629	249.680	241.311
.31558E+07	260.765	255.276	251.629	249.680	241.311
.63116E+07	271.951	266.587	263.046	260.974	252.868
.94673E+07	274.595	269.254	265.728	263.657	255.612
.12623E+08	276.130	270.815	267.304	265.239	257.246
.15779E+08	277.174	271.882	268.385	266.327	258.380
.18935E+08	277.958	272.691	269.210	267.158	259.256
.22090E+08	278.583	273.337	269.870	267.825	259.961
.25246E+08	279.110	273.887	270.434	268.397	260.572
.28402E+08	279.478	274.276	270.837	268.804	261.015
.31558E+08	279.781	274.601	271.175	269.149	261.395
.63115E+08	280.046	274.887	271.475	269.455	261.736
.94673E+08	281.281	276.302	273.008	271.045	263.616
.12623E+09	281.371	276.546	273.353	271.443	264.251
.15779E+09	281.224	276.534	273.432	271.567	264.583
.18935E+09	281.131	276.558	273.533	271.708	264.904
.22090E+09	280.599	276.146	273.201	271.417	264.794
.25246E+09	280.071	275.722	272.846	271.099	264.632
.28402E+09	279.577	275.325	272.513	270.800	264.478
.31558E+09	278.570	274.408	271.655	269.977	263.786
.63115E+09	277.782	273.694	270.992	269.341	263.262
.94673E+09	268.716	265.332	263.099	261.713	256.663
.12623E+10	261.356	258.503	256.623	255.439	251.166
.15779E+10	253.261	250.808	249.194	248.167	244.480
.18935E+10	245.420	243.297	241.904	241.008	237.805
.22090E+10	238.627	236.763	235.542	234.749	231.925
	232.538	230.883	229.802	229.092	226.575

.25246E+10	226.767	225.282	224.313	223.672	221.404
.28402E+10	222.074	220.722	219.841	219.254	217.182
.31558E+10	217.763	216.531	215.729	215.190	213.297
.63115E+10	196.818	196.106	195.646	195.325	194.213
.94673E+10	186.810	186.270	185.923	185.677	184.828
.12623E+11	181.176	180.734	180.450	180.246	179.548
.15779E+11	177.456	177.076	176.833	176.657	176.056
.18935E+11	173.920	173.589	173.378	173.223	172.698
.22090E+11	170.465	170.171	169.983	169.846	169.377
.25246E+11	167.003	166.741	166.573	166.450	166.030
.28402E+11	163.841	163.603	163.452	163.340	162.959
.31558E+11	161.049	160.831	160.693	160.590	160.241

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 81648.910 TIME= 17:24:15
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 928 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 453 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 930 ITEM= TEMP COMP= NAME= a01o090

VARIABLE 6 IS AT NODE 926 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 7 IS AT NODE 484 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 8 IS AT NODE 492 ITEM= TEMP COMP= NAME= a05i090

VARIABLE 9 IS AT NODE 491 ITEM= TEMP COMP= NAME= s05i090

VARIABLE 10 IS AT NODE 490 ITEM= TEMP COMP= NAME= h05i090

VARIABLE 11 IS AT NODE 488 ITEM= TEMP COMP= NAME= c05i090

VARIABLE 12 IS AT NODE 1749 ITEM= TEMP COMP= NAME= h05o090

VARIABLE 13 IS AT NODE 485 ITEM= TEMP COMP= NAME= s05o090

VARIABLE 14 IS AT NODE 493 ITEM= TEMP COMP= NAME= a05o090

VARIABLE 15 IS AT NODE 483 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 16 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 17 IS AT NODE 2324 ITEM= TEMP COMP= NAME= a13i090

VARIABLE 18 IS AT NODE 2322 ITEM= TEMP COMP= NAME= s13i090

VARIABLE 19 IS AT NODE 2321 ITEM= TEMP COMP= NAME= h13i090

VARIABLE 20 IS AT NODE 2319 ITEM= TEMP COMP= NAME= c13i090

VARIABLE 21 IS AT NODE 3003 ITEM= TEMP COMP= NAME= h13o090

VARIABLE 22 IS AT NODE 2316 ITEM= TEMP COMP= NAME= s13o090

VARIABLE 23 IS AT NODE 2333 ITEM= TEMP COMP= NAME= a13o090

VARIABLE 26 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 27 IS AT NODE 574 ITEM= TEMP COMP= NAME= t21i090

VARIABLE 28 IS AT NODE 582 ITEM= TEMP COMP= NAME= a21i090

VARIABLE 29 IS AT NODE 581 ITEM= TEMP COMP= NAME= s21i090
 VARIABLE 30 IS AT NODE 3829 ITEM= TEMP COMP= NAME= h21i090
 VARIABLE 31 IS AT NODE 578 ITEM= TEMP COMP= NAME= c21i090
 VARIABLE 32 IS AT NODE 576 ITEM= TEMP COMP= NAME= h21o090
 VARIABLE 33 IS AT NODE 573 ITEM= TEMP COMP= NAME= s21o090
 VARIABLE 34 IS AT NODE 573 ITEM= TEMP COMP= NAME= t21o090
 VARIABLE 35 IS AT NODE 4555 ITEM= TEMP COMP= NAME= g04i090
 VARIABLE 36 IS AT NODE 4516 ITEM= TEMP COMP= NAME= g04o090
 VARIABLE 37 IS AT NODE 4625 ITEM= TEMP COMP= NAME= m04i090
 VARIABLE 38 IS AT NODE 4873 ITEM= TEMP COMP= NAME= m04o090
 VARIABLE 39 IS AT NODE 5432 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 40 IS AT NODE 5431 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 41 IS AT NODE 6019 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	924 TEMP	c01i090	160.8	.3156E+11	279.7	.9467E+08
3	NSOL	928 TEMP	h01o090	160.8	.3156E+11	279.5	.9467E+08
4	NSOL	453 TEMP	s01o090	160.8	.3156E+11	279.3	.9467E+08
5	NSOL	930 TEMP	a01o090	160.8	.3156E+11	279.1	.9467E+08
6	NSOL	926 TEMP	t01o090	160.8	.3156E+11	279.1	.9467E+08
7	NSOL	484 TEMP	t05i090	160.8	.3156E+11	279.0	.9467E+08
8	NSOL	492 TEMP	a05i090	160.8	.3156E+11	278.9	.9467E+08
9	NSOL	491 TEMP	s05i090	160.8	.3156E+11	278.8	.9467E+08
10	NSOL	490 TEMP	h05i090	160.8	.3156E+11	278.6	.9467E+08
11	NSOL	488 TEMP	c05i090	160.7	.3156E+11	278.0	.9467E+08
12	NSOL	1749 TEMP	h05o090	160.7	.3156E+11	277.0	.9467E+08
13	NSOL	485 TEMP	s05o090	160.7	.3156E+11	276.4	.1578E+09
14	NSOL	493 TEMP	a05o090	160.6	.3156E+11	276.0	.1578E+09
15	NSOL	483 TEMP	t05i090	160.6	.3156E+11	275.9	.1578E+09
16	NSOL	2315 TEMP	t13i090	160.6	.3156E+11	275.5	.1578E+09
17	NSOL	2324 TEMP	a13i090	160.6	.3156E+11	275.5	.1578E+09
18	NSOL	2322 TEMP	s13i090	160.6	.3156E+11	275.1	.1578E+09
19	NSOL	2321 TEMP	h13i090	160.6	.3156E+11	274.6	.1578E+09
20	NSOL	2319 TEMP	c13i090	160.5	.3156E+11	273.2	.1578E+09
21	NSOL	3003 TEMP	h13o090	160.4	.3156E+11	271.5	.1578E+09
22	NSOL	2316 TEMP	s13o090	160.4	.3156E+11	270.6	.1578E+09
23	NSOL	2333 TEMP	a13o090	160.4	.3156E+11	269.9	.1578E+09
24	NSOL	3359 TEMP	t16o045	159.5	.3156E+11	250.9	.2525E+09
25	NSOL	4698 TEMP	g16i045	157.8	.3156E+11	226.5	.3156E+09
26	NSOL	2315 TEMP	t13i090	160.6	.3156E+11	275.5	.1578E+09
27	NSOL	574 TEMP	t21i090	160.3	.3156E+11	269.2	.1578E+09
28	NSOL	582 TEMP	a21i090	160.3	.3156E+11	269.2	.1578E+09
29	NSOL	581 TEMP	s21i090	160.3	.3156E+11	268.7	.1578E+09
30	NSOL	3829 TEMP	h21i090	160.3	.3156E+11	267.8	.1578E+09
31	NSOL	578 TEMP	c21i090	160.2	.3156E+11	266.1	.1578E+09
32	NSOL	576 TEMP	h21o090	160.1	.3156E+11	264.0	.1578E+09
33	NSOL	573 TEMP	s21o090	160.0	.3156E+11	262.2	.1578E+09
34	NSOL	573 TEMP	t21o090	160.0	.3156E+11	262.2	.1578E+09
35	NSOL	4555 TEMP	g04i090	158.4	.3156E+11	236.9	.2525E+09
36	NSOL	4516 TEMP	g04o090	158.4	.3156E+11	235.7	.2525E+09
37	NSOL	4625 TEMP	m04i090	144.0	.1000E-05	214.7	.9467E+09
38	NSOL	4873 TEMP	m04o090	140.4	.1000E-05	213.0	.9467E+09
39	NSOL	5432 TEMP	i04i090	30.53	.1000E-05	189.9	.1578E+10

40 NSOL 5431 TEMP i04o090 28.69 .1000E-05 189.3 .1578E+10
41 NSOL 6019 TEMP o04o090 26.14 .1000E-05 188.3 .1578E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.290
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP c01i090	928 TEMP h01o090	453 TEMP s01o090	930 TEMP a01o090	926 TEMP t01o090	484 TEMP t05i090
.10000E-05	243.502	243.295	243.061	242.884	242.871	242.711
.20000E-05	258.192	257.986	257.752	257.576	257.563	257.404
31.558	258.192	257.986	257.752	257.576	257.563	257.404
.31558E+07	269.735	269.531	269.298	269.128	269.114	268.952
.63116E+07	272.489	272.286	272.053	271.885	271.871	271.709
.94673E+07	274.073	273.871	273.639	273.472	273.458	273.297
.12623E+08	275.165	274.964	274.734	274.567	274.553	274.393
.15779E+08	275.982	275.782	275.552	275.386	275.372	275.213
.18935E+08	276.634	276.435	276.206	276.041	276.027	275.868
.22090E+08	277.179	276.980	276.752	276.588	276.574	276.416
.25246E+08	277.569	277.371	277.144	276.980	276.967	276.809
.28402E+08	277.890	277.693	277.467	277.304	277.290	277.133
.31558E+08	278.170	277.974	277.749	277.586	277.573	277.417
.63115E+08	279.509	279.320	279.103	278.946	278.933	278.782
.94673E+08	279.662	279.479	279.268	279.116	279.104	278.957
.12623E+09	279.564	279.385	279.181	279.034	279.021	278.879
.15779E+09	279.512	279.339	279.139	278.996	278.984	278.845
.18935E+09	279.014	278.844	278.650	278.511	278.499	278.363
.22090E+09	278.513	278.348	278.158	278.022	278.011	277.878
.25246E+09	278.044	277.883	277.697	277.564	277.553	277.423
.28402E+09	277.050	276.892	276.711	276.580	276.570	276.442
.31558E+09	276.273	276.118	275.940	275.812	275.801	275.676
.63115E+09	267.312	267.184	267.036	266.931	266.923	266.819
.94673E+09	260.057	259.949	259.825	259.737	259.730	259.641
.12623E+10	252.030	251.938	251.832	251.757	251.750	251.674
.15779E+10	244.262	244.183	244.091	244.026	244.021	243.955
.18935E+10	237.538	237.469	237.388	237.331	237.327	237.269
.22090E+10	231.512	231.450	231.378	231.328	231.324	231.272
.25246E+10	225.794	225.739	225.675	225.630	225.626	225.580
.28402E+10	221.148	221.098	221.040	220.999	220.995	220.953
.31558E+10	216.885	216.839	216.786	216.749	216.746	216.707
.63115E+10	196.210	196.184	196.153	196.132	196.130	196.107
.94673E+10	186.313	186.294	186.270	186.255	186.253	186.236
.12623E+11	180.752	180.736	180.717	180.704	180.703	180.689
.15779E+11	177.082	177.068	177.052	177.041	177.040	177.027
.18935E+11	173.585	173.573	173.559	173.549	173.549	173.538
.22090E+11	170.160	170.149	170.137	170.128	170.127	170.118
.25246E+11	166.724	166.714	166.703	166.695	166.695	166.686
.28402E+11	163.582	163.574	163.564	163.557	163.556	163.548
.31558E+11	160.807	160.799	160.790	160.784	160.783	160.776

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.300
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	492 TEMP	491 TEMP	490 TEMP	488 TEMP	1749 TEMP	485 TEMP
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	a05i090	s05i090	h05i090	c05i090	h05o090	s05o090
.10000E-05	242.697	242.561	242.332	241.620	240.494	239.796
.20000E-05	257.390	257.254	257.025	256.313	255.189	254.493
31.558	257.390	257.254	257.025	256.313	255.189	254.493
.31558E+07	268.938	268.804	268.577	267.870	266.754	266.061
.63116E+07	271.695	271.562	271.336	270.630	269.518	268.827
.94673E+07	273.283	273.150	272.925	272.222	271.115	270.427
.12623E+08	274.379	274.246	274.022	273.322	272.219	271.534
.15779E+08	275.199	275.067	274.844	274.147	273.049	272.367
.18935E+08	275.854	275.723	275.500	274.806	273.712	273.034
.22090E+08	276.402	276.271	276.050	275.358	274.269	273.593
.25246E+08	276.795	276.665	276.444	275.755	274.670	273.997
.28402E+08	277.120	276.990	276.770	276.084	275.003	274.332
.31558E+08	277.403	277.273	277.054	276.371	275.295	274.627
.63115E+08	278.769	278.644	278.432	277.772	276.733	276.088
.94673E+08	278.944	278.823	278.618	277.979	276.972	276.347
.12623E+09	278.866	278.749	278.549	277.928	276.949	276.342
.15779E+09	278.832	278.718	278.524	277.917	276.964	276.371
.18935E+09	278.351	278.240	278.051	277.461	276.532	275.955
.22090E+09	277.866	277.757	277.573	276.997	276.090	275.527
.25246E+09	277.412	277.306	277.125	276.562	275.675	275.125
.28402E+09	276.431	276.327	276.151	275.599	274.732	274.193
.31558E+09	275.665	275.563	275.390	274.849	273.998	273.469
.63115E+09	266.810	266.725	266.583	266.137	265.435	264.999
.94673E+09	259.634	259.563	259.444	259.069	258.479	258.112
.12623E+10	251.668	251.608	251.505	251.185	250.680	250.366
.15779E+10	243.949	243.898	243.809	243.533	243.098	242.827
.18935E+10	237.264	237.218	237.141	236.900	236.518	236.281
.22090E+10	231.268	231.228	231.160	230.946	230.608	230.398
.25246E+10	225.576	225.540	225.479	225.287	224.985	224.797
.28402E+10	220.949	220.917	220.861	220.687	220.413	220.241
.31558E+10	216.704	216.674	216.624	216.466	216.215	216.059
.63115E+10	196.105	196.089	196.060	195.969	195.826	195.736
.94673E+10	186.234	186.222	186.200	186.132	186.023	185.956
.12623E+11	180.687	180.677	180.659	180.603	180.515	180.459
.15779E+11	177.026	177.017	177.002	176.954	176.878	176.831
.18935E+11	173.537	173.529	173.516	173.474	173.408	173.367
.22090E+11	170.117	170.110	170.098	170.061	170.003	169.966
.25246E+11	166.685	166.679	166.669	166.636	166.583	166.551
.28402E+11	163.548	163.542	163.533	163.503	163.455	163.426
.31558E+11	160.775	160.770	160.762	160.734	160.691	160.664

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.310
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	493 TEMP a05o090	483 TEMP t05i090	2315 TEMP t13i090	2324 TEMP a13i090	2322 TEMP s13i090	2321 TEMP h13i090
.10000E-05	239.304	239.265	238.798	238.759	238.325	237.660
.20000E-05	254.002	253.963	253.500	253.461	253.026	252.361
31.558	254.002	253.963	253.500	253.461	253.026	252.361
.31558E+07	265.572	265.534	265.077	265.037	264.606	263.946
.63116E+07	268.339	268.301	267.847	267.807	267.377	266.719
.94673E+07	269.941	269.904	269.451	269.412	268.984	268.328
.12623E+08	271.050	271.013	270.563	270.523	270.097	269.444
.15779E+08	271.885	271.848	271.400	271.361	270.936	270.286
.18935E+08	272.553	272.516	272.070	272.031	271.608	270.960
.22090E+08	273.115	273.078	272.634	272.595	272.174	271.529
.25246E+08	273.521	273.484	273.042	273.003	272.584	271.941
.28402E+08	273.858	273.821	273.381	273.342	272.924	272.284
.31558E+08	274.154	274.117	273.679	273.640	273.224	272.586

.63115E+08	275.632	275.596	275.174	275.136	274.735	274.119
.94673E+08	275.905	275.870	275.461	275.425	275.035	274.438
.12623E+09	275.912	275.879	275.481	275.445	275.067	274.487
.15779E+09	275.952	275.920	275.531	275.497	275.128	274.563
.18935E+09	275.547	275.516	275.138	275.104	274.745	274.194
.22090E+09	275.128	275.097	274.728	274.695	274.345	273.807
.25246E+09	274.735	274.705	274.344	274.312	273.969	273.444
.28402E+09	273.812	273.783	273.429	273.398	273.063	272.548
.31558E+09	273.095	273.066	272.719	272.688	272.359	271.854
.63115E+09	264.690	264.666	264.378	264.353	264.082	263.666
.94673E+09	257.852	257.832	257.589	257.568	257.341	256.991
.12623E+10	250.144	250.127	249.918	249.900	249.705	249.407
.15779E+10	242.635	242.621	242.440	242.424	242.257	242.000
.18935E+10	236.113	236.100	235.942	235.928	235.781	235.556
.22090E+10	230.249	230.238	230.097	230.085	229.955	229.756
.25246E+10	224.663	224.653	224.526	224.516	224.400	224.221
.28402E+10	220.120	220.111	219.995	219.986	219.880	219.718
.31558E+10	215.949	215.941	215.835	215.826	215.730	215.583
.63115E+10	195.673	195.668	195.607	195.602	195.547	195.463
.94673E+10	185.908	185.904	185.858	185.854	185.812	185.749
.12623E+11	180.420	180.417	180.379	180.376	180.342	180.290
.15779E+11	176.797	176.795	176.762	176.759	176.730	176.686
.18935E+11	173.338	173.335	173.307	173.304	173.279	173.240
.22090E+11	169.940	169.938	169.912	169.910	169.888	169.854
.25246E+11	166.527	166.526	166.503	166.501	166.481	166.450
.28402E+11	163.405	163.403	163.382	163.381	163.363	163.335
.31558E+11	160.645	160.643	160.624	160.623	160.606	160.581

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.330
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2319 TEMP c13i090	3003 TEMP h13o090	2316 TEMP s13o090	2333 TEMP a13o090	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	236.083	234.093	232.959	232.177	208.394	169.820
.20000E-05	250.784	248.796	247.664	246.883	223.263	187.248
.31558E+07	250.784	248.796	247.664	246.883	223.263	187.248
.63116E+07	262.377	260.400	259.274	258.496	235.355	201.596
.94673E+07	265.154	263.184	262.062	261.285	238.254	205.056
.12623E+08	266.770	264.808	263.690	262.917	239.999	207.186
.15779E+08	267.892	265.938	264.824	264.054	241.245	208.767
.18935E+08	268.740	266.795	265.686	264.919	242.218	210.027
.22090E+08	269.421	267.483	266.379	265.615	243.013	211.071
.25246E+08	269.996	268.066	266.967	266.206	243.706	211.990
.28402E+08	270.413	268.491	267.395	266.638	244.232	212.725
.31558E+08	270.763	268.848	267.757	267.002	244.690	213.383
.63115E+08	271.071	269.164	268.077	267.325	245.108	213.989
.94673E+08	272.655	270.814	269.764	269.038	247.623	217.990
.12623E+09	273.020	271.235	270.219	269.515	248.782	220.283
.15779E+09	273.109	271.374	270.386	269.702	249.568	222.026
.18935E+09	273.219	271.528	270.564	269.898	250.280	223.561
.22090E+09	272.886	271.240	270.302	269.653	250.564	224.633
.25246E+09	272.529	270.922	270.006	269.372	250.740	225.481
.28402E+09	272.195	270.623	269.728	269.108	250.901	226.264
.31558E+09	271.327	269.789	268.913	268.307	250.493	226.382
.63115E+09	270.655	269.146	268.286	267.691	250.206	226.541
.94673E+09	262.678	261.434	260.725	260.234	245.819	226.165
.12623E+10	256.161	255.116	254.520	254.108	241.995	225.354
.15779E+10	248.697	247.803	247.293	246.941	236.567	222.098
.18935E+10	241.388	240.618	240.178	239.874	230.920	218.215
.22090E+10	235.021	234.346	233.961	233.695	225.846	214.530
.25246E+10	229.282	228.685	228.344	228.108	221.150	210.967

.25246E+10	223.797	223.263	222.957	222.746	216.508	207.241
.28402E+10	219.333	218.847	218.570	218.378	212.704	204.168
.31558E+10	215.233	214.791	214.538	214.363	209.196	201.331
.63115E+10	195.262	195.009	194.864	194.764	191.792	186.996
.94673E+10	185.598	185.407	185.297	185.222	182.974	179.235
.12623E+11	180.166	180.010	179.920	179.859	178.018	174.903
.15779E+11	176.580	176.446	176.369	176.316	174.738	172.036
.18935E+11	173.148	173.032	172.965	172.919	171.544	169.164
.22090E+11	169.772	169.668	169.609	169.568	168.347	166.208
.25246E+11	166.377	166.285	166.232	166.195	165.104	163.170
.28402E+11	163.269	163.185	163.137	163.104	162.117	160.347
.31558E+11	160.521	160.444	160.400	160.370	159.467	157.834

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.340
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2315 TEMP t131090	574 TEMP t211090	582 TEMP a211090	581 TEMP s211090	3829 TEMP h211090	578 TEMP c211090
.10000E-05	238.798	231.393	231.334	230.715	229.681	227.727
.20000E-05	253.500	246.102	246.042	245.420	244.380	242.417
31.558	253.500	246.102	246.042	245.420	244.380	242.417
.31558E+07	265.077	257.722	257.662	257.042	256.005	254.044
.63116E+07	267.847	260.515	260.455	259.836	258.801	256.844
.94673E+07	269.451	262.151	262.091	261.474	260.442	258.492
.12623E+08	270.563	263.291	263.232	262.617	261.589	259.645
.15779E+08	271.400	264.160	264.101	263.488	262.464	260.528
.18935E+08	272.070	264.859	264.800	264.189	263.169	261.240
.22090E+08	272.634	265.453	265.394	264.787	263.770	261.849
.25246E+08	273.042	265.888	265.829	265.223	264.210	262.296
.28402E+08	273.381	266.255	266.197	265.593	264.584	262.677
.31558E+08	273.679	266.581	266.523	265.922	264.917	263.017
.63115E+08	275.174	268.321	268.265	267.683	266.712	264.876
.94673E+08	275.461	268.820	268.765	268.202	267.260	265.480
.12623E+09	275.481	269.027	268.973	268.426	267.510	265.780
.15779E+09	275.531	269.239	269.187	268.653	267.760	266.073
.18935E+09	275.138	269.011	268.961	268.441	267.571	265.928
.22090E+09	274.728	268.746	268.696	268.189	267.340	265.735
.25246E+09	274.344	268.496	268.448	267.951	267.121	265.553
.28402E+09	273.429	267.707	267.660	267.175	266.363	264.828
.31558E+09	272.719	267.102	267.056	266.580	265.783	264.277
.63115E+09	264.378	259.747	259.709	259.317	258.661	257.422
.94673E+09	257.589	253.698	253.666	253.337	252.787	251.747
.12623E+10	249.918	246.589	246.562	246.281	245.812	244.924
.15779E+10	242.440	239.570	239.547	239.305	238.902	238.138
.18935E+10	235.942	233.429	233.408	233.197	232.845	232.177
.22090E+10	230.097	227.871	227.853	227.667	227.355	226.765
.25246E+10	224.526	222.534	222.518	222.351	222.073	221.545
.28402E+10	219.995	218.184	218.170	218.019	217.766	217.287
.31558E+10	215.835	214.187	214.173	214.036	213.807	213.371
.63115E+10	195.607	194.662	194.654	194.576	194.446	194.198
.94673E+10	185.858	185.144	185.138	185.080	184.982	184.795
.12623E+11	180.379	179.795	179.790	179.743	179.662	179.510
.15779E+11	176.762	176.261	176.257	176.216	176.148	176.017
.18935E+11	173.307	172.871	172.867	172.832	172.772	172.659
.22090E+11	169.912	169.526	169.523	169.491	169.438	169.338
.25246E+11	166.503	166.157	166.155	166.127	166.079	165.990
.28402E+11	163.382	163.070	163.068	163.042	163.000	162.918
.31558E+11	160.624	160.339	160.337	160.313	160.275	160.201

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.350
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	576 TEMP h21o090	573 TEMP s21o090	573 TEMP t21o090	4555 TEMP g04i090	4516 TEMP g04o090	4625 TEMP m04i090
.10000E-05	225.356	223.161	223.161	186.619	185.027	143.973
.20000E-05	240.039	237.841	237.841	203.104	201.563	163.416
31.558	240.039	237.841	237.841	203.104	201.563	163.416
.31558E+07	251.672	249.482	249.482	216.258	214.763	179.002
.63116E+07	254.477	252.293	252.293	219.492	218.011	182.868
.94673E+07	256.134	253.958	253.958	221.460	219.989	185.288
.12623E+08	257.296	255.129	255.129	222.902	221.441	187.113
.15779E+08	258.188	256.029	256.029	224.040	222.588	188.586
.18935E+08	258.909	256.759	256.759	224.978	223.534	189.812
.22090E+08	259.528	257.386	257.386	225.798	224.362	190.897
.25246E+08	259.983	257.850	257.850	226.440	225.012	191.781
.28402E+08	260.373	258.247	258.247	227.010	225.589	192.584
.31558E+08	260.722	258.604	258.604	227.533	226.118	193.324
.63115E+08	262.659	260.614	260.614	230.870	229.513	198.390
.94673E+08	263.331	261.349	261.349	232.650	231.340	201.491
.12623E+09	263.691	261.765	261.765	233.959	232.689	203.910
.15779E+09	264.036	262.158	262.158	235.121	233.886	206.022
.18935E+09	263.945	262.117	262.117	235.831	234.630	207.641
.22090E+09	263.799	262.013	262.013	236.371	235.200	208.954
.25246E+09	263.660	261.914	261.914	236.870	235.727	210.166
.28402E+09	262.976	261.269	261.269	236.745	235.627	210.648
.31558E+09	262.459	260.784	260.784	236.699	235.603	211.113
.63115E+09	255.925	254.545	254.545	234.480	233.578	213.452
.94673E+09	250.491	249.332	249.332	232.311	231.553	214.650
.12623E+10	243.851	242.860	242.860	228.080	227.429	212.825
.15779E+10	237.214	236.361	236.361	223.412	222.847	210.090
.18935E+10	231.369	230.623	230.623	219.116	218.619	207.304
.22090E+10	226.050	225.389	225.389	215.057	214.615	204.466
.25246E+10	220.906	220.315	220.315	210.936	210.537	201.328
.28402E+10	216.707	216.170	216.170	207.549	207.186	198.721
.31558E+10	212.844	212.355	212.355	204.427	204.094	196.310
.63115E+10	193.897	193.618	193.618	188.832	188.637	183.933
.94673E+10	184.568	184.358	184.358	180.649	180.500	176.842
.12623E+11	179.325	179.153	179.153	176.072	175.949	172.908
.15779E+11	175.859	175.711	175.711	173.044	172.939	170.304
.18935E+11	172.521	172.393	172.393	170.049	169.956	167.638
.22090E+11	169.215	169.101	169.101	167.000	166.917	164.836
.25246E+11	165.880	165.779	165.779	163.883	163.809	161.930
.28402E+11	162.820	162.728	162.728	160.998	160.931	159.211
.31558E+11	160.110	160.027	160.027	158.432	158.371	156.785

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:24:22 APR 01, 1995 CP= 81656.360
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4873 TEMP m04o090	5432 TEMP 104i090	5431 TEMP 104o090	6019 TEMP o04o090
.10000E-05	140.377	30.5255	28.6867	26.1379
.20000E-05	159.985	73.5239	71.6849	69.1920
31.558	159.985	73.5240	71.6849	69.1920
.31558E+07	175.702	102.579	100.762	98.2533

.63116E+07	179.608	109.331	107.530	105.025
.94673E+07	182.060	113.689	111.903	109.408
.12623E+08	183.912	117.031	115.257	112.771
.15779E+08	185.409	119.748	117.985	115.509
.18935E+08	186.657	122.060	120.309	117.843
.22090E+08	187.763	124.066	122.326	119.870
.25246E+08	188.665	125.794	124.066	121.619
.28402E+08	189.486	127.361	125.643	123.206
.31558E+08	190.243	128.812	127.104	124.676
.63115E+08	195.451	139.127	137.502	135.157
.94673E+08	198.664	145.877	144.318	142.047
.12623E+09	201.179	151.194	149.691	147.484
.15779E+09	203.372	155.702	154.246	152.093
.18935E+09	205.071	159.488	158.078	155.982
.22090E+09	206.453	162.591	161.221	159.173
.25246E+09	207.728	165.419	164.085	162.082
.28402E+09	208.265	167.189	165.887	163.928
.31558E+09	208.778	168.733	167.459	165.536
.63115E+09	211.538	179.988	178.953	177.368
.94673E+09	213.048	187.313	186.451	185.120
.12623E+10	211.450	189.517	188.783	187.646
.15779E+10	208.897	189.886	189.254	188.275
.18935E+10	206.253	189.464	188.911	188.055
.22090E+10	203.529	188.504	188.014	187.256
.25246E+10	200.483	186.843	186.404	185.727
.28402E+10	197.949	185.405	185.007	184.391
.31558E+10	195.603	184.059	183.696	183.137
.63115E+10	183.516	176.493	176.285	175.965
.94673E+10	176.522	171.008	170.850	170.609
.12623E+11	172.644	168.032	167.903	167.705
.15779E+11	170.077	166.066	165.955	165.786
.18935E+11	167.439	163.892	163.795	163.648
.22090E+11	164.659	161.456	161.369	161.239
.25246E+11	161.770	158.857	158.780	158.664
.28402E+11	159.066	156.385	156.315	156.210
.31558E+11	156.651	154.164	154.099	154.003

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 6 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 81656.570 TIME= 17:24:22
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 37 ITEM= TEMP COMP= NAME= h01o135
 VARIABLE 4 IS AT NODE 10 ITEM= TEMP COMP= NAME= s01o135
 VARIABLE 5 IS AT NODE 265 ITEM= TEMP COMP= NAME= a01o135
 VARIABLE 6 IS AT NODE 461 ITEM= TEMP COMP= NAME= t01o135
 VARIABLE 7 IS AT NODE 1270 ITEM= TEMP COMP= NAME= t04i135
 VARIABLE 8 IS AT NODE 1278 ITEM= TEMP COMP= NAME= a04i135
 VARIABLE 9 IS AT NODE 1188 ITEM= TEMP COMP= NAME= s04i135
 VARIABLE 10 IS AT NODE 1228 ITEM= TEMP COMP= NAME= h04i135
 VARIABLE 11 IS AT NODE 1244 ITEM= TEMP COMP= NAME= c04i135
 VARIABLE 12 IS AT NODE 1260 ITEM= TEMP COMP= NAME= h04o135
 VARIABLE 13 IS AT NODE 1197 ITEM= TEMP COMP= NAME= s04o135
 VARIABLE 14 IS AT NODE 1305 ITEM= TEMP COMP= NAME= a04o135

VARIABLE 15 IS AT NODE 1323 ITEM= TEMP COMP= NAME= t04o135
 VARIABLE 16 IS AT NODE 2733 ITEM= TEMP COMP= NAME= t11i135
 VARIABLE 17 IS AT NODE 2741 ITEM= TEMP COMP= NAME= a11i135
 VARIABLE 18 IS AT NODE 2651 ITEM= TEMP COMP= NAME= s11i135
 VARIABLE 19 IS AT NODE 2691 ITEM= TEMP COMP= NAME= h11i135
 VARIABLE 20 IS AT NODE 2707 ITEM= TEMP COMP= NAME= c11i135
 VARIABLE 21 IS AT NODE 2723 ITEM= TEMP COMP= NAME= h11o135
 VARIABLE 22 IS AT NODE 2660 ITEM= TEMP COMP= NAME= s11o135
 VARIABLE 23 IS AT NODE 2768 ITEM= TEMP COMP= NAME= a11o135
 VARIABLE 24 IS AT NODE 2786 ITEM= TEMP COMP= NAME= t11o135
 VARIABLE 25 IS AT NODE 4344 ITEM= TEMP COMP= NAME= g11i135
 VARIABLE 26 IS AT NODE 5109 ITEM= TEMP COMP= NAME= m11i135
 VARIABLE 27 IS AT NODE 4910 ITEM= TEMP COMP= NAME= m11o135
 VARIABLE 28 IS AT NODE 5767 ITEM= TEMP COMP= NAME= i11i135
 VARIABLE 29 IS AT NODE 5839 ITEM= TEMP COMP= NAME= i11o135
 VARIABLE 30 IS AT NODE 6279 ITEM= TEMP COMP= NAME= o11o135
 Add centers of assemblies 5, 10, 12, 13, 20, 21
 VARIABLE 31 IS AT NODE 102 ITEM= TEMP COMP= NAME= c06i135
 VARIABLE 32 IS AT NODE 102 ITEM= TEMP COMP= NAME= c14i135
 VARIABLE 33 IS AT NODE 2289 ITEM= TEMP COMP= NAME= c15i135
 VARIABLE 34 IS AT NODE 2498 ITEM= TEMP COMP= NAME= c17i135
 VARIABLE 35 IS AT NODE 228 ITEM= TEMP COMP= NAME= c22i135
 VARIABLE 36 IS AT NODE 3543 ITEM= TEMP COMP= NAME= c23i135

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	6 TEMP	c01i135	161.3	.3156E+11	288.0	.6312E+08
3	NSOL	37 TEMP	h01o135	161.1	.3156E+11	283.7	.9467E+08
4	NSOL	10 TEMP	s01o135	160.7	.3156E+11	277.1	.9467E+08
5	NSOL	265 TEMP	a01o135	160.7	.3156E+11	277.0	.9467E+08
6	NSOL	461 TEMP	t01o135	160.7	.3156E+11	276.9	.9467E+08
7	NSOL	1270 TEMP	t04i135	160.7	.3156E+11	276.4	.1578E+09
8	NSOL	1278 TEMP	a04i135	160.7	.3156E+11	276.3	.1578E+09
9	NSOL	1188 TEMP	s04i135	160.7	.3156E+11	276.2	.1578E+09
10	NSOL	1228 TEMP	h04i135	160.9	.3156E+11	280.4	.9467E+08
11	NSOL	1244 TEMP	c04i135	161.1	.3156E+11	281.6	.9467E+08
12	NSOL	1260 TEMP	h04o135	160.7	.3156E+11	275.6	.1578E+09
13	NSOL	1197 TEMP	s04o135	160.3	.3156E+11	267.7	.1578E+09
14	NSOL	1305 TEMP	a04o135	160.2	.3156E+11	267.5	.1578E+09
15	NSOL	1323 TEMP	t04o135	160.2	.3156E+11	267.4	.1578E+09
16	NSOL	2733 TEMP	t11i135	160.2	.3156E+11	266.2	.1578E+09
17	NSOL	2741 TEMP	a11i135	160.2	.3156E+11	266.1	.1578E+09
18	NSOL	2651 TEMP	s11i135	160.2	.3156E+11	265.9	.1578E+09
19	NSOL	2691 TEMP	h11i135	160.4	.3156E+11	268.4	.1578E+09
20	NSOL	2707 TEMP	c11i135	160.4	.3156E+11	267.6	.1578E+09

21	NSOL	2723	TEMP	h11o135	160.0	.3156E+11	259.4	.1893E+09
22	NSOL	2660	TEMP	s11o135	159.4	.3156E+11	250.7	.2525E+09
23	NSOL	2768	TEMP	a11o135	159.4	.3156E+11	250.6	.2525E+09
24	NSOL	2786	TEMP	t11o135	159.4	.3156E+11	250.4	.2525E+09
25	NSOL	4344	TEMP	g11i135	157.8	.3156E+11	225.9	.3156E+09
26	NSOL	5109	TEMP	m11i135	147.7	.1000E-05	215.7	.9467E+09
27	NSOL	4910	TEMP	m11o135	145.5	.1000E-05	214.7	.9467E+09
28	NSOL	5767	TEMP	i11i135	30.93	.1000E-05	189.8	.1578E+10
29	NSOL	5839	TEMP	i11o135	28.92	.1000E-05	189.1	.1578E+10
30	NSOL	6279	TEMP	o11o135	26.14	.1000E-05	188.1	.1578E+10
31	NSOL	102	TEMP	c06i135	161.3	.3156E+11	286.3	.6312E+08
32	NSOL	102	TEMP	c14i135	161.3	.3156E+11	286.3	.6312E+08
33	NSOL	2289	TEMP	c15i135	161.0	.3156E+11	281.3	.9467E+08
34	NSOL	2498	TEMP	c17i135	160.8	.3156E+11	276.3	.1578E+09
35	NSOL	228	TEMP	c22i135	160.6	.3156E+11	271.6	.1578E+09
36	NSOL	3543	TEMP	c23i135	160.2	.3156E+11	264.6	.1578E+09
37	NSOL	4625	TEMP	m04i090	144.0	.1000E-05	214.7	.9467E+09
38	NSOL	4873	TEMP	m04o090	140.4	.1000E-05	213.0	.9467E+09
39	NSOL	5432	TEMP	i04i090	30.53	.1000E-05	189.9	.1578E+10
40	NSOL	5431	TEMP	i04o090	28.69	.1000E-05	189.3	.1578E+10
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	188.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.340
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	6 TEMP c01i135	37 TEMP h01o135	10 TEMP s01o135	265 TEMP a01o135	461 TEMP t01o135	1270 TEMP t04i135
.10000E-05	253.850	248.797	240.656	240.551	240.461	239.861
.20000E-05	268.024	263.173	255.358	255.254	255.164	254.570
31.558	268.024	263.173	255.358	255.254	255.164	254.570
.31558E+07	279.111	274.413	266.868	266.764	266.674	266.085
.63116E+07	281.734	277.088	269.631	269.527	269.437	268.851
.94673E+07	283.237	278.626	271.226	271.123	271.034	270.450
.12623E+08	284.255	279.676	272.330	272.227	272.138	271.558
.15779E+08	285.009	280.458	273.159	273.056	272.968	272.390
.18935E+08	285.607	281.080	273.822	273.720	273.631	273.057
.22090E+08	286.104	281.600	274.378	274.277	274.189	273.616
.25246E+08	286.446	281.964	274.778	274.677	274.589	274.019
.28402E+08	286.722	282.261	275.110	275.009	274.922	274.354
.31558E+08	286.960	282.519	275.401	275.301	275.213	274.648
.63115E+08	287.960	283.683	276.834	276.737	276.652	276.107
.94673E+08	287.847	283.702	277.068	276.974	276.892	276.364
.12623E+09	287.521	283.490	277.041	276.950	276.871	276.357
.15779E+09	287.273	283.340	277.052	276.963	276.886	276.385
.18935E+09	286.581	282.746	276.617	276.530	276.455	275.967
.22090E+09	285.915	282.164	276.171	276.087	276.013	275.537
.25246E+09	285.291	281.619	275.754	275.671	275.600	275.134
.28402E+09	284.164	280.562	274.809	274.728	274.657	274.201
.31558E+09	283.274	279.730	274.073	273.993	273.924	273.476
.63115E+09	273.257	270.263	265.491	265.425	265.369	264.996
.94673E+09	265.181	262.612	258.522	258.467	258.419	258.104
.12623E+10	256.541	254.292	250.714	250.667	250.626	250.355
.15779E+10	248.257	246.274	243.125	243.084	243.049	242.814
.18935E+10	241.113	239.346	236.540	236.504	236.473	236.266
.22090E+10	234.741	233.150	230.625	230.593	230.566	230.382
.25246E+10	228.742	227.294	224.999	224.970	224.946	224.780
.28402E+10	223.870	222.537	220.424	220.398	220.376	220.225
.31558E+10	219.399	218.171	216.224	216.201	216.181	216.042
.63115E+10	197.759	197.011	195.828	195.814	195.803	195.722
.94673E+10	187.520	186.941	186.024	186.014	186.005	185.943
.12623E+11	181.758	181.276	180.514	180.506	180.499	180.448

.15779E+11	177.954	177.537	176.878	176.871	176.864	176.821
.18935E+11	174.354	173.987	173.407	173.401	173.396	173.358
.22090E+11	170.850	170.521	170.002	169.996	169.991	169.957
.25246E+11	167.348	167.051	166.583	166.578	166.573	166.543
.28402E+11	164.153	163.882	163.454	163.450	163.446	163.419
.31558E+11	161.334	161.084	160.690	160.686	160.682	160.657

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.350
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1278 TEMP a04i135	1188 TEMP s04i135	1228 TEMP h04i135	1244 TEMP c04i135	1260 TEMP h04o135	1197 TEMP s04o135
.10000E-05	239.770	239.688	245.123	246.989	239.772	229.672
.20000E-05	254.479	254.397	259.518	261.198	254.189	244.411
31.558	254.479	254.397	259.519	261.199	254.189	244.411
.31558E+07	265.994	265.911	270.755	272.271	265.437	255.957
.63116E+07	268.760	268.678	273.440	274.912	268.138	258.757
.94673E+07	270.360	270.278	274.994	276.443	269.713	260.400
.12623E+08	271.468	271.386	276.058	277.486	270.798	261.549
.15779E+08	272.300	272.219	276.855	278.268	271.618	262.425
.18935E+08	272.967	272.886	277.492	278.891	272.274	263.131
.22090E+08	273.527	273.447	278.026	279.416	272.831	263.733
.25246E+08	273.931	273.851	278.403	279.781	273.227	264.174
.28402E+08	274.266	274.186	278.714	280.083	273.557	264.548
.31558E+08	274.560	274.481	278.985	280.345	273.849	264.880
.63115E+08	276.022	275.945	280.268	281.565	275.305	266.677
.94673E+08	276.282	276.207	280.391	281.643	275.578	267.225
.12623E+09	276.277	276.205	280.270	281.486	275.590	267.475
.15779E+09	276.307	276.236	280.199	281.383	275.634	267.725
.18935E+09	275.891	275.822	279.686	280.842	275.239	267.535
.22090E+09	275.462	275.395	279.174	280.306	274.830	267.302
.25246E+09	275.061	274.995	278.695	279.805	274.446	267.083
.28402E+09	274.130	274.066	277.699	278.793	273.541	266.325
.31558E+09	273.406	273.343	276.919	277.999	272.837	265.744
.63115E+09	264.939	264.887	267.935	268.884	264.557	258.614
.94673E+09	258.056	258.013	260.648	261.489	257.802	252.737
.12623E+10	250.314	250.277	252.607	253.370	250.164	245.759
.15779E+10	242.778	242.746	244.814	245.508	242.703	238.847
.18935E+10	236.235	236.207	238.065	238.700	236.212	232.790
.22090E+10	230.354	230.329	232.013	232.598	230.369	227.300
.25246E+10	224.756	224.733	226.274	226.819	224.800	222.019
.28402E+10	220.202	220.182	221.608	222.118	220.266	217.713
.31558E+10	216.022	216.003	217.323	217.801	216.101	213.754
.63115E+10	195.710	195.700	196.521	196.834	195.816	194.406
.94673E+10	185.934	185.926	186.569	186.819	186.035	184.948
.12623E+11	180.441	180.434	180.971	181.182	180.534	179.633
.15779E+11	176.814	176.809	177.276	177.460	176.900	176.122
.18935E+11	173.352	173.347	173.759	173.923	173.432	172.749
.22090E+11	169.953	169.948	170.319	170.468	170.028	169.417
.25246E+11	166.539	166.535	166.870	167.006	166.610	166.060
.28402E+11	163.415	163.411	163.718	163.843	163.483	162.982
.31558E+11	160.654	160.651	160.934	161.050	160.719	160.258

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.360
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1305 TEMP a04o135	1323 TEMP t04o135	2733 TEMP t11i135	2741 TEMP a11i135	2651 TEMP s11i135	2691 TEMP h11i135
.10000E-05	229.452	229.249	227.888	227.684	227.487	231.318
.20000E-05	244.191	243.989	242.642	242.438	242.241	245.749
31.558	244.191	243.989	242.642	242.438	242.241	245.749
.31558E+07	255.738	255.535	254.202	253.999	253.802	257.045
.63116E+07	258.538	258.336	257.010	256.807	256.610	259.771
.94673E+07	260.182	259.981	258.661	258.459	258.263	261.381
.12623E+08	261.332	261.132	259.818	259.617	259.421	262.499
.15779E+08	262.209	262.010	260.703	260.502	260.308	263.354
.18935E+08	262.916	262.717	261.416	261.217	261.023	264.042
.22090E+08	263.519	263.321	262.026	261.827	261.634	264.633
.25246E+08	263.960	263.763	262.473	262.275	262.083	265.059
.28402E+08	264.335	264.138	262.854	262.657	262.465	265.421
.31558E+08	264.668	264.473	263.194	262.997	262.806	265.744
.63115E+08	266.472	266.283	265.050	264.860	264.676	267.474
.94673E+08	267.026	266.843	265.649	265.465	265.286	267.984
.12623E+09	267.282	267.104	265.944	265.765	265.591	268.206
.15779E+09	267.537	267.364	266.233	266.058	265.889	268.431
.18935E+09	267.352	267.183	266.082	265.912	265.747	268.223
.22090E+09	267.124	266.959	265.883	265.717	265.556	267.976
.25246E+09	266.909	266.748	265.696	265.534	265.377	267.743
.28402E+09	266.154	265.996	264.967	264.808	264.654	266.980
.31558E+09	265.577	265.422	264.411	264.256	264.104	266.395
.63115E+09	258.476	258.349	257.511	257.383	257.258	259.228
.94673E+09	252.621	252.514	251.807	251.700	251.595	253.310
.12623E+10	245.660	245.568	244.962	244.870	244.781	246.308
.15779E+10	238.762	238.683	238.158	238.078	238.002	239.371
.18935E+10	232.715	232.646	232.184	232.115	232.048	233.289
.22090E+10	227.234	227.173	226.762	226.700	226.641	227.775
.25246E+10	221.959	221.905	221.535	221.480	221.427	222.474
.28402E+10	217.659	217.609	217.272	217.222	217.174	218.150
.31558E+10	213.705	213.660	213.352	213.307	213.263	214.172
.63115E+10	194.378	194.353	194.173	194.147	194.122	194.703
.94673E+10	184.927	184.908	184.771	184.752	184.733	185.193
.12623E+11	179.616	179.600	179.488	179.472	179.456	179.843
.15779E+11	176.107	176.093	175.997	175.983	175.970	176.308
.18935E+11	172.736	172.724	172.640	172.628	172.616	172.916
.22090E+11	169.405	169.395	169.320	169.309	169.299	169.570
.25246E+11	166.050	166.040	165.973	165.964	165.955	166.201
.28402E+11	162.972	162.964	162.903	162.895	162.886	163.113
.31558E+11	160.249	160.242	160.186	160.178	160.171	160.381

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.380
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2707 TEMP c11i135	2723 TEMP h11o135	2660 TEMP s11o135	2768 TEMP a11o135	2786 TEMP t11o135	4344 TEMP g11i135
.10000E-05	230.826	220.689	208.738	208.540	208.364	169.839
.20000E-05	245.068	235.153	223.592	223.397	223.224	187.245
31.558	245.068	235.153	223.592	223.397	223.224	187.245
.31558E+07	256.221	246.512	235.282	235.090	234.919	200.930
.63116E+07	258.910	249.280	238.160	237.969	237.799	204.361
.94673E+07	260.506	250.937	239.894	239.704	239.535	206.479
.12623E+08	261.610	252.100	241.134	240.945	240.777	208.054
.15779E+08	262.458	253.001	242.101	241.913	241.746	209.309
.18935E+08	263.141	253.732	242.892	242.705	242.539	210.350

.22090E+08	263.730	254.366	243.582	243.395	243.230	211.267
.25246E+08	264.152	254.831	244.102	243.916	243.751	211.997
.28402E+08	264.513	255.233	244.556	244.371	244.207	212.651
.31558E+08	264.835	255.596	244.970	244.786	244.622	213.254
.63115E+08	266.571	257.674	247.465	247.288	247.131	217.248
.94673E+08	267.098	258.483	248.614	248.443	248.290	219.546
.12623E+09	267.338	258.968	249.393	249.226	249.079	221.296
.15779E+09	267.579	259.422	250.100	249.937	249.794	222.836
.18935E+09	267.392	259.448	250.377	250.220	250.080	223.914
.22090E+09	267.163	259.404	250.549	250.395	250.259	224.768
.25246E+09	266.949	259.362	250.708	250.557	250.424	225.559
.28402E+09	266.207	258.776	250.302	250.155	250.025	225.691
.31558E+09	265.640	258.341	250.018	249.873	249.745	225.861
.63115E+09	258.646	252.566	245.639	245.520	245.414	225.573
.94673E+09	252.849	247.692	241.826	241.726	241.637	224.834
.12623E+10	245.944	241.489	236.415	236.329	236.253	221.643
.15779E+10	239.086	235.207	230.780	230.706	230.640	217.810
.18935E+10	233.063	229.635	225.716	225.651	225.593	214.165
.22090E+10	227.594	224.533	221.027	220.969	220.917	210.631
.25246E+10	222.330	219.566	216.395	216.343	216.297	206.934
.28402E+10	218.032	215.503	212.597	212.549	212.507	203.882
.31558E+10	214.076	211.760	209.093	209.050	209.012	201.062
.63115E+10	194.682	193.311	191.722	191.697	191.675	186.824
.94673E+10	185.190	184.140	182.917	182.899	182.882	179.098
.12623E+11	179.847	178.980	177.969	177.954	177.940	174.786
.15779E+11	176.314	175.567	174.694	174.681	174.669	171.933
.18935E+11	172.924	172.270	171.505	171.494	171.483	169.073
.22090E+11	169.580	168.997	168.312	168.302	168.293	166.126
.25246E+11	166.213	165.689	165.073	165.064	165.055	163.097
.28402E+11	163.126	162.649	162.088	162.080	162.073	160.280
.31558E+11	160.394	159.957	159.441	159.434	159.427	157.772

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.390
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5109 TEMP m111135	4910 TEMP m11o135	5767 TEMP i111135	5839 TEMP i11o135	6279 TEMP o11o135	102 TEMP c061135
.10000E-05	147.683	145.462	30.9283	28.9241	26.1379	252.015
.20000E-05	166.668	164.500	73.8999	71.8943	69.1647	266.194
.31.558	166.668	164.500	73.9000	71.8943	69.1647	266.194
.31558E+07	181.641	179.528	102.368	100.399	97.6825	277.290
.63116E+07	185.417	183.321	109.121	107.168	104.456	279.917
.94673E+07	187.778	185.698	113.483	111.547	108.847	281.428
.12623E+08	189.559	187.493	116.830	114.907	112.216	282.452
.15779E+08	190.993	188.940	119.552	117.641	114.961	283.214
.18935E+08	192.188	190.147	121.868	119.970	117.300	283.818
.22090E+08	193.246	191.216	123.879	121.992	119.334	284.323
.25246E+08	194.104	192.084	125.607	123.733	121.085	284.671
.28402E+08	194.881	192.872	127.173	125.310	122.672	284.954
.31558E+08	195.599	193.600	128.624	126.772	124.143	285.199
.63115E+08	200.502	198.585	138.948	137.186	134.646	286.257
.94673E+08	203.489	201.640	145.707	144.016	141.555	286.196
.12623E+09	205.818	204.027	151.032	149.402	147.010	285.915
.15779E+09	207.853	206.113	155.547	153.967	151.634	285.706
.18935E+09	209.402	207.712	159.340	157.810	155.538	285.054
.22090E+09	210.656	209.009	162.445	160.958	158.738	284.423
.25246E+09	211.816	210.209	165.280	163.832	161.662	283.832
.28402E+09	212.259	210.688	167.057	165.645	163.521	282.736
.31558E+09	212.692	211.151	168.608	167.225	165.140	281.871
.63115E+09	214.738	213.472	179.884	178.760	177.040	272.096
.94673E+09	215.726	214.664	187.226	186.290	184.844	264.202

.12623E+10	213.762	212.852	189.444	188.646	187.410	255.702
.15779E+10	210.915	210.128	189.818	189.131	188.067	247.530
.18935E+10	208.042	207.349	189.401	188.800	187.869	240.476
.22090E+10	205.132	204.516	188.442	187.910	187.086	234.176
.25246E+10	201.939	201.385	186.785	186.309	185.572	228.235
.28402E+10	199.287	198.782	185.350	184.916	184.247	223.409
.31558E+10	196.832	196.371	184.004	183.610	183.001	218.979
.63115E+10	184.259	183.990	176.452	176.226	175.878	197.517
.94673E+10	177.099	176.894	170.972	170.800	170.539	187.337
.12623E+11	173.123	172.954	168.000	167.859	167.645	181.608
.15779E+11	170.491	170.346	166.036	165.915	165.732	177.826
.18935E+11	167.803	167.677	163.865	163.759	163.600	174.242
.22090E+11	164.986	164.873	161.431	161.337	161.196	170.751
.25246E+11	162.066	161.965	158.835	158.751	158.625	167.259
.28402E+11	159.337	159.246	156.364	156.288	156.174	164.072
.31558E+11	156.902	156.818	154.144	154.074	153.970	161.260

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:29 APR 01, 1995 CP= 81663.400
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	102 TEMP c14i135	2289 TEMP c15i135	2498 TEMP c17i135	228 TEMP c22i135	3543 TEMP c23i135
.10000E-05	252.015	246.550	240.989	235.407	226.818
.20000E-05	266.194	260.748	255.225	249.665	241.234
31.558	266.194	260.748	255.225	249.665	241.234
.31558E+07	277.290	271.868	266.344	260.890	252.582
.63116E+07	279.917	274.510	269.002	263.569	255.316
.94673E+07	281.428	276.043	270.558	265.149	256.946
.12623E+08	282.452	277.086	271.623	266.237	258.079
.15779E+08	283.214	277.870	272.430	267.067	258.953
.18935E+08	283.818	278.494	273.075	267.734	259.658
.22090E+08	284.323	279.021	273.624	268.305	260.268
.25246E+08	284.671	279.388	274.011	268.712	260.709
.28402E+08	284.954	279.691	274.335	269.056	261.088
.31558E+08	285.199	279.956	274.620	269.362	261.428
.63115E+08	286.257	281.190	276.032	270.951	263.306
.94673E+08	286.196	281.280	276.277	271.349	263.944
.12623E+09	285.915	281.134	276.268	271.474	264.278
.15779E+09	285.706	281.041	276.293	271.616	264.601
.18935E+09	285.054	280.510	275.883	271.325	264.494
.22090E+09	284.423	279.983	275.461	271.008	264.334
.25246E+09	283.832	279.489	275.066	270.709	264.183
.28402E+09	282.736	278.484	274.153	269.888	263.497
.31558E+09	281.871	277.697	273.443	269.254	262.977
.63115E+09	272.096	268.641	265.111	261.636	256.413
.94673E+09	264.202	261.290	258.308	255.370	250.945
.12623E+10	255.702	253.203	250.637	248.107	244.286
.15779E+10	247.530	245.368	243.143	240.954	237.631
.18935E+10	240.476	238.580	236.625	234.701	231.768
.22090E+10	234.176	232.495	230.756	229.047	226.431
.25246E+10	228.235	226.728	225.166	223.631	221.273
.28402E+10	223.409	222.037	220.614	219.216	217.060
.31558E+10	218.979	217.729	216.430	215.155	213.182
.63115E+10	197.517	196.797	196.042	195.302	194.141
.94673E+10	187.337	186.792	186.219	185.658	184.770
.12623E+11	181.608	181.162	180.691	180.231	179.498
.15779E+11	177.826	177.443	177.038	176.644	176.013
.18935E+11	174.242	173.908	173.556	173.211	172.660
.22090E+11	170.751	170.455	170.141	169.835	169.343
.25246E+11	167.259	166.994	166.714	166.440	165.999
.28402E+11	164.072	163.833	163.579	163.331	162.931
.31558E+11	161.260	161.041	160.809	160.582	160.215

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= t02i000

*** WARNING *** CP= 81663.610 TIME= 17:24:29
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3	IS AT NODE	253	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NODE	1	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NODE	4	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NODE	6	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NODE	8	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NODE	2	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NODE	263	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	459	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	669	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	623	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	626	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	628	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	630	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	624	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	688	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	698	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	782	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	736	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NODE	739	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NODE	741	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NODE	743	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NODE	737	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NODE	801	ITEM= TEMP COMP=	NAME= a18o000
VARIABLE 26	IS AT NODE	811	ITEM= TEMP COMP=	NAME= t24i000
VARIABLE 27	IS AT NODE	351	ITEM= TEMP COMP=	NAME= a24i000
VARIABLE 28	IS AT NODE	127	ITEM= TEMP COMP=	NAME= s24i000
VARIABLE 29	IS AT NODE	130	ITEM= TEMP COMP=	NAME= h24i000
VARIABLE 30	IS AT NODE	132	ITEM= TEMP COMP=	NAME= c24i000
VARIABLE 31	IS AT NODE	134	ITEM= TEMP COMP=	NAME= h24o000
VARIABLE 32	IS AT NODE	128	ITEM= TEMP COMP=	NAME= s24o000

VARIABLE 33 IS AT NODE 361 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4271 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4269 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5135 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4872 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5728 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5727 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6241 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	160.8	.3156E+11	279.7	.9467E+08
3 NSOL	253 TEMP	a02i000	160.8	.3156E+11	279.7	.9467E+08
4 NSOL	1 TEMP	s02i000	160.8	.3156E+11	279.8	.9467E+08
5 NSOL	4 TEMP	h02i000	161.2	.3156E+11	286.4	.6312E+08
6 NSOL	6 TEMP	c02i000	161.3	.3156E+11	288.0	.6312E+08
7 NSOL	8 TEMP	h02o000	161.2	.3156E+11	285.3	.6312E+08
8 NSOL	2 TEMP	s02o000	160.7	.3156E+11	277.4	.9467E+08
9 NSOL	263 TEMP	a02o000	160.7	.3156E+11	277.3	.9467E+08
10 NSOL	459 TEMP	t08i000	160.7	.3156E+11	277.3	.9467E+08
11 NSOL	669 TEMP	a08i000	160.7	.3156E+11	277.3	.9467E+08
12 NSOL	623 TEMP	s08i000	160.7	.3156E+11	277.3	.9467E+08
13 NSOL	626 TEMP	h08i000	161.1	.3156E+11	282.9	.9467E+08
14 NSOL	628 TEMP	c08i000	161.1	.3156E+11	283.3	.9467E+08
15 NSOL	630 TEMP	h08o000	160.9	.3156E+11	279.6	.9467E+08
16 NSOL	624 TEMP	s08o000	160.4	.3156E+11	270.8	.1578E+09
17 NSOL	688 TEMP	a08o000	160.4	.3156E+11	270.7	.1578E+09
18 NSOL	698 TEMP	t18i000	160.4	.3156E+11	270.6	.1578E+09
19 NSOL	782 TEMP	a18i000	160.4	.3156E+11	270.6	.1578E+09
20 NSOL	736 TEMP	s18i000	160.4	.3156E+11	270.7	.1578E+09
21 NSOL	739 TEMP	h18i000	160.7	.3156E+11	275.0	.1578E+09
22 NSOL	741 TEMP	c18i000	160.7	.3156E+11	274.3	.1578E+09
23 NSOL	743 TEMP	h18o000	160.4	.3156E+11	269.4	.1578E+09
24 NSOL	737 TEMP	s18o000	159.8	.3156E+11	259.2	.1893E+09
25 NSOL	801 TEMP	a18o000	159.8	.3156E+11	259.1	.1893E+09
26 NSOL	811 TEMP	t24i000	159.8	.3156E+11	259.0	.1893E+09
27 NSOL	351 TEMP	a24i000	159.8	.3156E+11	259.0	.1893E+09
28 NSOL	127 TEMP	s24i000	159.8	.3156E+11	259.1	.1893E+09
29 NSOL	130 TEMP	h24i000	160.0	.3156E+11	260.9	.1578E+09
30 NSOL	132 TEMP	c24i000	159.8	.3156E+11	257.6	.2525E+09
31 NSOL	134 TEMP	h24o000	159.3	.3156E+11	249.4	.2525E+09
32 NSOL	128 TEMP	s24o000	158.4	.3156E+11	233.5	.2525E+09
33 NSOL	361 TEMP	t24o000	158.3	.3156E+11	233.3	.2525E+09
34 NSOL	4271 TEMP	g24i000	157.7	.3156E+11	223.7	.6312E+09
35 NSOL	4269 TEMP	g24o000	157.7	.3156E+11	223.5	.6312E+09
36 NSOL	5135 TEMP	m24i000	154.5	.1000E-05	217.6	.9467E+09
37 NSOL	4872 TEMP	m24o000	153.0	.1000E-05	216.8	.9467E+09
38 NSOL	5728 TEMP	i24i000	30.66	.1000E-05	189.5	.1578E+10
39 NSOL	5727 TEMP	i24o000	28.94	.1000E-05	189.0	.1578E+10
40 NSOL	6241 TEMP	o24o000	26.14	.1000E-05	187.9	.1578E+10
41 NSOL	6019 TEMP	o04o090	26.14	.1000E-05	188.3	.1578E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.170
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	253 TEMP a02i000	1 TEMP s02i000	4 TEMP h02i000	6 TEMP c02i000	8 TEMP h02o000
.10000E-05	243.502	243.505	243.616	251.929	253.850	250.685
.20000E-05	258.192	258.195	258.304	266.213	268.024	264.976
31.558	258.192	258.195	258.304	266.213	268.024	264.976
.31558E+07	269.735	269.738	269.845	277.403	279.111	276.146
.63116E+07	272.489	272.492	272.598	280.053	281.734	278.799
.94673E+07	274.073	274.076	274.182	281.573	283.237	280.323
.12623E+08	275.165	275.168	275.273	282.605	284.255	281.360
.15779E+08	275.982	275.985	276.089	283.371	285.009	282.131
.18935E+08	276.634	276.637	276.741	283.980	285.607	282.744
.22090E+08	277.179	277.182	277.285	284.486	286.104	283.255
.25246E+08	277.569	277.572	277.675	284.837	286.446	283.611
.28402E+08	277.890	277.893	277.995	285.122	286.722	283.900
.31558E+08	278.170	278.173	278.275	285.367	286.960	284.150
.63115E+08	279.509	279.512	279.610	286.430	287.960	285.253
.94673E+08	279.662	279.665	279.760	286.365	287.847	285.223
.12623E+09	279.564	279.566	279.659	286.081	287.521	284.969
.15779E+09	279.512	279.515	279.605	285.867	287.273	284.782
.18935E+09	279.014	279.016	279.104	285.210	286.581	284.153
.22090E+09	278.513	278.516	278.601	284.574	285.915	283.540
.25246E+09	278.044	278.047	278.131	283.978	285.291	282.966
.28402E+09	277.050	277.052	277.135	282.873	284.164	281.883
.31558E+09	276.273	276.275	276.356	282.003	283.274	281.030
.63115E+09	267.312	267.314	267.381	272.171	273.257	271.364
.94673E+09	260.057	260.058	260.115	264.241	265.181	263.559
.12623E+10	252.030	252.032	252.081	255.709	256.541	255.123
.15779E+10	244.262	244.264	244.306	247.516	248.257	247.007
.18935E+10	237.538	237.539	237.577	240.448	241.113	240.001
.22090E+10	231.512	231.512	231.546	234.138	234.741	233.741
.25246E+10	225.794	225.795	225.825	228.190	228.742	227.833
.28402E+10	221.148	221.149	221.176	223.358	223.870	223.033
.31558E+10	216.885	216.886	216.911	218.925	219.399	218.628
.63115E+10	196.210	196.210	196.225	197.464	197.759	197.291
.94673E+10	186.313	186.314	186.325	187.289	187.520	187.158
.12623E+11	180.752	180.753	180.762	181.565	181.758	181.457
.15779E+11	177.082	177.082	177.090	177.787	177.954	177.694
.18935E+11	173.585	173.586	173.593	174.206	174.354	174.125
.22090E+11	170.160	170.160	170.166	170.717	170.850	170.645
.25246E+11	166.724	166.724	166.730	167.227	167.348	167.163
.28402E+11	163.582	163.583	163.588	164.043	164.153	163.984
.31558E+11	160.807	160.807	160.812	161.232	161.334	161.178

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.180
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP s02o000	263 TEMP a02o000	459 TEMP t08i000	669 TEMP a08i000	623 TEMP s08i000	626 TEMP h08i000
.10000E-05	241.010	240.886	240.882	240.873	240.971	248.093
.20000E-05	255.712	255.589	255.585	255.575	255.672	262.401
31.558	255.712	255.589	255.585	255.575	255.672	262.401
.31558E+07	267.216	267.095	267.090	267.081	267.175	273.561
.63116E+07	269.977	269.857	269.852	269.842	269.936	276.221
.94673E+07	271.571	271.451	271.447	271.437	271.530	277.756
.12623E+08	272.673	272.554	272.550	272.540	272.633	278.803
.15779E+08	273.501	273.382	273.377	273.368	273.460	279.585

.18935E+08	274.162	274.044	274.040	274.030	274.122	280.208
.22090E+08	274.717	274.600	274.595	274.586	274.677	280.729
.25246E+08	275.116	274.999	274.994	274.985	275.076	281.094
.28402E+08	275.446	275.330	275.325	275.316	275.406	281.392
.31558E+08	275.736	275.620	275.615	275.606	275.696	281.652
.63115E+08	277.156	277.045	277.040	277.031	277.118	282.838
.94673E+08	277.380	277.272	277.268	277.259	277.343	282.881
.12623E+09	277.345	277.240	277.236	277.227	277.309	282.690
.15779E+09	277.348	277.246	277.241	277.233	277.313	282.559
.18935E+09	276.905	276.805	276.801	276.793	276.870	281.986
.22090E+09	276.452	276.355	276.351	276.343	276.419	281.423
.25246E+09	276.029	275.934	275.930	275.922	275.996	280.895
.28402E+09	275.078	274.984	274.981	274.973	275.045	279.856
.31558E+09	274.336	274.245	274.241	274.234	274.305	279.040
.63115E+09	265.708	265.632	265.629	265.623	265.682	269.714
.94673E+09	258.704	258.640	258.638	258.633	258.683	262.165
.12623E+10	250.870	250.815	250.813	250.809	250.852	253.926
.15779E+10	243.259	243.211	243.209	243.206	243.244	245.970
.18935E+10	236.657	236.615	236.613	236.610	236.644	239.089
.22090E+10	230.729	230.691	230.690	230.687	230.717	232.931
.25246E+10	225.092	225.058	225.057	225.054	225.081	227.106
.28402E+10	220.508	220.477	220.476	220.474	220.499	222.371
.31558E+10	216.301	216.273	216.272	216.270	216.292	218.024
.63115E+10	195.872	195.855	195.855	195.854	195.867	196.941
.94673E+10	186.057	186.044	186.044	186.043	186.053	186.893
.12623E+11	180.541	180.531	180.531	180.530	180.538	181.239
.15779E+11	176.901	176.892	176.892	176.891	176.898	177.507
.18935E+11	173.427	173.420	173.419	173.419	173.425	173.962
.22090E+11	170.019	170.013	170.012	170.012	170.018	170.500
.25246E+11	166.598	166.592	166.592	166.592	166.597	167.033
.28402E+11	163.469	163.463	163.463	163.463	163.467	163.867
.31558E+11	160.703	160.698	160.698	160.698	160.702	161.071

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.190
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	628 TEMP c08i000	630 TEMP h08o000	624 TEMP s08o000	688 TEMP a08o000	698 TEMP t18i000	782 TEMP a18i000
.10000E-05	248.836	244.406	233.242	233.105	233.099	233.077
.20000E-05	263.040	258.737	247.985	247.849	247.843	247.821
31.558	263.040	258.737	247.985	247.849	247.843	247.821
.31558E+07	274.105	269.899	259.509	259.374	259.368	259.346
.63116E+07	276.741	272.570	262.298	262.164	262.158	262.136
.94673E+07	278.265	274.121	263.927	263.794	263.788	263.765
.12623E+08	279.301	275.182	265.062	264.930	264.923	264.901
.15779E+08	280.076	275.980	265.924	265.792	265.786	265.764
.18935E+08	280.693	276.617	266.617	266.485	266.479	266.457
.22090E+08	281.210	277.153	267.204	267.073	267.067	267.045
.25246E+08	281.569	277.531	267.632	267.502	267.495	267.474
.28402E+08	281.864	277.843	267.992	267.862	267.856	267.834
.31558E+08	282.120	278.117	268.311	268.182	268.176	268.154
.63115E+08	283.280	279.422	269.990	269.866	269.860	269.839
.94673E+08	283.307	279.568	270.436	270.315	270.310	270.289
.12623E+09	283.105	279.469	270.596	270.479	270.473	270.454
.15779E+09	282.963	279.417	270.768	270.654	270.648	270.629
.18935E+09	282.381	278.925	270.498	270.386	270.381	270.362
.22090E+09	281.810	278.431	270.195	270.086	270.081	270.063
.25246E+09	281.276	277.970	269.911	269.805	269.800	269.782
.28402E+09	280.232	276.992	269.091	268.987	268.982	268.965
.31558E+09	279.412	276.227	268.460	268.358	268.353	268.336
.63115E+09	270.053	267.383	260.851	260.767	260.763	260.749

.94673E+09	262.475	260.199	254.615	254.544	254.540	254.529
.12623E+10	254.216	252.237	247.364	247.303	247.300	247.291
.15779E+10	246.240	244.507	240.230	240.177	240.175	240.166
.18935E+10	239.341	237.805	233.999	233.953	233.951	233.944
.22090E+10	233.167	231.790	228.370	228.329	228.327	228.321
.25246E+10	227.328	226.082	222.976	222.939	222.937	222.932
.28402E+10	222.582	221.438	218.582	218.549	218.547	218.542
.31558E+10	218.223	217.174	214.545	214.514	214.513	214.508
.63115E+10	197.077	196.449	194.858	194.840	194.839	194.837
.94673E+10	187.003	186.519	185.289	185.275	185.275	185.273
.12623E+11	181.333	180.933	179.911	179.900	179.900	179.898
.15779E+11	177.589	177.244	176.360	176.350	176.350	176.349
.18935E+11	174.035	173.732	172.956	172.948	172.947	172.946
.22090E+11	170.567	170.296	169.601	169.593	169.593	169.592
.25246E+11	167.095	166.851	166.224	166.217	166.217	166.216
.28402E+11	163.924	163.702	163.130	163.124	163.124	163.123
.31558E+11	161.124	160.920	160.393	160.388	160.388	160.387

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.210
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	736 TEMP s181000	739 TEMP h181000	741 TEMP c181000	743 TEMP h180000	737 TEMP s180000	801 TEMP a180000
.10000E-05	233.164	239.147	238.603	232.603	219.337	219.181
.20000E-05	247.906	253.509	252.873	247.007	234.201	234.047
31.558	247.906	253.509	252.873	247.007	234.201	234.047
.31558E+07	259.428	264.694	263.980	258.247	245.831	245.678
.63116E+07	262.217	267.383	266.649	260.961	248.680	248.528
.94673E+07	263.846	268.956	268.216	262.563	250.375	250.224
.12623E+08	264.982	270.038	269.293	263.673	251.573	251.423
.15779E+08	265.844	270.858	270.110	264.521	252.499	252.348
.18935E+08	266.537	271.515	270.766	265.204	253.249	253.100
.22090E+08	267.125	272.073	271.325	265.789	253.897	253.748
.25246E+08	267.552	272.470	271.721	266.210	254.378	254.230
.28402E+08	267.913	272.802	272.053	266.566	254.793	254.645
.31558E+08	268.232	273.095	272.347	266.884	255.166	255.019
.63115E+08	269.914	274.570	273.837	268.574	257.313	257.171
.94673E+08	270.362	274.863	274.149	269.050	258.158	258.020
.12623E+09	270.524	274.894	274.198	269.243	258.668	258.534
.15779E+09	270.698	274.954	274.273	269.443	259.143	259.012
.18935E+09	270.429	274.578	273.915	269.209	259.181	259.054
.22090E+09	270.128	274.184	273.537	268.939	259.145	259.021
.25246E+09	269.846	273.815	273.184	268.687	259.110	258.989
.28402E+09	269.027	272.925	272.310	267.905	258.522	258.404
.31558E+09	268.397	272.234	271.633	267.304	258.085	257.969
.63115E+09	260.800	264.074	263.602	259.990	252.280	252.184
.94673E+09	254.572	257.406	257.028	253.960	247.400	247.319
.12623E+10	247.328	249.836	249.530	246.871	241.177	241.108
.15779E+10	240.199	242.429	242.181	239.862	234.880	234.821
.18935E+10	233.973	235.979	235.775	233.724	229.303	229.251
.22090E+10	228.347	230.168	229.997	228.164	224.200	224.154
.25246E+10	222.955	224.626	224.482	222.826	219.233	219.192
.28402E+10	218.564	220.112	219.989	218.472	215.174	215.136
.31558E+10	214.528	215.964	215.858	214.467	211.437	211.402
.63115E+10	194.849	195.747	195.705	194.879	193.059	193.039
.94673E+10	185.282	185.987	185.961	185.328	183.924	183.909
.12623E+11	179.906	180.496	180.478	179.955	178.792	178.779
.15779E+11	176.355	176.869	176.855	176.404	175.398	175.388
.18935E+11	172.952	173.405	173.395	173.000	172.118	172.108
.22090E+11	169.597	170.006	169.998	169.645	168.855	168.847
.25246E+11	166.221	166.591	166.586	166.269	165.557	165.550

.28402E+11	163.127	163.467	163.463	163.174	162.526	162.519
.31558E+11	160.391	160.705	160.702	160.437	159.841	159.835

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.220
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	811 TEMP t24i000	351 TEMP a24i000	127 TEMP s24i000	130 TEMP h24i000	132 TEMP c24i000	134 TEMP h24o000
.10000E-05	219.173	219.126	219.185	222.161	218.010	206.613
.20000E-05	234.039	233.992	234.049	236.739	232.644	221.672
31.558	234.039	233.992	234.049	236.739	232.644	221.672
.31558E+07	245.669	245.623	245.677	248.134	244.082	233.447
.63116E+07	248.520	248.473	248.527	250.914	246.880	236.354
.94673E+07	250.215	250.169	250.222	252.576	248.566	238.120
.12623E+08	251.414	251.368	251.421	253.740	249.750	239.380
.15779E+08	252.340	252.294	252.347	254.641	250.673	240.369
.18935E+08	253.091	253.046	253.098	255.370	251.421	241.176
.22090E+08	253.739	253.694	253.746	256.003	252.074	241.884
.25246E+08	254.221	254.176	254.228	256.465	252.552	242.415
.28402E+08	254.637	254.592	254.643	256.864	252.968	242.882
.31558E+08	255.011	254.966	255.017	257.223	253.344	243.307
.63115E+08	257.163	257.120	257.169	259.263	255.526	245.891
.94673E+08	258.012	257.970	258.018	260.033	256.414	247.103
.12623E+09	258.527	258.486	258.532	260.482	256.966	247.935
.15779E+09	259.005	258.965	259.010	260.903	257.477	248.688
.18935E+09	259.047	259.008	259.052	260.893	257.557	249.007
.22090E+09	259.014	258.976	259.019	260.817	257.559	249.213
.25246E+09	258.982	258.945	258.987	260.744	257.560	249.405
.28402E+09	258.397	258.361	258.402	260.128	257.011	249.025
.31558E+09	257.962	257.927	257.967	259.667	256.606	248.762
.63115E+09	252.178	252.149	252.183	253.644	251.105	244.571
.94673E+09	247.315	247.290	247.319	248.588	246.444	240.907
.12623E+10	241.104	241.083	241.108	242.240	240.396	235.600
.15779E+10	234.818	234.800	234.821	235.839	234.240	230.049
.18935E+10	229.248	229.233	229.252	230.177	228.769	225.054
.22090E+10	224.151	224.137	224.155	225.002	223.750	220.422
.25246E+10	219.190	219.177	219.193	219.978	218.851	215.838
.28402E+10	215.134	215.123	215.137	215.870	214.843	212.078
.31558E+10	211.400	211.390	211.403	212.088	211.150	208.611
.63115E+10	193.038	193.032	193.040	193.482	192.934	191.415
.94673E+10	183.908	183.904	183.910	184.261	183.844	182.673
.12623E+11	178.779	178.775	178.780	179.076	178.733	177.763
.15779E+11	175.387	175.384	175.388	175.647	175.352	174.514
.18935E+11	172.108	172.105	172.109	172.339	172.082	171.346
.22090E+11	168.846	168.844	168.847	169.056	168.827	168.169
.25246E+11	165.550	165.547	165.551	165.741	165.536	164.944
.28402E+11	162.519	162.517	162.520	162.695	162.510	161.970
.31558E+11	159.834	159.833	159.835	159.998	159.828	159.332

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.230
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	128 TEMP	361 TEMP	4271 TEMP	4269 TEMP	5135 TEMP	4872 TEMP
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	s24o000	t24o000	g24i000	g24o000	m24i000	m24o000
.10000E-05	183.579	183.250	167.424	167.153	154.504	152.994
.20000E-05	199.706	199.386	184.608	184.343	172.374	170.885
31.558	199.706	199.386	184.608	184.343	172.374	170.885
.31558E+07	212.354	212.042	198.076	197.816	186.396	184.933
.63116E+07	215.528	215.219	201.482	201.225	189.963	188.511
.94673E+07	217.479	217.173	203.596	203.340	192.196	190.754
.12623E+08	218.911	218.606	205.169	204.915	193.874	192.440
.15779E+08	220.048	219.745	206.428	206.175	195.225	193.800
.18935E+08	220.986	220.685	207.472	207.221	196.350	194.932
.22090E+08	221.813	221.514	208.396	208.146	197.349	195.938
.25246E+08	222.459	222.161	209.130	208.881	198.152	196.748
.28402E+08	223.034	222.738	209.791	209.543	198.879	197.481
.31558E+08	223.564	223.269	210.401	210.154	199.551	198.161
.63115E+08	226.994	226.711	214.467	214.230	204.126	202.790
.94673E+08	228.877	228.603	216.838	216.609	206.894	205.604
.12623E+09	230.282	230.017	218.656	218.434	209.050	207.799
.15779E+09	231.528	231.270	220.256	220.040	210.939	209.721
.18935E+09	232.332	232.081	221.399	221.189	212.362	211.179
.22090E+09	232.952	232.708	222.308	222.103	213.511	212.357
.25246E+09	233.529	233.290	223.152	222.952	214.577	213.450
.28402E+09	233.488	233.254	223.339	223.143	214.955	213.854
.31558E+09	233.511	233.282	223.554	223.362	215.332	214.251
.63115E+09	231.920	231.731	223.683	223.525	216.912	216.022
.94673E+09	230.211	230.052	223.258	223.125	217.564	216.817
.12623E+10	226.340	226.203	220.311	220.196	215.397	214.755
.15779E+10	221.957	221.838	216.674	216.575	212.391	211.835
.18935E+10	217.879	217.774	213.182	213.094	209.390	208.901
.22090E+10	213.990	213.896	209.769	209.691	206.375	205.940
.25246E+10	210.009	209.925	206.172	206.102	203.099	202.709
.28402E+10	206.727	206.650	203.196	203.132	200.378	200.022
.31558E+10	203.695	203.624	200.443	200.385	197.856	197.531
.63115E+10	188.466	188.424	186.489	186.455	184.941	184.752
.94673E+10	180.394	180.362	178.854	178.828	177.657	177.512
.12623E+11	175.873	175.847	174.590	174.569	173.598	173.480
.15779E+11	172.880	172.858	171.768	171.749	170.910	170.808
.18935E+11	169.912	169.892	168.931	168.915	168.178	168.089
.22090E+11	166.885	166.867	166.003	165.989	165.329	165.250
.25246E+11	163.787	163.771	162.990	162.977	162.381	162.311
.28402E+11	160.915	160.901	160.185	160.174	159.630	159.566
.31558E+11	158.361	158.347	157.687	157.676	157.176	157.118

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:37 APR 01, 1995 CP= 81671.250
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5728 TEMP	5727 TEMP	6241 TEMP
	i24i000	i24o000	o24o000
.10000E-05	30.6602	28.9374	26.1379
.20000E-05	73.5976	71.8779	69.1381
31.558	73.5977	71.8779	69.1381
.31558E+07	101.603	99.9014	97.1270
.63116E+07	108.357	106.671	103.902
.94673E+07	112.727	111.055	108.300
.12623E+08	116.081	114.421	111.677
.15779E+08	118.809	117.160	114.427
.18935E+08	121.131	119.493	116.772
.22090E+08	123.148	121.521	118.812
.25246E+08	124.880	123.264	120.565
.28402E+08	126.447	124.841	122.152
.31558E+08	127.901	126.304	123.625
.63115E+08	138.254	136.735	134.148

.94673E+08	145.038	143.581	141.075
.12623E+09	150.388	148.983	146.549
.15779E+09	154.921	153.561	151.187
.18935E+09	158.735	157.418	155.106
.22090E+09	161.855	160.574	158.315
.25246E+09	164.707	163.460	161.252
.28402E+09	166.502	165.285	163.125
.31558E+09	168.066	166.874	164.755
.63115E+09	179.441	178.472	176.720
.94673E+09	186.858	186.049	184.576
.12623E+10	189.131	188.441	187.180
.15779E+10	189.548	188.953	187.865
.18935E+10	189.164	188.642	187.689
.22090E+10	188.228	187.765	186.920
.25246E+10	186.593	186.178	185.421
.28402E+10	185.173	184.795	184.107
.31558E+10	183.840	183.496	182.869
.63115E+10	176.353	176.154	175.794
.94673E+10	170.894	170.743	170.471
.12623E+11	167.934	167.809	167.586
.15779E+11	165.978	165.871	165.679
.18935E+11	163.813	163.719	163.553
.22090E+11	161.384	161.301	161.153
.25246E+11	158.793	158.718	158.586
.28402E+11	156.326	156.258	156.139
.31558E+11	154.109	154.047	153.938

***** ROUTINE COMPLETED ***** CP = 81671.250

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40x1.db
FOR POSSIBLE RESUME FROM THIS POINT

```
NUMBER OF WARNING MESSAGES ENCOUNTERED= 20
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0
```

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*-----*
                ANSYS RUN COMPLETED
*-----*

                REV. 5.0 A                                HP 9000/7XX

CP TIME      (sec) =      81677.710                TIME = 17:24:44
ELAPSED TIME (sec) =      83681.000                DATE  = 04/01/95

```

WELCOME TO THE ANSYS PROGRAM

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

JOB NAME = ma40b1
 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 03/07/1995
3 /COM, 2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ma40b1.inp
7 /COM, * 40 BWR MPC 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 (check for Changes)
13 /COM, * GE-7 8x8 SNF Assembly
14 /COM, *
15 /COM, * SNF Heat Loads file: bwr1049.dat
16 /COM, * SNF Type: 10 years old, 49 Gwd/MTU
17 /COM, *
18 /COM, * Surface Temp. file: c21b5a.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 = 19.477 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Define Transient time parameters
33 /COM, TM_START = start time (sec)
34 /COM, TMI* = time increment for solution (sec)
35 /COM, TME* = start and stop for time do-loops (sec)
36 /COM, Note: 1 year = 3.15576e7 seconds
37 /COM, TMTMAX = time of maximum cladding temperature
38 TM_START=(1.0E-6)*(3.15576E7)
39 TMI0=0.1*3.15576E7
40 TMI1=1.0*3.15576E7
41 TMI10=10.0*3.15576E7
42 TMI100=100.0*3.15576E7
43 TMI1000=1000.0*3.15576E7
44 TME0=0.9*3.15576E7+TM_START
45 TME1=TMI1+TM_START
46 TME9=9.0*3.15576E7+TM_START
47 TME10=TMI10+TM_START
48 TME50=50.0*3.15576E7+TM_START
49 TME90=90.0*3.15576E7+TM_START
50 TME100=TMI100+TM_START
51 TME1000=TMI1000+TM_START
52 /COM,
53 /COM, *****
54 /COM, Read in average effective conductivities from SNF model
55 PARRES,CHANGE,pwr15e,param,
56 /COM, Read in surface temps. from repository model
57 PARRES,CHANGE,c21b5a,param,
58 /COM, *****
59 /COM, Define MPC/waste package parameters
60 /COM, (MPC dimensions converted from inches to meters)
61 /COM, Required Constants:
62 /COM,
63 PI=3.141592654
64 /COM,
65 /COM, Required container wall parameters:
66 /COM, MIRAD = inner radius of MPC shell (m)
67 /COM, MWALL = MPC shell thickness (m)
68 /COM, DCRAD = disposal container outer radius (m)
69 /COM, OWALL = outer barrier thickness (m)
70 /COM, IWALL = inner barrier thickness (m)
71 MIRAD=58.300*2.54/100.0/2.0
72 MWALL=1.0000*2.54/100.0
73 DCRAD=1.8016/2.0
74 OWALL=0.1000
75 IWALL=0.0200
76 /COM,
77 /COM, Required outer guide hardware parameters:
78 /COM, Set 1: TPGPL = top/bottom guide plate length (m)
79 /COM, TPGPT = top/bottom guide plate thickness (m)
80 TPGPL=6.3240*2.54/100.0
81 TPGPT=0.2500*2.54/100.0
82 /COM,
83 /COM, Set 2: SGCCW = Width; corner guide to far corner side guide (m)
84 /COM, SGCMW = Width; Side guide corner to Middle side guide (m)
85 /COM, SGCD1 = Vert. Dist. Down to Corner of Guide (m)
86 SGCCW=21.132*2.54/100.0
87 SGCMW=6.7810*2.54/100.0
88 SGCD1=6.9790*2.54/100.0

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89 /COM,
90 /COM,      SET 3:      GCORV = corner guide Vertical width (m)
91 /COM,      GCORH = corner guide Horizontal width (m)
92 /COM,      GX32 = X coord. of upper contact from drawing. (m)
93 /COM,      GY32 = Y coord. of upper contact from drawing. (m)
94 GCORV=7.7600*2.54/100.0
95 GCORH=6.7160*2.54/100.0
96 GX32=18.66137525*2.54/100.0
97 GY32=22.39365030*2.54/100.0
98 /COM,
99 /COM,      SET 4:      GLEN1 = side guide Low width (m)
100 /COM,      GLEN2 = side guide High width (m)
101 /COM,      GLENT = side guide total width (m)
102 /COM,      GWALL = guide thickness (m)
103 GLEN1=6.7290*2.54/100.0
104 GLEN2=13.937*2.54/100.0
105 GLENT=28.866*2.54/100.0
106 GWALL=0.3750*2.54/100.0
107 /COM,
108 /COM,      Required Tube/Fuel parameters:
109 /COM,      HCELL = 1/2 of basket cell opening (m)
110 /COM,      SWALL = stainless tube thickness (m)
111 /COM,      AWALL = Al/boron tube thickness (m)
112 /COM,      TWALL = stainless tube cladding thickness (m)
113 /COM,      ACTVL = active fuel length
114 /COM,      PEAKF = assembly heat axial peaking factor
115 HCELL=6.0000*2.54/100.0/2.0
116 SWALL=0.2500*2.54/100.0
117 AWALL=0.2500*2.54/100.0
118 TWALL=0.0940*2.54/100.0
119 ACTVL=150.00*2.54/100.0
120 PEAKF=1.40
121 /COM,
122 /COM,      *****
123 /COM,      Define calculated parameters
124 /COM,      ASSY = assembly heat production (W) f(yrs)
125 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
126 /COM,      FVOLUME = assy_volume=cell_width^2*active_length
127 /COM,      PITCH = basket cell outer width (m)
128 /COM,      QCELL = 1/4 of basket cell opening (m)
129 /COM,      SCELL = 1/2 of basket cell opening+SS wall(m)
130 /COM,      ACELL = 1/2 of basket cell opening+SS+AL (m)
131 /COM,      ATWCL = Dist. to edge of B-AL plate (m)
132 /COM,      STWCL = Dist. to edge of Steel Bask. Plate (m)
133 /COM,      TQPCL = Top quarter of cell dist. (m)
134 *SET,ASSY,
135 *DIM,ASSY, TABLE,101,1,
136 *DIM,FUEL, TABLE,101,1
137 FVOLUME=4*HCELL*HCELL*ACTVL
138 PITCH=(HCELL+SWALL+AWALL+TWALL)*2.0
139 QCELL=HCELL/2.0
140 SCELL=HCELL+SWALL
141 ACELL=HCELL+SWALL+AWALL
142 ATWCL=TWALL+AWALL
143 STWCL=TWALL+AWALL+SWALL
144 TQPCL=STWCL+QCELL
145 /COM,
146 /COM,      *****
147 /COM,      Determine the required contact points for the outer guide hardware
148 /COM,      GX## = x coord. of guide/shell contact
149 /COM,      GY## = y coord. of guide/shell contact
150 /COM,      Set 1:
151 GX11=TPGPL/2.0
152 GY11=SQRT(MIRAD*MIRAD - GX11*GX11)
153 /COM,
154 /COM,      Set 3:
155 GX31=GX32+GCORH-GWALL
156 GY31=GY32-GCORV+GWALL
157 /COM,
158 /COM,      Set 2:

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159 GX24=GX31-SGCCW
160 GY24=SQRT(MIRAD*MIRAD-GX24*GX24)
161 GX23=GX24+GWALL
162 GY23=SQRT(MIRAD*MIRAD-GX23*GX23)
163 GX22=GX24+SGCMW
164 GY22=SQRT(MIRAD*MIRAD-GX22*GX22)
165 GX21=GX22+GWALL
166 GY21=SQRT(MIRAD*MIRAD-GX21*GX21)
167 /COM,
168 /COM,      Set 4:
169 GY41=GWALL/2.0
170 GX41=SQRT(MIRAD*MIRAD - GY41*GY41)
171 GY44=GY41+GLEN2
172 GX44=SQRT(MIRAD*MIRAD - GY44*GY44)
173 GY43=GY44-GLEN1
174 GX43=SQRT(MIRAD*MIRAD - GY43*GY43)
175 GY42=GY43-GWALL
176 GX42=SQRT(MIRAD*MIRAD - GY42*GY42)
177 /COM,
178 /COM,      Define 45 degree point of reference:
179 /COM,      MI45 = x coord. MIRAD at 45 deg.
180 /COM,      MO45 = x coord. MIRAD+MWALL at 45 deg.
181 /COM,      DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
182 /COM,      DM45 = x coord. DCRAD-OWALL at 45 deg.
183 /COM,      DO45 = x coord. DCRAD at 45 deg.
184 /COM,      OFFS = 45 degree Y off set to go through centers
185 MI45=MIRAD/SQRT(2.0)
186 MO45=(MIRAD+MWALL)/SQRT(2.0)
187 DI45=(DCRAD-OWALL-IWALL)/SQRT(2.0)
188 DM45=(DCRAD-OWALL)/SQRT(2.0)
189 DO45=DCRAD/SQRT(2.0)
190 OFFS=0.5*PITCH
191 /COM,
192 /COM,      *****
193 /COM,      Define different element types
194 /PREP7
195 ETYPE
196 ET, 1,55,
197 ET, 2,70,
198 ET, 7,32,
199 ET, 16,57,
200 ET, 17,32,
201 ET, 18,50,1,
202 ET, 19,31,
203 ET, 27,32,
204 /COM,      *****
205 /COM,      File props01.dat describes material properties
206 /COM,      and thier reference numbers
207 MPREAD,props01,dat,
208 /COM,      Read in single assembly heat loads
209 /COM,      Calculate the volumetric heat generation
210 /COM,      (Assembly time is in years, FUEL is in seconds)
211 /INPUT,bwr1049,dat
212 *VFACT,3.15576E7,
213 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
214 *VFACT,(PEAKF/FVOLUME),
215 *VFUN,FUEL(1),COPY,ASSY(1),
216 FUEL(0,1)=1.0
217 /COM,      *****
218 /COM,      Define new material 14 for SNF effective conductivity
219 /COM,      Density:      DENS      (kg/m^3)
220 /COM,      Conductivity: KXX      (W/m/K)
221 /COM,      Specific Heat: C      (J/kg/K)
222 MPTEMP
223 MPTEMP, 1, .00000E+00,
224 MPDATA,DENS,14, 1, .388242E+04,
225 MPDATA, C,14, 1, .28401E+03,
226 /COM,      Store average effective conductivities
227 IINC=1
228 TBSKT=25.0

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229 MPTEMP
230 MPTEMP,IINC,TBSKT,
231 IINC=IINC+1
232 *DO,TBSKT,50.0,400.0,50.0,
233     MPTEMP,IINC,TBSKT,
234     IINC=IINC+1
235 *ENDDO
236 IINC=1
237 TBSKT=25.0
238 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
239 IINC=IINC+1
240 *DO,TBSKT,50.0,400.0,50.0,
241     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
242     IINC=IINC+1
243 *ENDDO
244 /COM, *****
245 /COM, Construct geometry for Disposal Container
246 /COM,
247 /COM, Define center and axis keypoints for waste package
248 /COM, Also, create placeholder keypoints and lines
249 /COM, (K's 1,2,3,4,5,6,7,8)
250 /COM, (L's 1,2,3,4)
251 K,1,0.0,0.0,0.0,
252 K,2,0.0,0.0,1.0,
253 K,3,0.0,0.0,1.3,
254 K,4,0.0,0.0,1.4,
255 K,5,0.0,0.0,1.5,
256 K,6,0.0,0.0,1.6,
257 K,7,0.0,0.0,1.7,
258 K,8,0.0,0.0,1.8,
259 L,3,4,
260 L,4,5,
261 L,5,6,
262 L,6,7,
263 /COM, Define disposal container and MPC outer radius
264 /COM, (K's 9,10,11,12,13,14,15,16,17,18,19,20)
265 /COM, (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
266 /COM, (A's 1,2,3,4,5)
267 K,9,0.0,(0.0-DCRAD),0.0,
268 K,10,DCRAD,0.0,0.0,
269 K,11,0.0,DCRAD,0.0,
270 K,12,0.0,(OWALL-DCRAD),0.0,
271 K,13,(DCRAD-OWALL),0.0,0.0,
272 K,14,0.0,(DCRAD-OWALL),0.0,
273 K,15,0.0,(OWALL+IWALL-DCRAD),0.0,
274 K,16,(DCRAD-OWALL-IWALL),0.0,0.0,
275 K,17,0.0,(DCRAD-OWALL-IWALL),0.0,
276 K,18,0.0,(0.0-MIRAD-MWALL),0.0,
277 K,19,(MIRAD+MWALL),0.0,0.0,
278 K,20,0.0,(MIRAD+MWALL),0.0,
279 L,10,13,
280 L,13,16,
281 LARC,10,9,1,DCRAD,
282 LARC,11,10,1,DCRAD,
283 LARC,13,12,1,(DCRAD-OWALL),
284 LARC,14,13,1,(DCRAD-OWALL),
285 L,11,14,
286 L,9,12,
287 LARC,15,16,1,(DCRAD-OWALL-IWALL),
288 LARC,16,17,1,(DCRAD-OWALL-IWALL),
289 L,14,17,
290 L,12,15,
291 LARC,19,18,1,(MIRAD+MWALL),
292 LARC,20,19,1,(MIRAD+MWALL),
293 L,17,20,
294 L,15,18,
295 AL,5,7,12,9,
296 AL,11,8,5,10,
297 AL,6,9,16,13,
298 AL,15,10,6,14,

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299 AL,19,14,13,20,17,18,
300 /COM, *****
301 /COM, Define MPC shell inner edge and area
302 /COM, (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
303 /COM, ( 38, 39, 40, 41, 42, 43, 44)
304 /COM, (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
305 /COM, ( 38,39, 40, 41, 42, 43, 44, 45)
306 /COM, (A's 6)
307 K,21, 0.0, MIRAD,0.0,
308 K,22, GX11, GY11,0.0,
309 K,23, GX24, GY24,0.0,
310 K,24, GX23, GY23,0.0,
311 K,25, GX22, GY22,0.0,
312 K,26, GX21, GY21,0.0,
313 K,27, GX32, GY32,0.0,
314 K,28, GX31, GY31,0.0,
315 K,29, GX44, GY44,0.0,
316 K,30, GX43, GY43,0.0,
317 K,31, GX42, GY42,0.0,
318 K,32, GX41, GY41,0.0,
319 K,33, GX41, (0.0-GY41),0.0,
320 K,34, GX42, (0.0-GY42),0.0,
321 K,35, GX43, (0.0-GY43),0.0,
322 K,36, GX44, (0.0-GY44),0.0,
323 K,37, GX31, (0.0-GY31),0.0,
324 K,38, GX32, (0.0-GY32),0.0,
325 K,39, GX21, (0.0-GY21),0.0,
326 K,40, GX22, (0.0-GY22),0.0,
327 K,41, GX23, (0.0-GY23),0.0,
328 K,42, GX24, (0.0-GY24),0.0,
329 K,43, GX11, (0.0-GY11),0.0,
330 K,44, 0.0,(0.0-MIRAD),0.0,
331 L,20,21,
332 LARC,22,21,1,MIRAD,
333 LARC,23,22,1,MIRAD,
334 LARC,24,23,1,MIRAD,
335 LARC,25,24,1,MIRAD,
336 LARC,26,25,1,MIRAD,
337 LARC,27,26,1,MIRAD,
338 LARC,28,27,1,MIRAD,
339 LARC,29,28,1,MIRAD,
340 LARC,30,29,1,MIRAD,
341 LARC,31,30,1,MIRAD,
342 LARC,32,31,1,MIRAD,
343 LARC,33,32,1,MIRAD,
344 LARC,34,33,1,MIRAD,
345 LARC,35,34,1,MIRAD,
346 LARC,36,35,1,MIRAD,
347 LARC,37,36,1,MIRAD,
348 LARC,38,37,1,MIRAD,
349 LARC,39,38,1,MIRAD,
350 LARC,40,39,1,MIRAD,
351 LARC,41,40,1,MIRAD,
352 LARC,42,41,1,MIRAD,
353 LARC,43,42,1,MIRAD,
354 LARC,44,43,1,MIRAD,
355 L,18,44,
356 LSEL,S,LINE,,21,45,
357 LSEL,A,LINE,,17,18,
358 AL,ALL,
359 LSEL,ALL,
360 /COM, *****
361 /COM, Define tube guides
362 /COM, (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
363 /COM, ( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
364 /COM, ( 79,80,81,82)
365 /COM, (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
366 /COM, ( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
367 /COM, ( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
368 /COM, ( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)

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369 /COM,      ( 111,112,113,114,115)
370 /COM,      (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
371 /COM,      ( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)
372 /COM,
373 /COM,      Set 1: top plate
374 K,45,      GX11,      (GY11-GWALL),0.0,
375 K,46,      0.0,      GY11,0.0,
376 K,47,      0.0,      (GY11-GWALL),0.0,
377 /COM,
378 /COM,      Set 2: top side guide
379 K,48,      GX24,      (GY24-SGCD1),0.0,
380 K,49,      GX23,(GY24-SGCD1+GWALL),0.0,
381 K,50,      GX22,(GY24-SGCD1+GWALL),0.0,
382 K,51,      GX21,(GY24-SGCD1+GWALL),0.0,
383 K,52,(GX32-GWALL),(GY24-SGCD1+GWALL),0.0,
384 K,53,(GX32-GWALL),      (GY24-SGCD1),0.0,
385 K,54,      GX32,(GY24-SGCD1+GWALL),0.0,
386 K,55,      GX32,      (GY24-SGCD1),0.0,
387 /COM,
388 /COM,      Set 3: top corner
389 K,56,(GX32-GWALL),      GY32,0.0,
390 K,57,(GX32-GWALL),      (GY32-GCORV),0.0,
391 K,58,      GX32,(GY32-GCORV+GWALL),0.0,
392 K,59,      GX31,      (GY31-GWALL),0.0,
393 /COM,
394 /COM,      Set 4: side guide
395 K,60,(GX44-GWALL),      GY44,0.0,
396 K,61,(GX44-GWALL),      (0.0-GY44),0.0,
397 K,62,      GX44,      GY43,0.0,
398 K,63,      GX44,      GY42,0.0,
399 K,64,      GX44,      GY41,0.0,
400 K,65,      GX44,      (0.0-GY41),0.0,
401 K,66,      GX44,      (0.0-GY42),0.0,
402 K,67,      GX44,      (0.0-GY43),0.0,
403 /COM,
404 /COM,      Set 3: bottom corner
405 K,68,(GX32-GWALL),      (0.0-GY32),0.0,
406 K,69,(GX32-GWALL),      (0.0-GY32+GCORV),0.0,
407 K,70,      GX32,(0.0-GY32+GCORV-GWALL),0.0,
408 K,71,      GX31,      (0.0-GY31+GWALL),0.0,
409 /COM,
410 /COM,      Set 2: bottom side guide
411 K,72,      GX24,      (0.0-GY24+SGCD1),0.0,
412 K,73,      GX23,(0.0-GY24+SGCD1-GWALL),0.0,
413 K,74,      GX22,(0.0-GY24+SGCD1-GWALL),0.0,
414 K,75,      GX21,(0.0-GY24+SGCD1-GWALL),0.0,
415 K,76,(GX32-GWALL),(0.0-GY24+SGCD1-GWALL),0.0,
416 K,77,(GX32-GWALL),      (0.0-GY24+SGCD1),0.0,
417 K,78,      GX32,(0.0-GY24+SGCD1-GWALL),0.0,
418 K,79,      GX32,      (0.0-GY24+SGCD1),0.0,
419 /COM,
420 /COM,      Set 1: bottom plate
421 K,80,      GX11,      (0.0-GY11+GWALL),0.0,
422 K,81,      0.0,      (0.0-GY11),0.0,
423 K,82,      0.0,      (0.0-GY11+GWALL),0.0,
424 /COM,
425 /COM,      Now Fill in the required lines:
426 /COM,      Set 1: bottom plate
427 L,21,46,
428 L,46,47,
429 L,46,22,
430 L,22,45,
431 L,45,47,
432 /COM,
433 /COM,      Set 2: top side guide
434 L,48,23,
435 L,48,49,
436 L,24,49,
437 L,49,50,
438 L,53,48,

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439 L,50,25,
440 L,26,51,
441 L,50,51,
442 L,51,52,
443 L,52,53,
444 /COM,
445 /COM,
446 L,56,27,
447 L,52,56,
448 L,27,54,
449 L,54,55,
450 L,52,54,
451 L,53,55,
452 L,55,58,
453 L,57,53,
454 L,57,58,
455 L,58,28,
456 L,59,57,
457 L,28,59,
458 /COM,
459 /COM,
460 L,60,29,
461 L,61,60,
462 L,29,62,
463 L,62,63,
464 L,62,30,
465 L,31,63,
466 L,63,64,
467 L,64,65,
468 L,64,32,
469 L,33,65,
470 L,65,66,
471 L,66,67,
472 L,66,34,
473 L,35,67,
474 L,67,36,
475 L,36,61,
476 /COM,
477 /COM,
478 L,37,71,
479 L,69,71,
480 L,69,70,
481 L,37,70,
482 L,70,79,
483 L,79,78,
484 L,78,38,
485 L,38,68,
486 L,68,76,
487 L,76,77,
488 L,77,69,
489 L,76,78,
490 L,77,79,
491 /COM,
492 /COM,
493 L,72,77,
494 L,72,73,
495 L,76,75,
496 L,75,74,
497 L,74,73,
498 L,73,41,
499 L,42,72,
500 L,40,74,
501 L,75,39,
502 /COM,
503 /COM,
504 L,80,43,
505 L,82,80,
506 L,82,81,
507 L,43,81,
508 L,81,44,

Set 3: top corner

Set 4: side guide

Set 3: bottom corner

Set 2: bottom side guide

Set 1: bottom plate

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509 /COM,          Radiation/Back Fill Gas Gaps:
510 /COM,          Set 1: TOP
511 AL,46,48,22,
512 /COM,          Set 2: TOP
513 AL,25,53,54,56,
514 AL,27,57,59,62,61,
515 /COM,          Set 3: TOP
516 AL,28,63,64,67,70,
517 /COM,          Set 4: SIDE
518 AL,30,75,77,
519 AL,32,78,79,81,
520 AL,34,82,83,85,
521 AL,36,86,87,
522 /COM,          Set 3: BOTTOM
523 AL,38,92,93,94,95,
524 /COM,          Set 2: BOTTOM
525 AL,39,96,97,104,110,
526 AL,41,109,106,107,
527 /COM,          Set 1: BOTTOM
528 AL,44,114,115,
529 /COM,          SOLID GUIDES:
530 /COM,          Set 1: TOP
531 AL,47,48,49,50,
532 /COM,          Set 2: TOP
533 AL,24,51,52,53,
534 AL,52,55,60,59,58,54,
535 AL,26,56,58,57,
536 /COM,          Set 3: TOP
537 AL,61,62,65,63,
538 AL,65,60,66,64,
539 AL,66,68,69,67,
540 AL,70,69,71,72,
541 /COM,          Set 4: SIDE
542 AL,73,74,88,87,84,83,80,79,76,75,
543 AL,31,77,76,78,
544 AL,33,81,80,82,
545 AL,35,85,84,86,
546 /COM,          Set 3: BOTTOM
547 AL,89,90,91,92,
548 AL,91,93,101,99,
549 AL,101,94,100,98,
550 AL,100,95,96,97,
551 /COM,          Set 2: BOTTOM
552 AL,102,98,104,105,106,103,
553 AL,40,110,105,109,
554 AL,42,107,103,108,
555 /COM,          Set 1: BOTTOM
556 AL,111,112,113,114,
557 /COM,          *****
558 /COM,          Define center edge half-tube
559 /COM,          (K's 83,84,85,86,87,88,89,90,91,92,93,94)
560 /COM,          (L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
561 /COM,          ( 129,130,131,132,133)
562 /COM,          (A's 39,40,41,42,43,44,45)
563 K,83,          0.0,          TWALL,0.0,
564 K,84,          0.0,          (AWALL+TWALL),0.0,
565 K,85,          0.0,          (AWALL+SWALL+TWALL),0.0,
566 K,86,          0.0, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
567 K,87,          0.0, (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
568 K,88,          0.0, (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
569 K,89,          (AWALL+SWALL+HCELL),          TWALL,0.0,
570 K,90,          (SWALL+HCELL),          (AWALL+TWALL),0.0,
571 K,91,          HCELL,          (SWALL+AWALL+TWALL),0.0,
572 K,92,          (AWALL+SWALL+HCELL), (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
573 K,93,          (SWALL+HCELL), (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
574 K,94,          HCELL, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
575 L,83,84,
576 L,84,85,
577 L,86,87,
578 L,87,88,

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579 L,89,83,
580 L,84,90,
581 L,85,91,
582 L,86,94,
583 L,87,93,
584 L,88,92,
585 L,90,89,
586 L,91,90,
587 L,94,93,
588 L,93,92,
589 L,85,86,
590 L,91,94,
591 L,90,93,
592 L,89,92,
593 AL,130,123,131,122,
594 AL,116,121,126,120,
595 AL,117,122,127,121,
596 AL,118,124,128,123,
597 AL,119,125,129,124,
598 AL,131,128,132,127,
599 AL,132,129,133,126,
600 /COM, *****
601 /COM, Define center full-tube
602 /COM, (K's 95,96,97,98,99,100,101,102,103,104,105,106)
603 /COM, (L's 134,135,136,137,138,139,140,141,142,143,144,145)
604 /COM, ( 146,147,148,149,150,151,152,153)
605 /COM, (A's 46,47,48,49,50,51,52,53,54)
606 K,95, (PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
607 K,96, (PITCH+HCELL+SWALL-AWALL), TWALL,0.0,
608 K,97, (PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
609 K,98, (PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
610 K,99, (PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
611 K,100, (PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
612 K,101, (PITCH-HCELL),((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
613 K,102, (PITCH+HCELL),((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
614 K,103, (PITCH-HCELL-SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
615 K,104, (PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
616 K,105,(PITCH-HCELL-SWALL-AWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
617 K,106,(PITCH+HCELL+SWALL+AWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
618 L,95,97,
619 L,97,99,
620 L,101,103,
621 L,103,105,
622 L,96,98,
623 L,98,100,
624 L,102,104,
625 L,104,106,
626 L,96,95,
627 L,97,98,
628 L,99,100,
629 L,101,102,
630 L,103,104,
631 L,105,106,
632 L,95,105,
633 L,97,103,
634 L,99,101,
635 L,100,102,
636 L,98,104,
637 L,106,96,
638 AL,144,151,145,150,
639 AL,142,138,143,134,
640 AL,143,139,144,135,
641 AL,145,140,146,136,
642 AL,146,141,147,137,
643 AL,148,134,149,137,
644 AL,149,135,150,136,
645 AL,151,139,152,140,
646 AL,152,138,153,141,
647 /COM, *****
648 /COM, Define edge half-tube

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649 /COM, (K's 107,108,109,110,111,112,113,114,115,116,117)
650 /COM, (L's 154,155,156,157,158,159,160,161,162,163,164,165)
651 /COM, ( 166,167,168,169)
652 /COM, (A's 55,56,57,58,59,60)
653 K,107, 0.0, (3.5*PITCH+HCELL),0.0,
654 K,108, HCELL, (3.5*PITCH+HCELL),0.0,
655 K,109, 0.0, (3.5*PITCH-HCELL),0.0,
656 K,110, HCELL, (3.5*PITCH-HCELL),0.0,
657 K,111, 0.0, (3.5*PITCH+HCELL+SWALL),0.0,
658 K,112, (HCELL+SWALL), (3.5*PITCH+HCELL+SWALL),0.0,
659 K,113, 0.0, (3.5*PITCH-HCELL-SWALL),0.0,
660 K,114, (HCELL+SWALL), (3.5*PITCH-HCELL-SWALL),0.0,
661 K,115, (HCELL+SWALL+AWALL), (3.5*PITCH+HCELL+SWALL),0.0,
662 K,116, 0.0, (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
663 K,117, (HCELL+SWALL+AWALL), (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
664 L,116,113,
665 L,113,109,
666 L,107,111,
667 L,114,117,
668 L,110,114,
669 L,112,115,
670 L,108,112,
671 L,116,117,
672 L,113,114,
673 L,109,110,
674 L,108,107,
675 L,111,112,
676 L,109,107,
677 L,110,108,
678 L,114,112,
679 L,115,117,
680 AL,166,163,167,164,
681 AL,161,157,162,154,
682 AL,162,158,163,155,
683 AL,164,160,165,156,
684 AL,167,158,168,160,
685 AL,168,157,169,159,
686 /COM, *****
687 /COM, Define edge full-tube
688 /COM, (K's 118,119,120,121,122,123,124,125,126,127,128,129)
689 /COM, (L's 170,171,172,173,174,175,176,177,178,179,180,181)
690 /COM, ( 182,183,184,185,186,187,188)
691 /COM, (A's 61,62,63,64,65,66,67,68)
692 K,118, (3.0*PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
693 K,119, (3.0*PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
694 K,120, (3.0*PITCH-HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
695 K,121, (3.0*PITCH+HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
696 K,122, (3.0*PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
697 K,123, (3.0*PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
698 K,124, (3.0*PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
699 K,125, (3.0*PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
700 K,126, (3.0*PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
701 K,127, (3.0*PITCH+HCELL+SWALL), TWALL,0.0,
702 K,128, (3.0*PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
703 K,129, (3.0*PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
704 L,122,126,
705 L,118,122,
706 L,120,124,
707 L,124,128,
708 L,123,127,
709 L,119,123,
710 L,121,125,
711 L,129,125,
712 L,127,126,
713 L,122,123,
714 L,118,119,
715 L,120,121,
716 L,124,125,
717 L,128,129,
718 L,126,128,

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719 L,122,124,
720 L,118,120,
721 L,119,121,
722 L,125,123,
723 AL,180,187,181,186,
724 AL,178,174,179,170,
725 AL,179,175,180,171,
726 AL,181,176,182,172,
727 AL,182,177,183,173,
728 AL,184,170,185,173,
729 AL,185,171,186,172,
730 AL,187,175,188,176,
731 NUMMRG,KP,
732 /COM, *****
733 /COM,      Set element shapes and sizes for tubes
734 /COM,      8x8 mesh in fuel with 2
735 /COM,      divisions per tube layer
736 ESHAPE,2,
737 ESIZE,,1,
738 LSEL,S,LINE,,130,133,1,
739 LSEL,A,LINE,,142,153,1,
740 LSEL,A,LINE,,166,169,1,
741 LSEL,A,LINE,,178,188,1,
742 LESIZE,ALL,,, 8,
743 LSEL,S,LINE,,120,125,1,
744 LSEL,A,LINE,,161,165,1,
745 LESIZE,ALL,,, 4,
746 LSEL,S,LINE,,116,119,1,
747 LSEL,A,LINE,,126,129,1,
748 LSEL,A,LINE,,134,141,1,
749 LSEL,A,LINE,,154,160,1,
750 LSEL,A,LINE,,170,177,1,
751 LESIZE,ALL,,, 2,
752 LSEL,ALL,
753 /COM,
754 /COM,      Mesh areas
755 /COM,      first fuel, then stainless, then aluminum
756 MAT,14,
757 TYPE,1,
758 AMESH,39,
759 AMESH,46,
760 AMESH,55,
761 AMESH,61,
762 MAT, 1,
763 TYPE,1,
764 AMESH,41,42,1,
765 AMESH,44,
766 AMESH,48,49,1,
767 AMESH,52,53,1,
768 AMESH,57,59,1,
769 AMESH,63,64,1,
770 AMESH,67,68,1,
771 MAT,13,
772 TYPE,1,
773 AMESH,40,43,3,
774 AMESH,45,
775 AMESH,47,50,3,
776 AMESH,51,54,3,
777 AMESH,56,60,4,
778 AMESH,62,65,3,
779 AMESH,66,
780 /COM, *****
781 /COM,      Copy tube mesh
782 /COM,
783 /COM,      center half tube above and below
784 /COM,      (A's 69-75,76-82)
785 AGEN,3,39,45,1,0.0,PITCH,0.0,0,0,
786 /COM,      (A's 83-89,90-96,97-103)
787 AGEN,4,39,45,1,0.0,(0.0-PITCH),0.0,0,0,
788 /COM,

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789 /COM,          center fuel tube above and below
790 /COM,          (A's 104-112,113-121)
791 AGEN,3,46,54,1,0.0,PITCH,0.0,0,0,
792 /COM,          (A's 122-130,131-139,140-148)
793 AGEN,4,46,54,1,0.0,(0.0-PITCH),0.0,0,0,
794 /COM,          (A's 149-157)
795 AGEN,2,46,54,1,PITCH,0.0,0.0,0,0,
796 /COM,          (A's 158-166,167-175)
797 AGEN,3,149,157,1,0.0,PITCH,0.0,0,0,
798 /COM,          (A's 176-184,185-193,194-202)
799 AGEN,4,149,157,1,0.0,(0.0-PITCH),0.0,0,0,
800 /COM,
801 /COM,          side edge fuel tube above and below
802 /COM,          (A's 203-210)
803 AGEN,2,61,68,1,0.0,PITCH,0.0,0,0,
804 /COM,          (A's 211-218,219-226)
805 AGEN,3,61,68,1,0.0,(0.0-PITCH),0.0,0,0,
806 /COM,
807 /COM,          edge half tube bottom (13)
808 /COM,          (A's 227-232)
809 ARSYM,Y,55,60,1,0,0,0,
810 /COM,          *****
811 /COM,          Define thin stainless layers
812 /COM,          (K's 380,381,382,383,384,385,286,387,388,389, through 397)
813 /COM,          (A's 233 - 301)
814 K,380,          (0.5*PITCH),          (3.5*PITCH+HCELL+SWALL),0.0,
815 K,381,          (0.5*PITCH),          (3.0*PITCH),0.0,
816 K,382,          (0.5*PITCH),          (3.0*PITCH+TWALL),0.0,
817 K,383,          (0.5*PITCH+TWALL),      (3.0*PITCH),0.0,
818 K,384,          (1.5*PITCH-TWALL),      (3.0*PITCH),0.0,
819 K,385,          (1.5*PITCH+TWALL),      (3.0*PITCH),0.0,
820 K,386,          (2.5*PITCH),          (3.0*PITCH),0.0,
821 K,387,          (2.5*PITCH),          (2.0*PITCH),0.0,
822 K,388,          (2.5*PITCH),          (2.0*PITCH+TWALL),0.0,
823 K,389,          (2.5*PITCH+TWALL),      (2.0*PITCH),0.0,
824 K,390,(3.0*PITCH+HCELL+SWALL),          (2.0*PITCH),0.0,
825 /COM,
826 K,391,(3.0*PITCH+HCELL+SWALL),          (-2.0*PITCH),0.0,
827 K,392,          (2.5*PITCH+TWALL),      (-2.0*PITCH),0.0,
828 K,393,          (2.5*PITCH),          (-2.0*PITCH-TWALL),0.0,
829 K,394,          (2.5*PITCH),          (-2.0*PITCH),0.0,
830 K,395,          (2.5*PITCH),          (-3.0*PITCH),0.0,
831 K,396,          (1.5*PITCH+TWALL),      (-3.0*PITCH),0.0,
832 K,397,          (1.5*PITCH-TWALL),      (-3.0*PITCH),0.0,
833 K,398,          (0.5*PITCH+TWALL),      (-3.0*PITCH),0.0,
834 K,399,          (0.5*PITCH),          (-3.0*PITCH-TWALL),0.0,
835 K,400,          (0.5*PITCH),          (-3.0*PITCH),0.0,
836 K,401,          (0.5*PITCH),          (-3.5*PITCH-HCELL-SWALL),0.0,
837 /COM,
838 A,152,116,117,153,
839 A,117,382,381,153,
840 A,381,383,213,153,
841 A,117,115,380,382,
842 A,153,213,207,149,
843 A,213,383,384,212,
844 A,212,384,385,285,
845 A,285,385,386,284,
846 A,212,285,279,206,
847 A,284,386,388,278,
848 A,278,388,387,272,
849 A,272,387,389,333,
850 A,272,333,327,266,
851 A,333,389,390,332,
852 A,278,272,273,279,
853 A,206,279,273,200,
854 A,200,273,267,194,
855 A,200,206,207,201,
856 A,141,149,207,201,
857 A,141,201,195,137,
858 A,141,149,146,140,

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859 A, 88,134,137, 92,
860 A, 92,137,195,105,
861 A, 92,105, 95, 89,
862 A,105,195,194,106,
863 A,106,194,267,261,
864 A,106,261,255, 96,
865 A,261,267,266,260,
866 A,260,266,327,128,
867 A,260,128,126,254,
868 A,128,327,326,129,
869 A,296,254,126,345,
870 A,296,345,339,290,
871 A,345,126,127,344,
872 A,296,254,255,297,
873 A,224, 96,255,297,
874 A,224,297,291,218,
875 A,224, 96, 95,225,
876 A,165, 89, 95,225,
877 A,165, 89, 83,164,
878 A,165,225,219,161,
879 A,177,161,219,237,
880 A,177,161,158,176,
881 A,177,237,231,173,
882 A,237,219,218,236,
883 A,236,218,291,309,
884 A,236,309,303,230,
885 A,309,291,290,308,
886 A,308,290,339,357,
887 A,308,357,351,302,
888 A,357,339,338,356,
889 A,350,391,392,351,
890 A,351,392,394,302,
891 A,302,394,393,320,
892 A,320,393,395,314,
893 A,320,302,303,321,
894 A,248,230,303,321,
895 A,248,321,315,242,
896 A,248,230,231,249,
897 A,189,173,231,249,
898 A,189,173,170,188,
899 A,189,249,243,185,
900 A,243,398,400,185,
901 A,185,400,399,363,
902 A,363,185,182,362,
903 A,363,399,401,368,
904 A,398,243,242,397,
905 A,242,315,396,397,
906 A,315,314,395,396,
907 MAT,1,
908 TYPE,1,
909 ESHAPE,2,
910 AMESH,233,301,1,
911 NUMMRG,NODE,
912 NUMMRG,KP,
913 /COM, *****
914 /COM,          Create mesh in tube guides
915 /COM,          (L's 686,687,688)
916 ESIZE,,2,
917 LESIZE,47,,, 2,
918 LESIZE,48,,, 4,
919 LESIZE,49,,, 2,
920 LESIZE,50,,, 4,
921 LESIZE,51,,, 13,
922 LESIZE,52,,, 2,
923 LESIZE,53,,, 13,
924 LESIZE,54,,, 8,
925 LESIZE,55,,, 18,
926 LESIZE,56,,, 13,
927 LESIZE,57,,, 13,
928 LESIZE,58,,, 2,

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929 LESIZE,59,,, 8,
930 LESIZE,60,,, 2,
931 LESIZE,61,,, 2,
932 LESIZE,62,,, 1,
933 LESIZE,63,,, 1,
934 LESIZE,64,,, 2,
935 LESIZE,65,,, 2,
936 LESIZE,66,,, 2,
937 LESIZE,67,,, 9,
938 LESIZE,68,,, 9,
939 LESIZE,69,,, 2,
940 LESIZE,70,,, 13,
941 LESIZE,71,,, 13,
942 LESIZE,72,,, 2,
943 LESIZE,73,,, 2,
944 LESIZE,74,,,38,
945 LESIZE,75,,, 8,
946 LESIZE,76,,, 2,
947 LESIZE,77,,, 4,
948 LESIZE,78,,, 4,
949 LESIZE,79,,, 8,
950 LESIZE,80,,, 2,
951 LESIZE,81,,, 4,
952 LESIZE,82,,, 4,
953 LESIZE,83,,, 8,
954 LESIZE,84,,, 2,
955 LESIZE,85,,, 4,
956 LESIZE,86,,, 4,
957 LESIZE,87,,, 8,
958 LESIZE,88,,, 2,
959 LESIZE,89,,, 2,
960 LESIZE,90,,, 13,
961 LESIZE,91,,, 2,
962 LESIZE,92,,, 13,
963 LESIZE,93,,, 9,
964 LESIZE,94,,, 2,
965 LESIZE,95,,, 1,
966 LESIZE,96,,, 2,
967 LESIZE,97,,, 1,
968 LESIZE,98,,, 2,
969 LESIZE,99,,, 9,
970 LESIZE,100,,, 2,
971 LESIZE,101,,, 2,
972 LESIZE,102,,,18,
973 LESIZE,103,,, 2,
974 LESIZE,104,,, 8,
975 LESIZE,105,,, 2,
976 LESIZE,106,,, 8,
977 LESIZE,107,,, 13,
978 LESIZE,108,,, 13,
979 LESIZE,109,,, 13,
980 LESIZE,110,,, 13,
981 LESIZE,111,,, 2,
982 LESIZE,112,,, 4,
983 LESIZE,113,,, 2,
984 LESIZE,114,,, 4,
985 LSEL,S,LINE,,58,59,1,
986 LSEL,A,LINE,,54,
987 LCCAT,ALL,
988 LSEL,S,LINE,,75,76,1,
989 LSEL,A,LINE,,79,80,1,
990 LSEL,A,LINE,,83,84,1,
991 LSEL,A,LINE,,87,
992 LCCAT,ALL,
993 LSEL,S,LINE,,104,106,1,
994 LCCAT,ALL,
995 LSEL,ALL,
996 MAT,1,
997 TYPE,1,
998 AMESH,19,38,1,

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999 /COM, *****
1000 /COM,          Create mesh in MPC shell
1001 /COM,          (L's 689,690,691)
1002 LESIZE,22,,, 4,
1003 LESIZE,23,,, 3,
1004 LESIZE,25,,, 8,
1005 LESIZE,27,,,15,
1006 LESIZE,28,,,12,
1007 LESIZE,29,,, 5,
1008 LESIZE,30,,,11,
1009 LESIZE,32,,, 8,
1010 LESIZE,34,,, 8,
1011 LESIZE,36,,,11,
1012 LESIZE,37,,, 5,
1013 LESIZE,38,,,12,
1014 LESIZE,39,,,15,
1015 LESIZE,41,,, 8,
1016 LESIZE,43,,, 3,
1017 LESIZE,44,,, 4,
1018 LSEL,S,LINE,,22,44,1,
1019 LCCAT,ALL,
1020 LSEL,ALL,
1021 LESIZE,17,,,73,
1022 LESIZE,18,,,73,
1023 LESIZE,21,,, 3,
1024 LESIZE,45,,, 3,
1025 LCCAT,17,18,
1026 ESHAPE,2,
1027 MAT,1,
1028 TYPE,1,
1029 AMESH,6,
1030 /COM,          Assume vacuum between shell and inner barrier
1031 LESIZE,14,,,73,
1032 LESIZE,13,,,73,
1033 LESIZE,19,,, 2,
1034 LESIZE,20,,, 2,
1035 LCCAT,14,13,
1036 ESHAPE,2,
1037 /COM,          No MAT,7,
1038 /COM,          No TYPE,1,
1039 /COM,          No AMESH,5,
1040 /COM,          Delete concatenated lines
1041 /COM,          (L's freed up 686,687,688,689,690,691)
1042 LDELE,686,691,1,
1043 /COM, *****
1044 /COM,          Create mesh in inner and outer barrier
1045 LSEL,S,LINE,,7,10,1,
1046 LESIZE,ALL,,,73,
1047 LSEL,ALL,
1048 LESIZE, 6,,, 3,
1049 LESIZE,15,,, 3,
1050 LESIZE,16,,, 3,
1051 LESIZE, 5,,, 3,
1052 LESIZE,11,,, 3,
1053 LESIZE,12,,, 3,
1054 MAT,2,
1055 TYPE,1,
1056 AMESH,3,4,1,
1057 MAT,3,
1058 TYPE,1,
1059 AMESH,1,2,1,
1060 /COM, *****
1061 /COM,          Create mesh in empty basket spaces
1062 ESIZE,0.1,
1063 LESIZE, 46,,, 1,
1064 LESIZE,115,,, 1,
1065 ESHAPE,0,
1066 MAT,7,
1067 TYPE,1,
1068 AMESH, 7,

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1069 ESHAPE,0,
1070 MAT,7,
1071 TYPE,1,
1072 AMESH, 8,11,1,
1073 ESHAPE,2,
1074 MAT,7,
1075 TYPE,1,
1076 AMESH,12,13,1,
1077 ESHAPE,0,
1078 MAT,7,
1079 TYPE,1,
1080 AMESH,14,16,1,
1081 ESHAPE,2,
1082 MAT,7,
1083 TYPE,1,
1084 AMESH,17,
1085 ESHAPE,0,
1086 MAT,7,
1087 TYPE,1,
1088 AMESH,18,
1089 /COM, *****
1090 /COM,      Define mesh and radiation surface elements for
1091 /COM,      tube/guides gap
1092 /COM,      (L's 686,687)
1093 /COM,      (A's 302)
1094 L,47,111,
1095 L,366,82,
1096 /COM,      Select lines around tubes
1097 LSEL,S,LINE,,686,
1098 LSEL,A,LINE,,165,
1099 LSEL,A,LINE,,159,
1100 LSEL,A,LINE,,580,
1101 LSEL,A,LINE,,581,
1102 LSEL,A,LINE,,575,
1103 LSEL,A,LINE,,577,
1104 LSEL,A,LINE,,583,
1105 LSEL,A,LINE,,585,
1106 LSEL,A,LINE,,588,
1107 LSEL,A,LINE,,591,
1108 LSEL,A,LINE,,593,
1109 LSEL,A,LINE,,596,
1110 LSEL,A,LINE,,600,
1111 LSEL,A,LINE,,601,
1112 LSEL,A,LINE,,512,
1113 LSEL,A,LINE,,517,
1114 LSEL,A,LINE,,506,
1115 LSEL,A,LINE,,624,
1116 LSEL,A,LINE,,177,
1117 LSEL,A,LINE,,188,
1118 LSEL,A,LINE,,174,
1119 LSEL,A,LINE,,629,
1120 LSEL,A,LINE,,531,
1121 LSEL,A,LINE,,536,
1122 LSEL,A,LINE,,525,
1123 LSEL,A,LINE,,652,
1124 LSEL,A,LINE,,550,
1125 LSEL,A,LINE,,555,
1126 LSEL,A,LINE,,544,
1127 LSEL,A,LINE,,653,
1128 LSEL,A,LINE,,654,
1129 LSEL,A,LINE,,656,
1130 LSEL,A,LINE,,658,
1131 LSEL,A,LINE,,661,
1132 LSEL,A,LINE,,685,
1133 LSEL,A,LINE,,684,
1134 LSEL,A,LINE,,682,
1135 LSEL,A,LINE,,673,
1136 LSEL,A,LINE,,675,
1137 LSEL,A,LINE,,679,
1138 LSEL,A,LINE,,680,

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1139 LSEL,A,LINE,,570,
1140 LSEL,A,LINE,,567,
1141 LSEL,A,LINE,,687,
1142 /COM,          Select lines around tube guides
1143 LSEL,A,LINE,,112,
1144 LSEL,A,LINE,,111,
1145 LSEL,A,LINE,, 43,
1146 LSEL,A,LINE,,108,
1147 LSEL,A,LINE,,102,
1148 LSEL,A,LINE,, 99,
1149 LSEL,A,LINE,, 90,
1150 LSEL,A,LINE,, 89,
1151 LSEL,A,LINE,, 37,
1152 LSEL,A,LINE,, 88,
1153 LSEL,A,LINE,, 74,
1154 LSEL,A,LINE,, 73,
1155 LSEL,A,LINE,, 29,
1156 LSEL,A,LINE,, 72,
1157 LSEL,A,LINE,, 71,
1158 LSEL,A,LINE,, 68,
1159 LSEL,A,LINE,, 55,
1160 LSEL,A,LINE,, 51,
1161 LSEL,A,LINE,, 23,
1162 LSEL,A,LINE,, 49,
1163 LSEL,A,LINE,, 50,
1164 /COM,          Define area
1165 AL,ALL,
1166 /COM,          Create radiation surface elements
1167 NSLL,S,1,
1168 MAT,1,
1169 TYPE,7,
1170 ESURF,
1171 LSEL,ALL,
1172 NSEL,ALL,
1173 /COM,          Mesh gap
1174 ESHAPE,0,
1175 LESIZE,686,,,1,
1176 LESIZE,687,,,1,
1177 MAT,7,
1178 TYPE,1,
1179 AMESH,302,
1180 ESHAPE,2,
1181 /COM,          *****
1182 /COM,          Create other radiation surface elements
1183 /COM,          Basket spaces
1184 MAT,1,
1185 TYPE,17,
1186 LMESH,22,
1187 LMESH,25,27,2,
1188 LMESH,28,38,2,
1189 LMESH,39,41,2,
1190 LMESH,44,
1191 LMESH,46,48,2,
1192 LMESH,53,54,1,
1193 LMESH,56,57,1,
1194 LMESH,59,
1195 LMESH,61,64,1,
1196 LMESH,67,70,3,
1197 LMESH,75,
1198 LMESH,77,79,1,
1199 LMESH,81,83,1,
1200 LMESH,85,87,1,
1201 LMESH,92,97,1,
1202 LMESH,104,
1203 LMESH,106,107,1,
1204 LMESH,109,110,1,
1205 LMESH,114,115,1,
1206 /COM,          MPC shell/inner barrier gap
1207 MAT,1,
1208 TYPE,27,

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1209 LMESS,17,18,1,
1210 MAT,2,
1211 TYPE,27,
1212 LMESS,13,14,1,
1213 FINISH
1214 /COM, *****
1215 /COM,          Create element mesh plots to illustrate model
1216 /COM,          View mesh for entire model
1217 /RESET
1218 /TRIAD,OFF,
1219 /NUM, 1,
1220 /PNUM,MAT, 1,
1221 /TYPE,HIDP,
1222 /GLINE,,0,
1223 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1224 /TITLE, 40 BWR MPC/Waste Package - 1/2 FEM Model
1225 /SHOW,meshfull,grph,1,8,
1226 EPLOT
1227 ESEL,U,MAT,, 7,
1228 /SHOW,meshgap,grph,1,8,
1229 EPLOT
1230 /COM,          View mesh for radiation substructure
1231 /PNUM,MAT, 0,
1232 /PNUM,TYPE, 1,
1233 ESEL,S,TYPE,, 7,
1234 ESEL,A,TYPE,,17,
1235 ESEL,A,TYPE,,27,
1236 /TITLE, 40 BWR MPC/Waste Package - Radiation Matrix
1237 /SHOW,meshrad,grph,1,8,
1238 EPLOT
1239 ESEL,ALL,
1240 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
1241 /COM, *****
1242 /COM,          Generate super-elements
1243 /AUX12,
1244 ESEL,S,TYPE,,7,
1245 NSLE,S,
1246 STEF,5.67E-8,
1247 GEOM,1,0,
1248 VTYPE,0,800,
1249 WRITE,tubegap,
1250 ESEL,S,TYPE,,17,
1251 NSLE,S,
1252 STEF,5.67E-8,
1253 GEOM,1,0,
1254 VTYPE,0,800,
1255 WRITE,spaces,
1256 ESEL,S,TYPE,,27,
1257 NSLE,S,
1258 STEF,5.67E-8,
1259 GEOM,1,0,
1260 VTYPE,0,800,
1261 WRITE,shellgap,
1262 ESEL,ALL,
1263 NSEL,ALL,
1264 FINISH
1265 /PREP7,
1266 TYPE,18,
1267 SE,tubegap,
1268 SE,spaces,
1269 SE,shellgap,
1270 /COM,          Delete radiation edge elements
1271 ESEL,S,TYPE,,7,
1272 EDELE,ALL,
1273 ESEL,ALL,
1274 LSEL,S,TYPE,,17,
1275 LSEL,A,TYPE,,27,
1276 LCLEAR,ALL,
1277 LSEL,ALL,
1278 FINISH

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1279 /COM, *****
1280 /COM,      Set solution parameters and apply B.C.'s
1281 /COM,
1282 /COM,      Solve steady-state for initial conditions
1283 /COM,      with WP surface equal to drift ambient
1284 /COM,      temperature from repository model.
1285 /SOLU
1286 ANTYPE,TRAN,NEW,
1287 NROPT,AUTO,
1288 TRNOPT,FULL,
1289 TOFFST,273.15,
1290 LSEL,S,LINE,,7,
1291 LSEL,A,LINE,,8,
1292 NSLL,S,1,
1293 D,ALL,TEMP,DFAMBT,
1294 LSEL,ALL,
1295 NSEL,ALL,
1296 ASEL,S,MAT,,14,
1297 ESLA,S,
1298 BFE,ALL,HGEN,,(FUEL(TM_START)),
1299 ASEL,ALL,
1300 ESEL,ALL,
1301 TIMINT,OFF,
1302 TIME,1e-6,
1303 AUTOTS,ON,
1304 KBC,0,
1305 SOLVE
1306 /COM,      Solve steady-state for initial conditions
1307 /COM,      with WP surface temperatures from repository
1308 /COM,      steady-state solution.
1309 LSEL,S,LINE,,7,
1310 LSEL,A,LINE,,8,
1311 NSLL,S,1,
1312 DDELE,ALL,TEMP,
1313 LSEL,ALL,
1314 NSEL,ALL,
1315 DK,11,TEMP,(WPTOP(TM_START)),,1,
1316 DK,10,TEMP,(WPSID(TM_START)),,1,
1317 DK, 9,TEMP,(WPBOT(TM_START)),,1,
1318 ASEL,S,MAT,,14,
1319 ESLA,S,
1320 BFE,ALL,HGEN,,(FUEL(TM_START)),
1321 ASEL,ALL,
1322 ESEL,ALL,
1323 TIMINT,OFF,
1324 TIME,2e-6,
1325 AUTOTS,ON,
1326 KBC,0,
1327 SOLVE
1328 /COM, *****
1329 /COM,      Set time integration parameters
1330 TIMINT,ON,
1331 AUTOTS,ON,
1332 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
1333 NSUBST,10,40,4,ON
1334 /COM,      Begin Transient
1335 /COM,      Apply loads and solve for 0 to .9 years
1336 *DO,TM,TM_START,TME0,TM10
1337     TIME,TM,
1338     ASEL,S,MAT,,14,
1339     ESLA,S,
1340     BFE,ALL,HGEN,,(FUEL(TM)),
1341     ASEL,ALL
1342     ESEL,ALL
1343     DK,11,TEMP,(WPTOP(TM)),,1,
1344     DK,10,TEMP,(WPSID(TM)),,1,
1345     DK, 9,TEMP,(WPBOT(TM)),,1,
1346     SOLVE
1347 *ENDDO
1348 /COM,      Apply loads and solve for 1 to 9 years

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1349 *DO,TM,TME1,TME9,TM11
1350     TIME,TM,
1351     ASEL,S,MAT,,14,
1352     ESLA,S,
1353     BFE,ALL,HGEN,,(FUEL(TM)),
1354     ASEL,ALL
1355     ESEL,ALL
1356     DK,11,TEMP,(WPTOP(TM)),,1,
1357     DK,10,TEMP,(WPSID(TM)),,1,
1358     DK, 9,TEMP,(WPBOT(TM)),,1,
1359     SOLVE
1360 *ENDDO
1361 /COM,          Apply loads and solve for 10 to 90 years
1362 *DO,TM,TME10,TME90,TM110
1363     TIME,TM,
1364     ASEL,S,MAT,,14,
1365     ESLA,S,
1366     BFE,ALL,HGEN,,(FUEL(TM)),
1367     ASEL,ALL
1368     ESEL,ALL
1369     DK,11,TEMP,(WPTOP(TM)),,1,
1370     DK,10,TEMP,(WPSID(TM)),,1,
1371     DK, 9,TEMP,(WPBOT(TM)),,1,
1372     SOLVE
1373 *ENDDO
1374 /COM,          Apply loads and solve for 100 to 1000 years
1375 *DO,TM,TME100,TME1000,TM1100
1376     TIME,TM,
1377     ASEL,S,MAT,,14,
1378     ESLA,S,
1379     BFE,ALL,HGEN,,(FUEL(TM)),
1380     ASEL,ALL
1381     ESEL,ALL
1382     DK,11,TEMP,(WPTOP(TM)),,1,
1383     DK,10,TEMP,(WPSID(TM)),,1,
1384     DK, 9,TEMP,(WPBOT(TM)),,1,
1385     SOLVE
1386 *ENDDO
1387 FINISH
1388 SAVE,
1389 /COM,          *****
1390 /COM,          Create element contour plots of solution results
1391 /COM,
1392 /COM,          Sort through solution results for time of max temp.
1393 /POST26,
1394 NSOL,2,(NODE(0.0,(-0.5*PITCH),0.0)),TEMP,,peakclad,
1395 STORE,NEW,
1396 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
1397 FINISH
1398 /POST1,
1399 /COM,          Create temperature contour plots of WP at peak
1400 /RESET
1401 /TRIAD,OFF,
1402 /NUM, 1,
1403 /PNUM,MAT, 1,
1404 /TYPE,HIDP,
1405 /GLINE,,-1,
1406 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1407 ESEL,U,MAT,,7,
1408 SET,NEAR,,,,TMTMAX,
1409 /TITLE, 40 BWR MPC/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
1410 /SHOW,solupk,grph,0,8,
1411 /CONTOUR,1,128,AUTO,
1412 PLNSOL,TEMP,
1413 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
1414 SET,NEAR,,,,TME10,
1415 /TITLE, 40 BWR MPC/WP at 10 years
1416 /SHOW,solu10,grph,0,8,
1417 /CONTOUR,1,128,USER,
1418 PLNSOL,TEMP,

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1419 SET,NEAR,,,TME50,
1420 /TITLE, 40 BWR MPC/WP at 50 years
1421 /SHOW,solu50,grph,0,8,
1422 /CONTOUR,1,128,USER,
1423 PLNSOL,TEMP,
1424 SET,NEAR,,,TME100,
1425 /TITLE, 40 BWR MPC/WP at 100 years
1426 /SHOW,solu100,grph,0,8,
1427 /CONTOUR,1,128,USER,
1428 PLNSOL,TEMP,
1429 ESEL,ALL,
1430 FINISH
1431 /COM, *****
1432 /COM,      Print time/temperature output at specific locations
1433 /COM,      Save profile from center to edge
1434 /COM,
1435 /COM,      Variable Legend: A01i000
1436 /COM,      c = center of assembly
1437 /COM,      h = halfway between center and tube
1438 /COM,      s = inside structural stainless tube layer
1439 /COM,      a = aluminum-born tube layer
1440 /COM,      t = stainless tube cladding
1441 /COM,      g = tube guide
1442 /COM,      m = mpc shell
1443 /COM,      i = inner barrier of DC
1444 /COM,      o = outer barrier of DC
1445 /COM,      ## = ID number of assembly (01 is center)
1446 /COM,      i = side of assembly toward center of WP
1447 /COM,      o = side of assembly toward edge of WP
1448 /COM,      000 = profile center down
1449 /COM,      045 = profile 45 deg down
1450 /COM,      090 = profile center side
1451 /COM,      135 = profile 45 deg up
1452 /COM,      180 = profile center up
1453 /POST26,
1454 NUMVAR,41,
1455 /COM,
1456 /COM, *****
1457 /COM, * Temperature Profile from center to bottom of WP (0 deg.) *
1458 /COM, *****
1459 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t02i000,
1460 NSOL, 3,(NODE(0.0, (0.0-ATWCL),0.0)),TEMP,,a02i000,
1461 NSOL, 4,(NODE(0.0, (0.0-STWCL),0.0)),TEMP,,s02i000,
1462 NSOL, 5,(NODE(0.0, (0.0-STWCL-QCELL),0.0)),TEMP,,h02i000,
1463 NSOL, 6,(NODE(0.0, (-0.5*PITCH),0.0)),TEMP,,c02i000,
1464 NSOL, 7,(NODE(0.0, (-0.5*PITCH-QCELL),0.0)),TEMP,,h02o000,
1465 NSOL, 8,(NODE(0.0, (-0.5*PITCH-HCELL),0.0)),TEMP,,s02o000,
1466 NSOL, 9,(NODE(0.0, (-0.5*PITCH-SCCELL),0.0)),TEMP,,a02o000,
1467 NSOL,10,(NODE(0.0, (-1.0*PITCH),0.0)),TEMP,,t08i000,
1468 NSOL,11,(NODE(0.0, (-1.0*PITCH-ATWCL),0.0)),TEMP,,a08i000,
1469 NSOL,12,(NODE(0.0, (-1.0*PITCH-STWCL),0.0)),TEMP,,s08i000,
1470 NSOL,13,(NODE(0.0, (-1.0*PITCH-TQPCL),0.0)),TEMP,,h08i000,
1471 NSOL,14,(NODE(0.0, (-1.5*PITCH),0.0)),TEMP,,c08i000,
1472 NSOL,15,(NODE(0.0, (-1.5*PITCH-QCELL),0.0)),TEMP,,h08o000,
1473 NSOL,16,(NODE(0.0, (-1.5*PITCH-HCELL),0.0)),TEMP,,s08o000,
1474 NSOL,17,(NODE(0.0, (-1.5*PITCH-SCCELL),0.0)),TEMP,,a08o000,
1475 NSOL,18,(NODE(0.0, (-2.0*PITCH),0.0)),TEMP,,t18i000,
1476 NSOL,19,(NODE(0.0, (-2.0*PITCH-ATWCL),0.0)),TEMP,,a18i000,
1477 NSOL,20,(NODE(0.0, (-2.0*PITCH-STWCL),0.0)),TEMP,,s18i000,
1478 NSOL,21,(NODE(0.0, (-2.0*PITCH-TQPCL),0.0)),TEMP,,h18i000,
1479 NSOL,22,(NODE(0.0, (-2.5*PITCH),0.0)),TEMP,,c18i000,
1480 NSOL,23,(NODE(0.0, (-2.5*PITCH-QCELL),0.0)),TEMP,,h18o000,
1481 NSOL,24,(NODE(0.0, (-2.5*PITCH-HCELL),0.0)),TEMP,,s18o000,
1482 NSOL,25,(NODE(0.0, (-2.5*PITCH-SCCELL),0.0)),TEMP,,a18o000,
1483 NSOL,26,(NODE(0.0, (-3.0*PITCH),0.0)),TEMP,,t24i000,
1484 NSOL,27,(NODE(0.0, (-3.0*PITCH-ATWCL),0.0)),TEMP,,a24i000,
1485 NSOL,28,(NODE(0.0, (-3.0*PITCH-STWCL),0.0)),TEMP,,s24i000,
1486 NSOL,29,(NODE(0.0, (-3.0*PITCH-TQPCL),0.0)),TEMP,,h24i000,
1487 NSOL,30,(NODE(0.0, (-3.5*PITCH),0.0)),TEMP,,c24i000,
1488 NSOL,31,(NODE(0.0, (-3.5*PITCH-QCELL),0.0)),TEMP,,h24o000,

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1489 NSOL,32,(NODE(0.0, (-3.5*PITCH-HCELL),0.0)),TEMP,,s24o000,
1490 NSOL,33,(NODE(0.0, (-3.5*PITCH-SCCELL),0.0)),TEMP,,t24o000,
1491 NSOL,34,(NODE(0.0, (0.0-GY11+TPGPT),0.0)),TEMP,,g24i000,
1492 NSOL,35,(NODE(0.0, (0.0-GY11),0.0)),TEMP,,g24o000,
1493 NSOL,36,(NODE(0.0, (0.0-MIRAD),0.0)),TEMP,,m24i000,
1494 NSOL,37,(NODE(0.0, (0.0-MIRAD-MWALL),0.0)),TEMP,,m24o000,
1495 NSOL,38,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i24i000,
1496 NSOL,39,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i24o000,
1497 NSOL,40,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o24o000,
1498 PRVAR, 2, 3, 4, 5, 6, 7,
1499 PRVAR, 8, 9,10,11,12,13,
1500 PRVAR,14,15,16,17,18,19,
1501 PRVAR,20,21,22,23,24,25,
1502 PRVAR,26,27,28,29,30,31,
1503 PRVAR,32,33,34,35,36,37,
1504 PRVAR,38,39,40,
1505 /COM,
1506 /COM, *****
1507 /COM, * Temperature Profile from center to lower right (45 deg.) *
1508 /COM, *****
1509 NSOL, 2,(NODE( 0.0, -OFFS,0.0)),TEMP,,c02i045,
1510 NSOL, 3,(NODE( QCELL, (-OFFS-QCELL),0.0)),TEMP,,h02o045,
1511 NSOL, 4,(NODE( HCELL, (-OFFS-HCELL),0.0)),TEMP,,s02o045,
1512 NSOL, 5,(NODE( SCCELL, (-OFFS-SCCELL),0.0)),TEMP,,a02o045,
1513 NSOL, 6,(NODE( ACELL, (-OFFS-ACELL),0.0)),TEMP,,t02o045,
1514 NSOL, 7,(NODE( (PITCH-ACELL), (ACELL-1.5*PITCH),0.0)),TEMP,,t07i045,
1515 NSOL, 8,(NODE( (PITCH-SCCELL), (SCCELL-1.5*PITCH),0.0)),TEMP,,a07i045,
1516 NSOL, 9,(NODE( (PITCH-HCELL), (HCELL-1.5*PITCH),0.0)),TEMP,,s07i045,
1517 NSOL,10,(NODE( (PITCH-QCELL), (QCELL-1.5*PITCH),0.0)),TEMP,,h07i045,
1518 NSOL,11,(NODE( PITCH, (-1.5*PITCH),0.0)),TEMP,,c07i045,
1519 NSOL,12,(NODE( (PITCH+QCELL), (-1.5*PITCH-QCELL),0.0)),TEMP,,h07o045,
1520 NSOL,13,(NODE( (PITCH+HCELL), (-1.5*PITCH-HCELL),0.0)),TEMP,,s07o045,
1521 NSOL,14,(NODE( (PITCH+SCCELL), (-1.5*PITCH-SCCELL),0.0)),TEMP,,a07o045,
1522 NSOL,15,(NODE( (PITCH+ACELL), (-1.5*PITCH-ACELL),0.0)),TEMP,,t07o045,
1523 NSOL,16,(NODE((2.0*PITCH-ACELL), (ACELL-2.5*PITCH),0.0)),TEMP,,t16i045,
1524 NSOL,17,(NODE((2.0*PITCH-SCCELL), (SCCELL-2.5*PITCH),0.0)),TEMP,,a16i045,
1525 NSOL,18,(NODE((2.0*PITCH-HCELL), (HCELL-2.5*PITCH),0.0)),TEMP,,s16i045,
1526 NSOL,19,(NODE((2.0*PITCH-QCELL), (QCELL-2.5*PITCH),0.0)),TEMP,,h16i045,
1527 NSOL,20,(NODE( (2.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c16i045,
1528 NSOL,21,(NODE((2.0*PITCH+QCELL), (-2.5*PITCH-QCELL),0.0)),TEMP,,h16o045,
1529 NSOL,22,(NODE((2.0*PITCH+HCELL), (-2.5*PITCH-HCELL),0.0)),TEMP,,s16o045,
1530 NSOL,23,(NODE((2.0*PITCH+SCCELL), (-2.5*PITCH-SCCELL),0.0)),TEMP,,a16o045,
1531 NSOL,24,(NODE((2.0*PITCH+ACELL), (-2.5*PITCH-ACELL),0.0)),TEMP,,t16o045,
1532 NSOL,25,(NODE( (GX32-GWALL), (0.0-GY24+SGCD1),0.0)),TEMP,,g16i045,
1533 NSOL,26,(NODE( MI45, (-1.0*MI45),0.0)),TEMP,,m16i045,
1534 NSOL,27,(NODE( MO45, (-1.0*MO45),0.0)),TEMP,,m16o045,
1535 NSOL,28,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i16i045,
1536 NSOL,29,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i16o045,
1537 NSOL,30,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o16o045,
1538 /COM, Add centers of assemblies 6, 14, 15, 17, 22, 23
1539 NSOL,31,(NODE( (1.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c06i045,
1540 NSOL,32,(NODE( (2.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c14i045,
1541 NSOL,33,(NODE( (2.0*PITCH), (-1.5*PITCH),0.0)),TEMP,,c15i045,
1542 NSOL,34,(NODE( (1.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c17i045,
1543 NSOL,35,(NODE( (3.0*PITCH), (-0.5*PITCH),0.0)),TEMP,,c22i045,
1544 NSOL,36,(NODE( (3.0*PITCH), (-1.5*PITCH),0.0)),TEMP,,c23i045,
1545 PRVAR, 2, 3, 4, 5, 6, 7,
1546 PRVAR, 8, 9,10,11,12,13,
1547 PRVAR,14,15,16,17,18,19,
1548 PRVAR,20,21,22,23,24,25,
1549 PRVAR,26,27,28,29,30,31,
1550 PRVAR,32,33,34,35,36,
1551 /COM,
1552 /COM, *****
1553 /COM, * Temperature Profile from center to side of WP (90 deg.) *
1554 /COM, *****
1555 NSOL, 2,(NODE( 0.0,0.0,0.0)),TEMP,,c01i090,
1556 NSOL, 3,(NODE( QCELL,0.0,0.0)),TEMP,,h01o090,
1557 NSOL, 4,(NODE( HCELL,0.0,0.0)),TEMP,,s01o090,
1558 NSOL, 5,(NODE( SCCELL,0.0,0.0)),TEMP,,a01o090,

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1559 NSOL, 6, (NODE( ACCELL,0.0,0.0)),TEMP,,t01o090,
1560 NSOL, 7, (NODE( (PITCH-ACCELL),0.0,0.0)),TEMP,,t05i090,
1561 NSOL, 8, (NODE( (PITCH-SCELL),0.0,0.0)),TEMP,,a05i090,
1562 NSOL, 9, (NODE( (PITCH-HCELL),0.0,0.0)),TEMP,,s05i090,
1563 NSOL, 10, (NODE( (PITCH-QCELL),0.0,0.0)),TEMP,,h05i090,
1564 NSOL, 11, (NODE( PITCH,0.0,0.0)),TEMP,,c05i090,
1565 NSOL, 12, (NODE( (PITCH+QCELL),0.0,0.0)),TEMP,,h05o090,
1566 NSOL, 13, (NODE( (PITCH+HCELL),0.0,0.0)),TEMP,,s05o090,
1567 NSOL, 14, (NODE( (PITCH+SCELL),0.0,0.0)),TEMP,,a05o090,
1568 NSOL, 15, (NODE( (PITCH+ACCELL),0.0,0.0)),TEMP,,t05i090,
1569 NSOL, 16, (NODE( (2.0*PITCH-ACCELL),0.0,0.0)),TEMP,,t13i090,
1570 NSOL, 17, (NODE( (2.0*PITCH-SCELL),0.0,0.0)),TEMP,,a13i090,
1571 NSOL, 18, (NODE( (2.0*PITCH-HCELL),0.0,0.0)),TEMP,,s13i090,
1572 NSOL, 19, (NODE( (2.0*PITCH-QCELL),0.0,0.0)),TEMP,,h13i090,
1573 NSOL, 20, (NODE( (2.0*PITCH),0.0,0.0)),TEMP,,c13i090,
1574 NSOL, 21, (NODE( (2.0*PITCH+QCELL),0.0,0.0)),TEMP,,h13o090,
1575 NSOL, 22, (NODE( (2.0*PITCH+HCELL),0.0,0.0)),TEMP,,s13o090,
1576 NSOL, 23, (NODE( (2.0*PITCH+SCELL),0.0,0.0)),TEMP,,a13o090,
1577 NSOL, 26, (NODE( (2.0*PITCH-ACCELL),0.0,0.0)),TEMP,,t13i090,
1578 NSOL, 27, (NODE( (3.0*PITCH-ACCELL),0.0,0.0)),TEMP,,t21i090,
1579 NSOL, 28, (NODE( (3.0*PITCH-SCELL),0.0,0.0)),TEMP,,a21i090,
1580 NSOL, 29, (NODE( (3.0*PITCH-HCELL),0.0,0.0)),TEMP,,s21i090,
1581 NSOL, 30, (NODE( (3.0*PITCH-QCELL),0.0,0.0)),TEMP,,h21i090,
1582 NSOL, 31, (NODE( (3.0*PITCH),0.0,0.0)),TEMP,,c21i090,
1583 NSOL, 32, (NODE( (3.0*PITCH+QCELL),0.0,0.0)),TEMP,,h21o090,
1584 NSOL, 33, (NODE( (3.0*PITCH+HCELL),0.0,0.0)),TEMP,,s21o090,
1585 NSOL, 34, (NODE( (3.0*PITCH+SCELL),0.0,0.0)),TEMP,,t21o090,
1586 NSOL, 35, (NODE( (GX44-GWALL),0.0,0.0)),TEMP,,g04i090,
1587 NSOL, 36, (NODE( (GX44,0.0,0.0)),TEMP,,g04o090,
1588 NSOL, 37, (NODE( (MIRAD,0.0,0.0)),TEMP,,m04i090,
1589 NSOL, 38, (NODE( (MIRAD+MWALL),0.0,0.0)),TEMP,,m04o090,
1590 NSOL, 39, (NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
1591 NSOL, 40, (NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
1592 NSOL, 41, (NODE( (DCRAD,0.0,0.0)),TEMP,,o04o090,
1593 PRVAR, 2, 3, 4, 5, 6, 7,
1594 PRVAR, 8, 9,10,11,12,13,
1595 PRVAR, 14,15,16,17,18,19,
1596 PRVAR, 20,21,22,23,24,25,
1597 PRVAR, 26,27,28,29,30,31,
1598 PRVAR, 32,33,34,35,36,37,
1599 PRVAR, 38,39,40,41,
1600 /COM,
1601 /COM, *****
1602 /COM, * Temperature Profile from center to upper right (135 deg.) *
1603 /COM, *****
1604 NSOL, 2, (NODE( 0.0, OFFS,0.0)),TEMP,,c01i135,
1605 NSOL, 3, (NODE( QCELL, (OFFS+QCELL),0.0)),TEMP,,h01o135,
1606 NSOL, 4, (NODE( HCELL, (OFFS+HCELL),0.0)),TEMP,,s01o135,
1607 NSOL, 5, (NODE( SCELL, (OFFS+SCELL),0.0)),TEMP,,a01o135,
1608 NSOL, 6, (NODE( ACCELL, (OFFS+ACCELL),0.0)),TEMP,,t01o135,
1609 NSOL, 7, (NODE( (PITCH-ACCELL), (1.5*PITCH-ACCELL),0.0)),TEMP,,t04i135,
1610 NSOL, 8, (NODE( (PITCH-SCELL), (1.5*PITCH-SCELL),0.0)),TEMP,,a04i135,
1611 NSOL, 9, (NODE( (PITCH-HCELL), (1.5*PITCH-HCELL),0.0)),TEMP,,s04i135,
1612 NSOL, 10, (NODE( (PITCH-QCELL), (1.5*PITCH-QCELL),0.0)),TEMP,,h04i135,
1613 NSOL, 11, (NODE( PITCH, (1.5*PITCH),0.0)),TEMP,,c04i135,
1614 NSOL, 12, (NODE( (PITCH+QCELL), (1.5*PITCH+QCELL),0.0)),TEMP,,h04o135,
1615 NSOL, 13, (NODE( (PITCH+HCELL), (1.5*PITCH+HCELL),0.0)),TEMP,,s04o135,
1616 NSOL, 14, (NODE( (PITCH+SCELL), (1.5*PITCH+SCELL),0.0)),TEMP,,a04o135,
1617 NSOL, 15, (NODE( (PITCH+ACCELL), (1.5*PITCH+ACCELL),0.0)),TEMP,,t04o135,
1618 NSOL, 16, (NODE( (2.0*PITCH-ACCELL), (2.5*PITCH-ACCELL),0.0)),TEMP,,t11i135,
1619 NSOL, 17, (NODE( (2.0*PITCH-SCELL), (2.5*PITCH-SCELL),0.0)),TEMP,,a11i135,
1620 NSOL, 18, (NODE( (2.0*PITCH-HCELL), (2.5*PITCH-HCELL),0.0)),TEMP,,s11i135,
1621 NSOL, 19, (NODE( (2.0*PITCH-QCELL), (2.5*PITCH-QCELL),0.0)),TEMP,,h11i135,
1622 NSOL, 20, (NODE( (2.0*PITCH), (2.5*PITCH),0.0)),TEMP,,c11i135,
1623 NSOL, 21, (NODE( (2.0*PITCH+QCELL), (2.5*PITCH+QCELL),0.0)),TEMP,,h11o135,
1624 NSOL, 22, (NODE( (2.0*PITCH+HCELL), (2.5*PITCH+HCELL),0.0)),TEMP,,s11o135,
1625 NSOL, 23, (NODE( (2.0*PITCH+SCELL), (2.5*PITCH+SCELL),0.0)),TEMP,,a11o135,
1626 NSOL, 24, (NODE( (2.0*PITCH+ACCELL), (2.5*PITCH+ACCELL),0.0)),TEMP,,t11o135,
1627 NSOL, 25, (NODE( (GX32-GWALL), (GY24-SGCD1),0.0)),TEMP,,g11i135,
1628 NSOL, 26, (NODE( MI45, (1.0*MI45),0.0)),TEMP,,m11i135,

```

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1629 NSOL,27,(NODE(      MO45,      (1.0*MO45),0.0)),TEMP,,m11o135,
1630 NSOL,28,(NODE(      DI45,      (1.0*DI45),0.0)),TEMP,,i11i135,
1631 NSOL,29,(NODE(      DM45,      (1.0*DM45),0.0)),TEMP,,i11o135,
1632 NSOL,30,(NODE(      DO45,      (1.0*DO45),0.0)),TEMP,,o11o135,
1633 /COM,      Add centers of assemblies 5, 10, 12, 13, 20, 21
1634 NSOL,31,(NODE(      (1.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c06i135,
1635 NSOL,32,(NODE(      (1.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c14i135,
1636 NSOL,33,(NODE(      (2.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c15i135,
1637 NSOL,34,(NODE(      (2.0*PITCH),      (1.5*PITCH),0.0)),TEMP,,c17i135,
1638 NSOL,35,(NODE(      (3.0*PITCH),      (0.5*PITCH),0.0)),TEMP,,c22i135,
1639 NSOL,36,(NODE(      (3.0*PITCH),      (1.5*PITCH),0.0)),TEMP,,c23i135,
1640 PRVAR, 2, 3, 4, 5, 6, 7,
1641 PRVAR, 8, 9,10,11,12,13,
1642 PRVAR,14,15,16,17,18,19,
1643 PRVAR,20,21,22,23,24,25,
1644 PRVAR,26,27,28,29,30,31,
1645 PRVAR,32,33,34,35,36,
1646 /COM,
1647 /COM,      *****
1648 /COM,      * Temperature Profile from center to top of WP (180 deg.) *
1649 /COM,      *****
1650 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,t02i000,
1651 NSOL, 3,(NODE(0.0,      (ATWCL),0.0)),TEMP,,a02i000,
1652 NSOL, 4,(NODE(0.0,      (STWCL),0.0)),TEMP,,s02i000,
1653 NSOL, 5,(NODE(0.0,      (STWCL+QCELL),0.0)),TEMP,,h02i000,
1654 NSOL, 6,(NODE(0.0,      (0.5*PITCH),0.0)),TEMP,,c02i000,
1655 NSOL, 7,(NODE(0.0,      (0.5*PITCH+QCELL),0.0)),TEMP,,h02o000,
1656 NSOL, 8,(NODE(0.0,      (0.5*PITCH+HCELL),0.0)),TEMP,,s02o000,
1657 NSOL, 9,(NODE(0.0,      (0.5*PITCH+SCELL),0.0)),TEMP,,a02o000,
1658 NSOL,10,(NODE(0.0,      (1.0*PITCH),0.0)),TEMP,,t08i000,
1659 NSOL,11,(NODE(0.0,      (1.0*PITCH+ATWCL),0.0)),TEMP,,a08i000,
1660 NSOL,12,(NODE(0.0,      (1.0*PITCH+STWCL),0.0)),TEMP,,s08i000,
1661 NSOL,13,(NODE(0.0,      (1.0*PITCH+TGPCL),0.0)),TEMP,,h08i000,
1662 NSOL,14,(NODE(0.0,      (1.5*PITCH),0.0)),TEMP,,c08i000,
1663 NSOL,15,(NODE(0.0,      (1.5*PITCH+QCELL),0.0)),TEMP,,h08o000,
1664 NSOL,16,(NODE(0.0,      (1.5*PITCH+HCELL),0.0)),TEMP,,s08o000,
1665 NSOL,17,(NODE(0.0,      (1.5*PITCH+SCELL),0.0)),TEMP,,a08o000,
1666 NSOL,18,(NODE(0.0,      (2.0*PITCH),0.0)),TEMP,,t18i000,
1667 NSOL,19,(NODE(0.0,      (2.0*PITCH+ATWCL),0.0)),TEMP,,a18i000,
1668 NSOL,20,(NODE(0.0,      (2.0*PITCH+STWCL),0.0)),TEMP,,s18i000,
1669 NSOL,21,(NODE(0.0,      (2.0*PITCH+TGPCL),0.0)),TEMP,,h18i000,
1670 NSOL,22,(NODE(0.0,      (2.5*PITCH),0.0)),TEMP,,c18i000,
1671 NSOL,23,(NODE(0.0,      (2.5*PITCH+QCELL),0.0)),TEMP,,h18o000,
1672 NSOL,24,(NODE(0.0,      (2.5*PITCH+HCELL),0.0)),TEMP,,s18o000,
1673 NSOL,25,(NODE(0.0,      (2.5*PITCH+SCELL),0.0)),TEMP,,a18o000,
1674 NSOL,26,(NODE(0.0,      (3.0*PITCH),0.0)),TEMP,,t24i000,
1675 NSOL,27,(NODE(0.0,      (3.0*PITCH+ATWCL),0.0)),TEMP,,a24i000,
1676 NSOL,28,(NODE(0.0,      (3.0*PITCH+STWCL),0.0)),TEMP,,s24i000,
1677 NSOL,29,(NODE(0.0,      (3.0*PITCH+TGPCL),0.0)),TEMP,,h24i000,
1678 NSOL,30,(NODE(0.0,      (3.5*PITCH),0.0)),TEMP,,c24i000,
1679 NSOL,31,(NODE(0.0,      (3.5*PITCH+QCELL),0.0)),TEMP,,h24o000,
1680 NSOL,32,(NODE(0.0,      (3.5*PITCH+HCELL),0.0)),TEMP,,s24o000,
1681 NSOL,33,(NODE(0.0,      (3.5*PITCH+SCELL),0.0)),TEMP,,t24o000,
1682 NSOL,34,(NODE(0.0,      (GY11-TPGPT),0.0)),TEMP,,g24i000,
1683 NSOL,35,(NODE(0.0,      (GY11),0.0)),TEMP,,g24o000,
1684 NSOL,36,(NODE(0.0,      (MIRAD),0.0)),TEMP,,m24i000,
1685 NSOL,37,(NODE(0.0,      (MIRAD+MWALL),0.0)),TEMP,,m24o000,
1686 NSOL,38,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i24i000,
1687 NSOL,39,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i24o000,
1688 NSOL,40,(NODE(0.0,      (DCRAD),0.0)),TEMP,,o24o000,
1689 PRVAR, 2, 3, 4, 5, 6, 7,
1690 PRVAR, 8, 9,10,11,12,13,
1691 PRVAR,14,15,16,17,18,19,
1692 PRVAR,20,21,22,23,24,25,
1693 PRVAR,26,27,28,29,30,31,
1694 PRVAR,32,33,34,35,36,37,
1695 PRVAR,38,39,40,
1696 FINISH
1697 /COM,      *****
1698 /COM,      End of batch input file

```

```
1699 /COM, *****
1700 /EXIT,
1701 /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 03/07/1995
2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz

* *
* File name: ma40b1.inp *
* 40 BWR MPC with High T.L. Disposal Container *
* Helium Fill Gas *
* *
* Material Property file: props01.dat *
* *
* SNF Conductivity file: pwr15e.parm (check for Changes) *
* GE-7 8x8 SNF Assembly *
* *
* SNF Heat Loads file: bwr1049.dat *
* SNF Type: 10 years old, 49 GWD/MTU *
* *
* Surface Temp. file: c21b5a.parm *
* 83 MTU/acre (20.5 kgU/m²) AML (High Thermal Loading) *
* 5.0 m Diameter Drift with Concrete Invert *
* Drift spacing = 22.5 m *
* WP c/c spacing = 19.477 m *
* *

Increase the number of database pages from 16 (256) to 32 Mb

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

TITLE=

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
MASS = KILOGRAMS(KG)
TIME = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT = AMPS

Define Transient time parameters

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

 Read in average effective conductivities from SNF model

*** NOTE *** CP= .780 TIME= 17:24:47
 Restore ANSYS parameters from file= pwr15e.parm.

/INPUT FILE= pwr15e.parm LINE= 0

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

*** NOTE *** CP= .990 TIME= 17:24:48
 Restore ANSYS parameters from file= c21b5a.parm.

/INPUT FILE= c21b5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

 Define MPC/waste package parameters
 (MPC dimensions converted from inches to meters)
 Required Constants:

PARAMETER PI = 3.141593

Required container wall parameters:
 MIRAD = inner radius of MPC shell (m)
 MWALL = MPC shell thickness (m)
 DCRAD = disposal container outer radius (m)
 OWALL = outer barrier thickness (m)
 IWALL = inner barrier thickness (m)

PARAMETER MIRAD = .7404100
 PARAMETER MWALL = .2540000E-01
 PARAMETER DCRAD = .9008000
 PARAMETER OWALL = .1000000
 PARAMETER IWALL = .2000000E-01

Required outer guide hardware parameters:
 Set 1: TPGPL = top/bottom guide plate length (m)
 TPGPT = top/bottom guide plate thickness (m)
 PARAMETER TPGPL = .1606296
 PARAMETER TPGPT = .6350000E-02

Set 2: SGCCW = Width; corner guide to far corner side guide (m)

SGCMW = Width; Side guide corner to Middle side guide (m)
SGCD1 = Vert. Dist. Down to Corner of Guide (m)

PARAMETER SGCCW = .5367528

PARAMETER SGCMW = .1722374

PARAMETER SGCD1 = .1772666

SET 3: GCORV = corner guide Vertical width (m)
GCORH = corner guide Horizontal width (m)
GX32 = X coord. of upper contact from drawing. (m)
GY32 = Y coord. of upper contact from drawing. (m)

PARAMETER GCORV = .1971040

PARAMETER GCORH = .1705864

PARAMETER GX32 = .4739989

PARAMETER GY32 = .5687987

SET 4: GLEN1 = side guide Low width (m)
GLEN2 = side guide High width (m)
GLENT = side guide total width (m)
GWALL = guide thickness (m)

PARAMETER GLEN1 = .1709166

PARAMETER GLEN2 = .3539998

PARAMETER GLENT = .7331964

PARAMETER GWALL = .9525000E-02

Required Tube/Fuel parameters:

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
AWALL = Al/boron tube thickness (m)
TWALL = stainless tube cladding thickness (m)
ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

PARAMETER HCELL = .7620000E-01

PARAMETER SWALL = .6350000E-02

PARAMETER AWALL = .6350000E-02

PARAMETER TWALL = .2387600E-02

PARAMETER ACTVL = 3.810000

PARAMETER PEAKF = 1.400000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)
FUEL = volumetric heat production (W/m3) f(yrs)
FVOLUME = assy_volume=cell_width^2*active_length
PITCH = basket cell outer width (m)
QCELL = 1/4 of basket cell opening (m)
SCCELL = 1/2 of basket cell opening+SS wall(m)
ACCELL = 1/2 of basket cell opening+SS+AL (m)
ATWCL = Dist. to edge of B-AL plate (m)
STWCL = Dist. to edge of Steel Bask. Plate (m)
TQPCL = Top quarter of cell dist. (m)

ARRAY PARAMETER ASSY DELETED.

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

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

PARAMETER FVOLL = .8849015E-01

PARAMETER PITCH = .1825752

PARAMETER QCELL = .3810000E-01

PARAMETER SCELL = .8255000E-01

PARAMETER ACELL = .8890000E-01

PARAMETER ATWCL = .8737600E-02

PARAMETER STWCL = .1508760E-01

PARAMETER TQPCL = .5318760E-01

 Determine the required contact points for the outer guide hardware
 GX## = x coord. of guide/shell contact
 GY## = y coord. of guide/shell contact

Set 1:

PARAMETER GX11 = .8031480E-01

PARAMETER GY11 = .7360411

Set 3:

PARAMETER GX31 = .6350603

PARAMETER GY31 = .3812197

Set 2:

PARAMETER GX24 = .9830753E-01

PARAMETER GY24 = .7338546

PARAMETER GX23 = .1078325

PARAMETER GY23 = .7325156

PARAMETER GX22 = .2705449

PARAMETER GY22 = .6892114

PARAMETER GX21 = .2800699

PARAMETER GY21 = .6853961

Set 4:

PARAMETER GY41 = .4762500E-02

PARAMETER GX41 = .7403947

PARAMETER GY44 = .3587623

PARAMETER GX44 = .6476856

PARAMETER GY43 = .1878457

PARAMETER GX43 = .7161850

PARAMETER GY42 = .1783207

PARAMETER GX42 = .7186158

Define 45 degree point of reference:

MI45 = x coord. MIRAD at 45 deg.
 MO45 = x coord. MIRAD+MWALL at 45 deg.
 DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 DM45 = x coord. DCRAD-OWALL at 45 deg.
 DO45 = x coord. DCRAD at 45 deg.
 OFFS = 45 degree Y off set to go through centers

PARAMETER MI45 = .5235489

PARAMETER MO45 = .5415094

PARAMETER DI45 = .5521090

PARAMETER DM45 = .5662511

PARAMETER DO45 = .6369618

PARAMETER OFFS = .9128760E-01

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:24:49 APR 01, 1995 CP= 1.950
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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
	176.6700	204.4400

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

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

*** PROPERTY TEMPERATURE TABLE	NUM. TEMPS=	24 ***
SLOC= 19	593.3300	621.1100
	676.6700	704.4400

*** 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= bwr1049.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: bwr1049.dat **
** Execution Date: 03/07/95 **
** Start Age (years): 10.0 **
** Decay Period (years): 10000 **
** Enrichment (percent): 3.74 **
** Burnup (MWd/MTU): 49000 **
** Assembly Type: BWR **
** SNF U Mass (MTU/assy): 0.200 **
**
** ASSY(#,1) is the SNF assembly heat in Watts. **
** ASSY(#,0) is the time post emplacement in years. **

PARAMETER ASSY(1,1) = 409.4200 409.2500 409.0700 408.9000
408.7300 408.5500
PARAMETER ASSY(7,1) = 408.3800 408.2000 408.0300 407.8600
407.6800 406.8200
PARAMETER ASSY(13,1) = 405.9700 405.1200 404.2800 403.4400

	402.6100	401.7900		
PARAMETER ASSY(19,1) =	400.9700 397.7400	400.1500 396.9500	399.3400	398.5400
PARAMETER ASSY(25,1) =	396.1600 393.0600	395.3800 386.0700	394.6000	393.8300
PARAMETER ASSY(31,1) =	379.4900 357.2900	373.4300 352.6900	367.7000	362.3600
PARAMETER ASSY(37,1) =	348.3000 331.0000	343.5600 327.1800	339.0300	334.9300
PARAMETER ASSY(43,1) =	323.5200 310.5600	319.9200 280.3200	316.4600	313.4600
PARAMETER ASSY(49,1) =	255.6100 183.3200	233.4000 169.5700	214.5200	197.6200
PARAMETER ASSY(55,1) =	157.9000 122.2500	147.4800 115.4800	138.1500	129.7800
PARAMETER ASSY(61,1) =	109.3700 90.35000	103.8500 64.29000	99.33000	94.47000
PARAMETER ASSY(67,1) =	51.61000 31.79000	43.92000 29.32000	38.89000	34.91000
PARAMETER ASSY(73,1) =	27.23000 21.02000	25.32000 19.82000	23.69000	22.28000
PARAMETER ASSY(79,1) =	18.76000 15.49000	17.81000 10.52000	16.96000	16.20000
PARAMETER ASSY(85,1) =	8.210000 5.640000	7.000000 5.430000	6.340000	5.950000
PARAMETER ASSY(91,1) =	5.250000 4.510000	5.030000 4.350000	4.830000	4.660000
PARAMETER ASSY(97,1) =	4.210000 3.750000	4.080000	3.960000	3.850000
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= 15.821
 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= 15.821 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 3882.420

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1

SLOC= 1 284.0100

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 and MPC outer radius
 (K's 9,10,11,12,13,14,15,16,17,18,19,20)
 (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
 (A's 1,2,3,4,5)

KEYPOINT 9 X,Y,Z= .000000E+00 -.900800 .000000E+00 IN CSYS= 0
 KEYPOINT 10 X,Y,Z= .900800 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .900800 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.800800 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .800800 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .800800 .000000E+00 IN CSYS= 0
 KEYPOINT 15 X,Y,Z= .000000E+00 -.780800 .000000E+00 IN CSYS= 0
 KEYPOINT 16 X,Y,Z= .780800 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 17 X,Y,Z= .000000E+00 .780800 .000000E+00 IN CSYS= 0
 KEYPOINT 18 X,Y,Z= .000000E+00 -.765810 .000000E+00 IN CSYS= 0
 KEYPOINT 19 X,Y,Z= .765810 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 20 X,Y,Z= .000000E+00 .765810 .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

LINE CONNECTS KEYPOINTS 13 16
 LINE NO.= 6 KP1= 13 TAN1= 1.0000 .0000 .0000
 KP2= 16 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .90080
 LINE NO.= 7 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .90080
 LINE NO.= 8 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 9 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 10 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

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

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

ARC BETWEEN KEYPOINTS 15 AND 16 ORIENTATION KEYPOINT= 1
 RADIUS= .78080

LINE NO.= 13 KP1= 15 TAN1= -1.0000 .0000 .0000
 KP2= 16 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 16 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .78080

LINE NO.= 14 KP1= 16 TAN1= .0000 -1.0000 .0000
 KP2= 17 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 14 17
 LINE NO.= 15 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 17 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 12 15
 LINE NO.= 16 KP1= 12 TAN1= .0000 -1.0000 .0000
 KP2= 15 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .76581

LINE NO.= 17 KP1= 19 TAN1= .0000 1.0000 .0000
 KP2= 18 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .76581

LINE NO.= 18 KP1= 20 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 17 20
 LINE NO.= 19 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 20 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 18
 LINE NO.= 20 KP1= 15 TAN1= .0000 -1.0000 .0000
 KP2= 18 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 5 7 12 9
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES

LINE LIST = 11 8 5 10
 (TRAVERSED IN SAME DIRECTION AS LINE 11)

AREA NUMBER = 2

DEFINE AREA BY LIST OF LINES

LINE LIST = 6 9 16 13
 (TRAVERSED IN SAME DIRECTION AS LINE 6)

AREA NUMBER = 3

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 10 6 14
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 4

DEFINE AREA BY LIST OF LINES

LINE LIST = 19 14 13 20 17 18
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 5

Define MPC shell inner edge and area

(K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)

(38, 39, 40, 41, 42, 43, 44)

(L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)

(38,39, 40, 41, 42, 43, 44, 45)

(A's 6)

KEYPOINT	21	X,Y,Z=	.000000E+00	.740410	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.803148E-01	.736041	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.983075E-01	.733855	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.107833	.732516	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.270545	.689211	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.280070	.685396	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.473999	.568799	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.635060	.381220	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.647686	.358762	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.716185	.187846	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.718616	.178321	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.740395	.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.740395	-.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	34	X,Y,Z=	.718616	-.178321	.000000E+00	IN CSYS= 0
KEYPOINT	35	X,Y,Z=	.716185	-.187846	.000000E+00	IN CSYS= 0
KEYPOINT	36	X,Y,Z=	.647686	-.358762	.000000E+00	IN CSYS= 0
KEYPOINT	37	X,Y,Z=	.635060	-.381220	.000000E+00	IN CSYS= 0
KEYPOINT	38	X,Y,Z=	.473999	-.568799	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.280070	-.685396	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.270545	-.689211	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.107833	-.732516	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.983075E-01	-.733855	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.803148E-01	-.736041	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.000000E+00	-.740410	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		20	21			
LINE NO.=	21	KP1=	20	TAN1=	.0000	1.0000
		KP2=	21	TAN2=	.0000	-1.0000
					.0000	.0000

ARC BETWEEN KEYPOINTS		22	AND	21	ORIENTATION KEYPOINT=	1
RADIUS=		.74041				
LINE NO.=	22	KP1=	22	TAN1=	.9941	-.1085
		KP2=	21	TAN2=	-1.0000	.0000
					.0000	.0000

ARC BETWEEN KEYPOINTS		23	AND	22	ORIENTATION KEYPOINT=	1
RADIUS=		.74041				
LINE NO.=	23	KP1=	23	TAN1=	.9911	-.1328
		KP2=	22	TAN2=	-.9941	.1085
					.0000	.0000

ARC BETWEEN KEYPOINTS		24	AND	23	ORIENTATION KEYPOINT=	1
RADIUS=		.74041				
LINE NO.=	24	KP1=	24	TAN1=	.9893	-.1456
		KP2=	23	TAN2=	-.9911	.1328
					.0000	.0000

ARC BETWEEN KEYPOINTS		25	AND	24	ORIENTATION KEYPOINT=	1
RADIUS=		.74041				

LINE NO.= 25	KP1= 25	TAN1= .9309	-.3654	.0000
	KP2= 24	TAN2= -.9893	.1456	.0000
ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 26	KP1= 26	TAN1= .9257	-.3783	.0000
	KP2= 25	TAN2= -.9309	.3654	.0000
ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 27	KP1= 27	TAN1= .7682	-.6402	.0000
	KP2= 26	TAN2= -.9257	.3783	.0000
ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 28	KP1= 28	TAN1= .5156	-.8568	.0000
	KP2= 27	TAN2= -.7690	.6393	.0000
ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 29	KP1= 29	TAN1= .4748	-.8801	.0000
	KP2= 28	TAN2= -.5051	.8630	.0000
ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 30	KP1= 30	TAN1= .2537	-.9673	.0000
	KP2= 29	TAN2= -.4845	.8748	.0000
ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 31	KP1= 31	TAN1= .2408	-.9706	.0000
	KP2= 30	TAN2= -.2537	.9673	.0000
ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 32	KP1= 32	TAN1= .0064	-1.0000	.0000
	KP2= 31	TAN2= -.2408	.9706	.0000
ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 33	KP1= 33	TAN1= -.0064	-1.0000	.0000
	KP2= 32	TAN2= -.0064	1.0000	.0000
ARC BETWEEN KEYPOINTS 34 AND 33 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 34	KP1= 34	TAN1= -.2408	-.9706	.0000
	KP2= 33	TAN2= .0064	1.0000	.0000
ARC BETWEEN KEYPOINTS 35 AND 34 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 35	KP1= 35	TAN1= -.2537	-.9673	.0000
	KP2= 34	TAN2= .2408	.9706	.0000
ARC BETWEEN KEYPOINTS 36 AND 35 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 36	KP1= 36	TAN1= -.4845	-.8748	.0000
	KP2= 35	TAN2= .2537	.9673	.0000
ARC BETWEEN KEYPOINTS 37 AND 36 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 37	KP1= 37	TAN1= -.5051	-.8630	.0000
	KP2= 36	TAN2= .4748	.8801	.0000
ARC BETWEEN KEYPOINTS 38 AND 37 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				
LINE NO.= 38	KP1= 38	TAN1= -.7690	-.6393	.0000
	KP2= 37	TAN2= .5156	.8568	.0000
ARC BETWEEN KEYPOINTS 39 AND 38 ORIENTATION KEYPOINT= 1				
RADIUS= .74041				

LINE NO.= 39 KP1= 39 TAN1= -.9257 -.3783 .0000
 KP2= 38 TAN2= .7682 .6402 .0000

ARC BETWEEN KEYPOINTS 40 AND 39 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 40 KP1= 40 TAN1= -.9309 -.3654 .0000
 KP2= 39 TAN2= .9257 .3783 .0000

ARC BETWEEN KEYPOINTS 41 AND 40 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 41 KP1= 41 TAN1= -.9893 -.1456 .0000
 KP2= 40 TAN2= .9309 .3654 .0000

ARC BETWEEN KEYPOINTS 42 AND 41 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 42 KP1= 42 TAN1= -.9911 -.1328 .0000
 KP2= 41 TAN2= .9893 .1456 .0000

ARC BETWEEN KEYPOINTS 43 AND 42 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 43 KP1= 43 TAN1= -.9941 -.1085 .0000
 KP2= 42 TAN2= .9911 .1328 .0000

ARC BETWEEN KEYPOINTS 44 AND 43 ORIENTATION KEYPOINT= 1
 RADIUS= .74041

LINE NO.= 44 KP1= 44 TAN1= -1.0000 .0000 .0000
 KP2= 43 TAN2= .9941 .1085 .0000

LINE CONNECTS KEYPOINTS 18 44
 LINE NO.= 45 KP1= 18 TAN1= .0000 -1.0000 .0000
 KP2= 44 TAN2= .0000 1.0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 45 STEP 1

25 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 17 TO 18 STEP 1

27 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 6

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 45 STEP 1

45 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides

(K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
 (62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
 (79,80,81,82)
 (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
 (63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
 (80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
 (97,98,99,100,101,102,103,104,105,106,107,108,109,110)
 (111,112,113,114,115)
 (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
 (25,26,27,28,29,30,31,32,33,34,35,36,37,38)

Set 1: top plate

KEYPOINT 45 X,Y,Z= .803148E-01 .726516 .000000E+00 IN CSYS= 0

KEYPOINT 46 X,Y,Z= .000000E+00 .736041 .000000E+00 IN CSYS= 0

KEYPOINT 47 X,Y,Z= .000000E+00 .726516 .000000E+00 IN CSYS= 0

Set 2: top side guide

KEYPOINT 48 X,Y,Z= .983075E-01 .556588 .000000E+00 IN CSYS= 0

KEYPOINT 49 X,Y,Z= .107833 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 50 X,Y,Z= .270545 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 51 X,Y,Z= .280070 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 52 X,Y,Z= .464474 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 53 X,Y,Z= .464474 .556588 .000000E+00 IN CSYS= 0

KEYPOINT 54 X,Y,Z= .473999 .566113 .000000E+00 IN CSYS= 0

KEYPOINT 55 X,Y,Z= .473999 .556588 .000000E+00 IN CSYS= 0

Set 3: top corner

KEYPOINT 56 X,Y,Z= .464474 .568799 .000000E+00 IN CSYS= 0

KEYPOINT 57 X,Y,Z= .464474 .371695 .000000E+00 IN CSYS= 0

KEYPOINT 58 X,Y,Z= .473999 .381220 .000000E+00 IN CSYS= 0

KEYPOINT 59 X,Y,Z= .635060 .371695 .000000E+00 IN CSYS= 0

Set 4: side guide

KEYPOINT 60 X,Y,Z= .638161 .358762 .000000E+00 IN CSYS= 0

KEYPOINT 61 X,Y,Z= .638161 -.358762 .000000E+00 IN CSYS= 0

KEYPOINT 62 X,Y,Z= .647686 .187846 .000000E+00 IN CSYS= 0

KEYPOINT 63 X,Y,Z= .647686 .178321 .000000E+00 IN CSYS= 0

KEYPOINT 64 X,Y,Z= .647686 .476250E-02 .000000E+00 IN CSYS= 0

KEYPOINT 65 X,Y,Z= .647686 -.476250E-02 .000000E+00 IN CSYS= 0

KEYPOINT 66 X,Y,Z= .647686 -.178321 .000000E+00 IN CSYS= 0

KEYPOINT 67 X,Y,Z= .647686 -.187846 .000000E+00 IN CSYS= 0

Set 3: bottom corner

KEYPOINT 68 X,Y,Z= .464474 -.568799 .000000E+00 IN CSYS= 0

KEYPOINT 69 X,Y,Z= .464474 -.371695 .000000E+00 IN CSYS= 0

KEYPOINT 70 X,Y,Z= .473999 -.381220 .000000E+00 IN CSYS= 0

KEYPOINT 71 X,Y,Z= .635060 -.371695 .000000E+00 IN CSYS= 0

Set 2: bottom side guide

KEYPOINT 72 X,Y,Z= .983075E-01 -.556588 .000000E+00 IN CSYS= 0

KEYPOINT 73 X,Y,Z= .107833 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 74 X,Y,Z= .270545 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 75 X,Y,Z= .280070 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 76 X,Y,Z= .464474 -.566113 .000000E+00 IN CSYS= 0

KEYPOINT 77 X,Y,Z= .464474 -.556588 .000000E+00 IN CSYS= 0
 KEYPOINT 78 X,Y,Z= .473999 -.566113 .000000E+00 IN CSYS= 0
 KEYPOINT 79 X,Y,Z= .473999 -.556588 .000000E+00 IN CSYS= 0

Set 1: bottom plate

KEYPOINT 80 X,Y,Z= .803148E-01 -.726516 .000000E+00 IN CSYS= 0
 KEYPOINT 81 X,Y,Z= .000000E+00 -.736041 .000000E+00 IN CSYS= 0
 KEYPOINT 82 X,Y,Z= .000000E+00 -.726516 .000000E+00 IN CSYS= 0

Now Fill in the required lines:
 Set 1: bottom plate

LINE CONNECTS KEYPOINTS 21 46
 LINE NO.= 46 KP1= 21 TAN1= .0000 1.0000 .0000
 KP2= 46 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 47
 LINE NO.= 47 KP1= 46 TAN1= .0000 1.0000 .0000
 KP2= 47 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 22
 LINE NO.= 48 KP1= 46 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 22 45
 LINE NO.= 49 KP1= 22 TAN1= .0000 1.0000 .0000
 KP2= 45 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 45 47
 LINE NO.= 50 KP1= 45 TAN1= 1.0000 .0000 .0000
 KP2= 47 TAN2= -1.0000 .0000 .0000

Set 2: top side guide

LINE CONNECTS KEYPOINTS 48 23
 LINE NO.= 51 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 23 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 52 KP1= 48 TAN1= -.7071 -.7071 .0000
 KP2= 49 TAN2= .7071 .7071 .0000
 LINE CONNECTS KEYPOINTS 24 49
 LINE NO.= 53 KP1= 24 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 54 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 53 48
 LINE NO.= 55 KP1= 53 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 50 25
 LINE NO.= 56 KP1= 50 TAN1= .0000 -1.0000 .0000
 KP2= 25 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 26 51
 LINE NO.= 57 KP1= 26 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 58 KP1= 50 TAN1= -1.0000 .0000 .0000

	KP2=	51	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		51	52			
LINE NO.=	59	KP1=	51	TAN1=	-1.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		52	53			
LINE NO.=	60	KP1=	52	TAN1=	.0000	1.0000
		KP2=	53	TAN2=	.0000	-1.0000

Set 3: top corner

LINE CONNECTS KEYPOINTS		56	27			
LINE NO.=	61	KP1=	56	TAN1=	-1.0000	.0000
		KP2=	27	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		52	56			
LINE NO.=	62	KP1=	52	TAN1=	.0000	-1.0000
		KP2=	56	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		27	54			
LINE NO.=	63	KP1=	27	TAN1=	.0000	1.0000
		KP2=	54	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		54	55			
LINE NO.=	64	KP1=	54	TAN1=	.0000	1.0000
		KP2=	55	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		52	54			
LINE NO.=	65	KP1=	52	TAN1=	-1.0000	.0000
		KP2=	54	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		53	55			
LINE NO.=	66	KP1=	53	TAN1=	-1.0000	.0000
		KP2=	55	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		55	58			
LINE NO.=	67	KP1=	55	TAN1=	.0000	1.0000
		KP2=	58	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		57	53			
LINE NO.=	68	KP1=	57	TAN1=	.0000	-1.0000
		KP2=	53	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		57	58			
LINE NO.=	69	KP1=	57	TAN1=	-.7071	-.7071
		KP2=	58	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS		58	28			
LINE NO.=	70	KP1=	58	TAN1=	-1.0000	.0000
		KP2=	28	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		59	57			
LINE NO.=	71	KP1=	59	TAN1=	1.0000	.0000
		KP2=	57	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		28	59			
LINE NO.=	72	KP1=	28	TAN1=	.0000	1.0000
		KP2=	59	TAN2=	.0000	-1.0000

Set 4: side guide

LINE CONNECTS KEYPOINTS		60	29			
LINE NO.=	73	KP1=	60	TAN1=	-1.0000	.0000
		KP2=	29	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		61	60			
LINE NO.=	74	KP1=	61	TAN1=	.0000	-1.0000
		KP2=	60	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS 29 62
 LINE NO.= 75 KP1= 29 TAN1= .0000 1.0000 .0000
 KP2= 62 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 62 63
 LINE NO.= 76 KP1= 62 TAN1= .0000 1.0000 .0000
 KP2= 63 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 62 30
 LINE NO.= 77 KP1= 62 TAN1= -1.0000 .0000 .0000
 KP2= 30 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 31 63
 LINE NO.= 78 KP1= 31 TAN1= 1.0000 .0000 .0000
 KP2= 63 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 63 64
 LINE NO.= 79 KP1= 63 TAN1= .0000 1.0000 .0000
 KP2= 64 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 64 65
 LINE NO.= 80 KP1= 64 TAN1= .0000 1.0000 .0000
 KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 64 32
 LINE NO.= 81 KP1= 64 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 33 65
 LINE NO.= 82 KP1= 33 TAN1= 1.0000 .0000 .0000
 KP2= 65 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 65 66
 LINE NO.= 83 KP1= 65 TAN1= .0000 1.0000 .0000
 KP2= 66 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 66 67
 LINE NO.= 84 KP1= 66 TAN1= .0000 1.0000 .0000
 KP2= 67 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 66 34
 LINE NO.= 85 KP1= 66 TAN1= -1.0000 .0000 .0000
 KP2= 34 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 35 67
 LINE NO.= 86 KP1= 35 TAN1= 1.0000 .0000 .0000
 KP2= 67 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 67 36
 LINE NO.= 87 KP1= 67 TAN1= .0000 1.0000 .0000
 KP2= 36 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 36 61
 LINE NO.= 88 KP1= 36 TAN1= 1.0000 .0000 .0000
 KP2= 61 TAN2= -1.0000 .0000 .0000

Set 3: bottom corner

LINE CONNECTS KEYPOINTS 37 71
 LINE NO.= 89 KP1= 37 TAN1= .0000 -1.0000 .0000
 KP2= 71 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 69 71
 LINE NO.= 90 KP1= 69 TAN1= -1.0000 .0000 .0000
 KP2= 71 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 69 70
 LINE NO.= 91 KP1= 69 TAN1= -.7071 .7071 .0000
 KP2= 70 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	37	70			
LINE NO.= 92 KP1=	37	TAN1=	1.0000	.0000	.0000
KP2=	70	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	70	79			
LINE NO.= 93 KP1=	70	TAN1=	.0000	1.0000	.0000
KP2=	79	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	79	78			
LINE NO.= 94 KP1=	79	TAN1=	.0000	1.0000	.0000
KP2=	78	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	78	38			
LINE NO.= 95 KP1=	78	TAN1=	.0000	1.0000	.0000
KP2=	38	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	38	68			
LINE NO.= 96 KP1=	38	TAN1=	1.0000	.0000	.0000
KP2=	68	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	68	76			
LINE NO.= 97 KP1=	68	TAN1=	.0000	-1.0000	.0000
KP2=	76	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	76	77			
LINE NO.= 98 KP1=	76	TAN1=	.0000	-1.0000	.0000
KP2=	77	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	77	69			
LINE NO.= 99 KP1=	77	TAN1=	.0000	-1.0000	.0000
KP2=	69	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	76	78			
LINE NO.= 100 KP1=	76	TAN1=	-1.0000	.0000	.0000
KP2=	78	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	77	79			
LINE NO.= 101 KP1=	77	TAN1=	-1.0000	.0000	.0000
KP2=	79	TAN2=	1.0000	.0000	.0000

Set 2: bottom side guide

LINE CONNECTS KEYPOINTS	72	77			
LINE NO.= 102 KP1=	72	TAN1=	-1.0000	.0000	.0000
KP2=	77	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	72	73			
LINE NO.= 103 KP1=	72	TAN1=	-.7071	.7071	.0000
KP2=	73	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS	76	75			
LINE NO.= 104 KP1=	76	TAN1=	1.0000	.0000	.0000
KP2=	75	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	75	74			
LINE NO.= 105 KP1=	75	TAN1=	1.0000	.0000	.0000
KP2=	74	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	74	73			
LINE NO.= 106 KP1=	74	TAN1=	1.0000	.0000	.0000
KP2=	73	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	73	41			
LINE NO.= 107 KP1=	73	TAN1=	.0000	1.0000	.0000
KP2=	41	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	42	72			
LINE NO.= 108 KP1=	42	TAN1=	.0000	-1.0000	.0000
KP2=	72	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 40 74
 LINE NO.= 109 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 74 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 75 39
 LINE NO.= 110 KP1= 75 TAN1= .0000 1.0000 .0000
 KP2= 39 TAN2= .0000 -1.0000 .0000

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 80 43
 LINE NO.= 111 KP1= 80 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 82 80
 LINE NO.= 112 KP1= 82 TAN1= -1.0000 .0000 .0000
 KP2= 80 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 81
 LINE NO.= 113 KP1= 82 TAN1= .0000 1.0000 .0000
 KP2= 81 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 43 81
 LINE NO.= 114 KP1= 43 TAN1= 1.0000 .0000 .0000
 KP2= 81 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 81 44
 LINE NO.= 115 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 44 TAN2= .0000 -1.0000 .0000

Radiation/Back Fill Gas Gaps:
 Set 1: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 48 22
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 7
 Set 2: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 25 53 54 56
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 27 57 59 62 61
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 9
 Set 3: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 63 64 67 70
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 10
 Set 4: SIDE

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 75 77
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 32 78 79 81
 (TRAVERSED IN SAME DIRECTION AS LINE 32)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 34 82 83 85
(TRAVERSED IN SAME DIRECTION AS LINE 34)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 36 86 87
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 14
Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 38 92 93 94 95
(TRAVERSED IN SAME DIRECTION AS LINE 38)

AREA NUMBER = 15
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 96 97 104 110
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 41 109 106 107
(TRAVERSED IN SAME DIRECTION AS LINE 41)

AREA NUMBER = 17
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 114 115
(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 18
SOLID GUIDES:
Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 48 49 50
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 19
Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 51 52 53
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 55 60 59 58 54
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 56 58 57
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 22
Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 61 62 65 63

```
(TRAVERSED IN SAME DIRECTION AS LINE 61)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
LINE LIST = 65 60 66 64
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES
LINE LIST = 66 68 69 67
(TRAVERSED IN SAME DIRECTION AS LINE 66)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES
LINE LIST = 70 69 71 72
(TRAVERSED IN SAME DIRECTION AS LINE 70)

AREA NUMBER = 26
Set 4: SIDE

DEFINE AREA BY LIST OF LINES
LINE LIST = 73 74 88 87 84 83 80 79 76 75
(TRAVERSED IN SAME DIRECTION AS LINE 73)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES
LINE LIST = 31 77 76 78
(TRAVERSED IN SAME DIRECTION AS LINE 31)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
LINE LIST = 33 81 80 82
(TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
LINE LIST = 35 85 84 86
(TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 30
Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES
LINE LIST = 89 90 91 92
(TRAVERSED IN SAME DIRECTION AS LINE 89)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES
LINE LIST = 91 93 101 99
(TRAVERSED IN SAME DIRECTION AS LINE 91)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES
LINE LIST = 101 94 100 98
(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES
LINE LIST = 100 95 96 97
(TRAVERSED IN SAME DIRECTION AS LINE 100)
```

AREA NUMBER = 34
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES
LINE LIST = 102 93 104 105 106 103
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
LINE LIST = 40 110 105 109
(TRAVERSED IN SAME DIRECTION AS LINE 40)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES
LINE LIST = 42 107 103 108
(TRAVERSED IN SAME DIRECTION AS LINE 42)

AREA NUMBER = 37
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES
LINE LIST = 111 112 113 114
(TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 38

Define center edge half-tube
(K's 83,84,85,86,87,88,89,90,91,92,93,94)
(L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
(129,130,131,132,133)
(A's 39,40,41,42,43,44,45)

KEYPOINT	83	X,Y,Z=	.000000E+00	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	84	X,Y,Z=	.000000E+00	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	85	X,Y,Z=	.000000E+00	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	86	X,Y,Z=	.000000E+00	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	87	X,Y,Z=	.000000E+00	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	88	X,Y,Z=	.000000E+00	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	89	X,Y,Z=	.889000E-01	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	90	X,Y,Z=	.825500E-01	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	91	X,Y,Z=	.762000E-01	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	92	X,Y,Z=	.889000E-01	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	93	X,Y,Z=	.825500E-01	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	94	X,Y,Z=	.762000E-01	.167488	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	83	84
LINE NO.= 116	KP1= 83	TAN1= .0000 -1.0000 .0000
	KP2= 84	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	84	85
LINE NO.= 117	KP1= 84	TAN1= .0000 -1.0000 .0000
	KP2= 85	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	86	87
LINE NO.= 118	KP1= 86	TAN1= .0000 -1.0000 .0000
	KP2= 87	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 87 88
 LINE NO.= 119 KP1= 87 TAN1= .0000 -1.0000 .0000
 KP2= 88 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 89 83
 LINE NO.= 120 KP1= 89 TAN1= 1.0000 .0000 .0000
 KP2= 83 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 84 90
 LINE NO.= 121 KP1= 84 TAN1= -1.0000 .0000 .0000
 KP2= 90 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 85 91
 LINE NO.= 122 KP1= 85 TAN1= -1.0000 .0000 .0000
 KP2= 91 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 86 94
 LINE NO.= 123 KP1= 86 TAN1= -1.0000 .0000 .0000
 KP2= 94 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 87 93
 LINE NO.= 124 KP1= 87 TAN1= -1.0000 .0000 .0000
 KP2= 93 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 88 92
 LINE NO.= 125 KP1= 88 TAN1= -1.0000 .0000 .0000
 KP2= 92 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 90 89
 LINE NO.= 126 KP1= 90 TAN1= -.7071 .7071 .0000
 KP2= 89 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 91 90
 LINE NO.= 127 KP1= 91 TAN1= -.7071 .7071 .0000
 KP2= 90 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 94 93
 LINE NO.= 128 KP1= 94 TAN1= -.7071 -.7071 .0000
 KP2= 93 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 93 92
 LINE NO.= 129 KP1= 93 TAN1= -.7071 -.7071 .0000
 KP2= 92 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 85 86
 LINE NO.= 130 KP1= 85 TAN1= .0000 -1.0000 .0000
 KP2= 86 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 91 94
 LINE NO.= 131 KP1= 91 TAN1= .0000 -1.0000 .0000
 KP2= 94 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 90 93
 LINE NO.= 132 KP1= 90 TAN1= .0000 -1.0000 .0000
 KP2= 93 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 89 92
 LINE NO.= 133 KP1= 89 TAN1= .0000 -1.0000 .0000
 KP2= 92 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 130 123 131 122
 (TRAVERSED IN SAME DIRECTION AS LINE 130)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 116 121 126 120
 (TRAVERSED IN SAME DIRECTION AS LINE 116)

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AREA NUMBER =      40

DEFINE AREA BY LIST OF LINES
  LINE LIST = 117 122 127 121
  (TRAVERSED IN SAME DIRECTION AS LINE 117)

AREA NUMBER =      41

DEFINE AREA BY LIST OF LINES
  LINE LIST = 118 124 128 123
  (TRAVERSED IN SAME DIRECTION AS LINE 118)

AREA NUMBER =      42

DEFINE AREA BY LIST OF LINES
  LINE LIST = 119 125 129 124
  (TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER =      43

DEFINE AREA BY LIST OF LINES
  LINE LIST = 131 128 132 127
  (TRAVERSED IN SAME DIRECTION AS LINE 131)

AREA NUMBER =      44

DEFINE AREA BY LIST OF LINES
  LINE LIST = 132 129 133 126
  (TRAVERSED IN SAME DIRECTION AS LINE 132)

AREA NUMBER =      45
*****
  Define center full-tube
  (K's 95,96,97,98,99,100,101,102,103,104,105,106)
  (L's 134,135,136,137,138,139,140,141,142,143,144,145)
  ( 146,147,148,149,150,151,152,153)
  (A's 46,47,48,49,50,51,52,53,54)

KEYPOINT   95   X,Y,Z=   .936752E-01   .238760E-02   .000000E+00   IN CSYS=  0
KEYPOINT   96   X,Y,Z=   .271475         .238760E-02   .000000E+00   IN CSYS=  0
KEYPOINT   97   X,Y,Z=   .100025         .873760E-02   .000000E+00   IN CSYS=  0
KEYPOINT   98   X,Y,Z=   .265125         .873760E-02   .000000E+00   IN CSYS=  0
KEYPOINT   99   X,Y,Z=   .106375         .150876E-01   .000000E+00   IN CSYS=  0
KEYPOINT  100   X,Y,Z=   .258775         .150876E-01   .000000E+00   IN CSYS=  0
KEYPOINT  101   X,Y,Z=   .106375         .167488         .000000E+00   IN CSYS=  0
KEYPOINT  102   X,Y,Z=   .258775         .167488         .000000E+00   IN CSYS=  0
KEYPOINT  103   X,Y,Z=   .100025         .173838         .000000E+00   IN CSYS=  0
KEYPOINT  104   X,Y,Z=   .265125         .173838         .000000E+00   IN CSYS=  0
KEYPOINT  105   X,Y,Z=   .936752E-01   .180188         .000000E+00   IN CSYS=  0
KEYPOINT  106   X,Y,Z=   .271475         .180188         .000000E+00   IN CSYS=  0

LINE CONNECTS KEYPOINTS      95      97
LINE NO.= 134  KP1=      95  TAN1=   -.7071   -.7071   .0000
              KP2=      97  TAN2=    .7071    .7071   .0000

LINE CONNECTS KEYPOINTS      97      99
LINE NO.= 135  KP1=      97  TAN1=   -.7071   -.7071   .0000
              KP2=      99  TAN2=    .7071    .7071   .0000

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LINE CONNECTS KEYPOINTS	101	103			
LINE NO.= 136 KP1=	101	TAN1=	.7071	-.7071	.0000
KP2=	103	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	103	105			
LINE NO.= 137 KP1=	103	TAN1=	.7071	-.7071	.0000
KP2=	105	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	96	98			
LINE NO.= 138 KP1=	96	TAN1=	.7071	-.7071	.0000
KP2=	98	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	98	100			
LINE NO.= 139 KP1=	98	TAN1=	.7071	-.7071	.0000
KP2=	100	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	102	104			
LINE NO.= 140 KP1=	102	TAN1=	-.7071	-.7071	.0000
KP2=	104	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	104	106			
LINE NO.= 141 KP1=	104	TAN1=	-.7071	-.7071	.0000
KP2=	106	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS	96	95			
LINE NO.= 142 KP1=	96	TAN1=	1.0000	.0000	.0000
KP2=	95	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	97	98			
LINE NO.= 143 KP1=	97	TAN1=	-1.0000	.0000	.0000
KP2=	98	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	99	100			
LINE NO.= 144 KP1=	99	TAN1=	-1.0000	.0000	.0000
KP2=	100	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	101	102			
LINE NO.= 145 KP1=	101	TAN1=	-1.0000	.0000	.0000
KP2=	102	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	103	104			
LINE NO.= 146 KP1=	103	TAN1=	-1.0000	.0000	.0000
KP2=	104	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	105	106			
LINE NO.= 147 KP1=	105	TAN1=	-1.0000	.0000	.0000
KP2=	106	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	95	105			
LINE NO.= 148 KP1=	95	TAN1=	.0000	-1.0000	.0000
KP2=	105	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	97	103			
LINE NO.= 149 KP1=	97	TAN1=	.0000	-1.0000	.0000
KP2=	103	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	99	101			
LINE NO.= 150 KP1=	99	TAN1=	.0000	-1.0000	.0000
KP2=	101	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	100	102			
LINE NO.= 151 KP1=	100	TAN1=	.0000	-1.0000	.0000
KP2=	102	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	98	104			
LINE NO.= 152 KP1=	98	TAN1=	.0000	-1.0000	.0000
KP2=	104	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	106	96			
LINE NO.= 153 KP1=	106	TAN1=	.0000	1.0000	.0000

KP2= 96 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 144 151 145 150
(TRAVERSED IN SAME DIRECTION AS LINE 144)

AREA NUMBER = 46

DEFINE AREA BY LIST OF LINES

LINE LIST = 142 138 143 134
(TRAVERSED IN SAME DIRECTION AS LINE 142)

AREA NUMBER = 47

DEFINE AREA BY LIST OF LINES

LINE LIST = 143 139 144 135
(TRAVERSED IN SAME DIRECTION AS LINE 143)

AREA NUMBER = 48

DEFINE AREA BY LIST OF LINES

LINE LIST = 145 140 146 136
(TRAVERSED IN SAME DIRECTION AS LINE 145)

AREA NUMBER = 49

DEFINE AREA BY LIST OF LINES

LINE LIST = 146 141 147 137
(TRAVERSED IN SAME DIRECTION AS LINE 146)

AREA NUMBER = 50

DEFINE AREA BY LIST OF LINES

LINE LIST = 148 134 149 137
(TRAVERSED IN SAME DIRECTION AS LINE 148)

AREA NUMBER = 51

DEFINE AREA BY LIST OF LINES

LINE LIST = 149 135 150 136
(TRAVERSED IN SAME DIRECTION AS LINE 149)

AREA NUMBER = 52

DEFINE AREA BY LIST OF LINES

LINE LIST = 151 139 152 140
(TRAVERSED IN SAME DIRECTION AS LINE 151)

AREA NUMBER = 53

DEFINE AREA BY LIST OF LINES

LINE LIST = 152 138 153 141
(TRAVERSED IN SAME DIRECTION AS LINE 152)

AREA NUMBER = 54

Define edge half-tube

(K's 107,108,109,110,111,112,113,114,115,116,117)

(L's 154,155,156,157,158,159,160,161,162,163,164,165)

(166,167,168,169)

(A's 55,56,57,58,59,60)

KEYPOINT 107 X,Y,Z= .000000E+00 .715213 .000000E+00 IN CSYS= 0

KEYPOINT 108 X,Y,Z= .762000E-01 .715213 .000000E+00 IN CSYS= 0

KEYPOINT 109 X,Y,Z= .000000E+00 .562813 .000000E+00 IN CSYS= 0

KEYPOINT 110 X,Y,Z= .762000E-01 .562813 .000000E+00 IN CSYS= 0

KEYPOINT	111	X,Y,Z=	.000000E+00	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	112	X,Y,Z=	.825500E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	113	X,Y,Z=	.000000E+00	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	114	X,Y,Z=	.825500E-01	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	115	X,Y,Z=	.889000E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	116	X,Y,Z=	.000000E+00	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	117	X,Y,Z=	.889000E-01	.550113	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	116	113
LINE NO.= 154	KP1= 116	TAN1= .0000 -1.0000 .0000
	KP2= 113	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	113	109
LINE NO.= 155	KP1= 113	TAN1= .0000 -1.0000 .0000
	KP2= 109	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	107	111
LINE NO.= 156	KP1= 107	TAN1= .0000 -1.0000 .0000
	KP2= 111	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	114	117
LINE NO.= 157	KP1= 114	TAN1= -.7071 .7071 .0000
	KP2= 117	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	110	114
LINE NO.= 158	KP1= 110	TAN1= -.7071 .7071 .0000
	KP2= 114	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	112	115
LINE NO.= 159	KP1= 112	TAN1= -1.0000 .0000 .0000
	KP2= 115	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	108	112
LINE NO.= 160	KP1= 108	TAN1= -.7071 -.7071 .0000
	KP2= 112	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	116	117
LINE NO.= 161	KP1= 116	TAN1= -1.0000 .0000 .0000
	KP2= 117	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	113	114
LINE NO.= 162	KP1= 113	TAN1= -1.0000 .0000 .0000
	KP2= 114	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	109	110
LINE NO.= 163	KP1= 109	TAN1= -1.0000 .0000 .0000
	KP2= 110	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	108	107
LINE NO.= 164	KP1= 108	TAN1= 1.0000 .0000 .0000
	KP2= 107	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	111	112
LINE NO.= 165	KP1= 111	TAN1= -1.0000 .0000 .0000
	KP2= 112	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	109	107
LINE NO.= 166	KP1= 109	TAN1= .0000 -1.0000 .0000
	KP2= 107	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	110	108
LINE NO.= 167	KP1= 110	TAN1= .0000 -1.0000 .0000
	KP2= 108	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 114 112
 LINE NO.= 168 KP1= 114 TAN1= .0000 -1.0000 .0000
 KP2= 112 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 115 117
 LINE NO.= 169 KP1= 115 TAN1= .0000 1.0000 .0000
 KP2= 117 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 166 163 167 164
 (TRAVERSED IN SAME DIRECTION AS LINE 166)

AREA NUMBER = 55

DEFINE AREA BY LIST OF LINES
 LINE LIST = 161 157 162 154
 (TRAVERSED IN SAME DIRECTION AS LINE 161)

AREA NUMBER = 56

DEFINE AREA BY LIST OF LINES
 LINE LIST = 162 158 163 155
 (TRAVERSED IN SAME DIRECTION AS LINE 162)

AREA NUMBER = 57

DEFINE AREA BY LIST OF LINES
 LINE LIST = 164 160 165 156
 (TRAVERSED IN SAME DIRECTION AS LINE 164)

AREA NUMBER = 58

DEFINE AREA BY LIST OF LINES
 LINE LIST = 167 158 168 160
 (TRAVERSED IN SAME DIRECTION AS LINE 167)

AREA NUMBER = 59

DEFINE AREA BY LIST OF LINES
 LINE LIST = 168 157 169 159
 (TRAVERSED IN SAME DIRECTION AS LINE 168)

AREA NUMBER = 60

Define edge full-tube
 (K's 118,119,120,121,122,123,124,125,126,127,128,129)
 (L's 170,171,172,173,174,175,176,177,178,179,180,181)
 (182,183,184,185,186,187,188)
 (A's 61,62,63,64,65,66,67,68)

KEYPOINT	118	X,Y,Z=	.471526	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	119	X,Y,Z=	.623926	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	120	X,Y,Z=	.471526	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	121	X,Y,Z=	.623926	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	122	X,Y,Z=	.465176	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	123	X,Y,Z=	.630276	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	124	X,Y,Z=	.465176	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	125	X,Y,Z=	.630276	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	126	X,Y,Z=	.458826	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	127	X,Y,Z=	.630276	.238760E-02	.000000E+00	IN CSYS= 0

KEYPOINT	128	X,Y,Z=	.458826	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	129	X,Y,Z=	.630276	.180188	.000000E+00	IN CSYS= 0
LINE CONNECTS KEYPOINTS	122	126				
LINE NO.=	170	KP1=	122	TAN1=	.7071	.0000
		KP2=	126	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS	118	122				
LINE NO.=	171	KP1=	118	TAN1=	.7071	.0000
		KP2=	122	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS	120	124				
LINE NO.=	172	KP1=	120	TAN1=	.7071	.0000
		KP2=	124	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS	124	128				
LINE NO.=	173	KP1=	124	TAN1=	.7071	.0000
		KP2=	128	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS	123	127				
LINE NO.=	174	KP1=	123	TAN1=	.0000	1.0000
		KP2=	127	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS	119	123				
LINE NO.=	175	KP1=	119	TAN1=	-.7071	.0000
		KP2=	123	TAN2=	.7071	.0000
LINE CONNECTS KEYPOINTS	121	125				
LINE NO.=	176	KP1=	121	TAN1=	-.7071	.0000
		KP2=	125	TAN2=	.7071	.0000
LINE CONNECTS KEYPOINTS	129	125				
LINE NO.=	177	KP1=	129	TAN1=	.0000	1.0000
		KP2=	125	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS	127	126				
LINE NO.=	178	KP1=	127	TAN1=	1.0000	.0000
		KP2=	126	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS	122	123				
LINE NO.=	179	KP1=	122	TAN1=	-1.0000	.0000
		KP2=	123	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS	118	119				
LINE NO.=	180	KP1=	118	TAN1=	-1.0000	.0000
		KP2=	119	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS	120	121				
LINE NO.=	181	KP1=	120	TAN1=	-1.0000	.0000
		KP2=	121	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS	124	125				
LINE NO.=	182	KP1=	124	TAN1=	-1.0000	.0000
		KP2=	125	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS	128	129				
LINE NO.=	183	KP1=	128	TAN1=	-1.0000	.0000
		KP2=	129	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS	126	128				
LINE NO.=	184	KP1=	126	TAN1=	.0000	-1.0000
		KP2=	128	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS	122	124				
LINE NO.=	185	KP1=	122	TAN1=	.0000	-1.0000
		KP2=	124	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS	118	120				
LINE NO.=	186	KP1=	118	TAN1=	.0000	-1.0000

```

      KP2=   120  TAN2=   .0000  1.0000  .0000
LINE CONNECTS KEYPOINTS   119  121
LINE NO.=  187  KP1=   119  TAN1=   .0000 -1.0000  .0000
      KP2=   121  TAN2=   .0000  1.0000  .0000

LINE CONNECTS KEYPOINTS   125  123
LINE NO.=  188  KP1=   125  TAN1=   .0000  1.0000  .0000
      KP2=   123  TAN2=   .0000 -1.0000  .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  180 187 181 186
(TRAVERSED IN SAME DIRECTION AS LINE 180)

```

AREA NUMBER = 61

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  178 174 179 170
(TRAVERSED IN SAME DIRECTION AS LINE 178)

```

AREA NUMBER = 62

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  179 175 180 171
(TRAVERSED IN SAME DIRECTION AS LINE 179)

```

AREA NUMBER = 63

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  181 176 182 172
(TRAVERSED IN SAME DIRECTION AS LINE 181)

```

AREA NUMBER = 64

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  182 177 183 173
(TRAVERSED IN SAME DIRECTION AS LINE 182)

```

AREA NUMBER = 65

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  184 170 185 173
(TRAVERSED IN SAME DIRECTION AS LINE 184)

```

AREA NUMBER = 66

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  185 171 186 172
(TRAVERSED IN SAME DIRECTION AS LINE 185)

```

AREA NUMBER = 67

```

DEFINE AREA BY LIST OF LINES
LINE LIST =  187 175 188 176
(TRAVERSED IN SAME DIRECTION AS LINE 187)

```

AREA NUMBER = 68

```

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03
*****

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```

Set element shapes and sizes for tubes
8x8 mesh in fuel with 2
divisions per tube layer

```

```

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

```

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 130 TO 133 STEP 1
4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 142 TO 153 STEP 1
16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 166 TO 169 STEP 1
20 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 178 TO 188 STEP 1
31 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 8, SPACING RATIO = 1.000
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 120 TO 125 STEP 1
6 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 161 TO 165 STEP 1
11 LINES (OF 188 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 116 TO 119 STEP 1
4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 126 TO 129 STEP 1
8 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 134 TO 141 STEP 1
16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 154 TO 160 STEP 1
23 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 170 TO 177 STEP 1
31 LINES (OF 188 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 188 STEP 1
188 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless, then aluminum

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 45
MAXIMUM ELEMENT NUMBER = 32

GENERATE NODES AND ELEMENTS
IN AREAS 46 TO 46 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 126
MAXIMUM ELEMENT NUMBER = 96

GENERATE NODES AND ELEMENTS
IN AREAS 55 TO 55 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 171
MAXIMUM ELEMENT NUMBER = 128

GENERATE NODES AND ELEMENTS
IN AREAS 61 TO 61 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 252
MAXIMUM ELEMENT NUMBER = 192

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 41 TO 42 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 272
MAXIMUM ELEMENT NUMBER = 208

GENERATE NODES AND ELEMENTS
IN AREAS 44 TO 44 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 286
MAXIMUM ELEMENT NUMBER = 224

GENERATE NODES AND ELEMENTS
IN AREAS 48 TO 49 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 322
MAXIMUM ELEMENT NUMBER = 256

GENERATE NODES AND ELEMENTS
IN AREAS 52 TO 53 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 350
MAXIMUM ELEMENT NUMBER = 288

GENERATE NODES AND ELEMENTS
IN AREAS 57 TO 59 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 384


```

MAXIMUM ELEMENT NUMBER      =      320

GENERATE NODES AND ELEMENTS
  IN AREAS      63 TO      64 IN STEPS OF      1

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      420
MAXIMUM ELEMENT NUMBER      =      352

GENERATE NODES AND ELEMENTS
  IN AREAS      67 TO      68 IN STEPS OF      1

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      448
MAXIMUM ELEMENT NUMBER      =      384

MATERIAL NUMBER SET TO      13

ELEMENT TYPE SET TO      1

GENERATE NODES AND ELEMENTS
  IN AREAS      40 TO      43 IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      468
MAXIMUM ELEMENT NUMBER      =      400

GENERATE NODES AND ELEMENTS
  IN AREAS      45 TO      45 IN STEPS OF      1

NUMBER OF AREAS MESHED      =      1
MAXIMUM NODE NUMBER        =      482
MAXIMUM ELEMENT NUMBER      =      416

GENERATE NODES AND ELEMENTS
  IN AREAS      47 TO      50 IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      518
MAXIMUM ELEMENT NUMBER      =      448

GENERATE NODES AND ELEMENTS
  IN AREAS      51 TO      54 IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      546
MAXIMUM ELEMENT NUMBER      =      480

GENERATE NODES AND ELEMENTS
  IN AREAS      56 TO      60 IN STEPS OF      4

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      572
MAXIMUM ELEMENT NUMBER      =      504

GENERATE NODES AND ELEMENTS
  IN AREAS      62 TO      65 IN STEPS OF      3

NUMBER OF AREAS MESHED      =      2
MAXIMUM NODE NUMBER        =      608
MAXIMUM ELEMENT NUMBER      =      536

GENERATE NODES AND ELEMENTS
  IN AREAS      66 TO      66 IN STEPS OF      1

NUMBER OF AREAS MESHED      =      1
MAXIMUM NODE NUMBER        =      622
MAXIMUM ELEMENT NUMBER      =      552

```

Copy tube mesh

center half tube above and below
(A's 69-75,76-82)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 39 TO 45 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 848
MAXIMUM ELEMENT NUMBER = 744
(A's 83-89,90-96,97-103)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 39 TO 45 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1187
MAXIMUM ELEMENT NUMBER = 1032

center fuel tube above and below
(A's 104-112,113-121)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1605
MAXIMUM ELEMENT NUMBER = 1416
(A's 122-130,131-139,140-148)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2232
MAXIMUM ELEMENT NUMBER = 1992
(A's 149-157)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 46 TO 54 IN STEPS OF 1
DX,DY,DZ= .183 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2441
MAXIMUM ELEMENT NUMBER = 2184
(A's 158-166,167-175)

GENERATE 3 TOTAL SETS OF AREAS
SET IS FROM 149 TO 157 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2859
MAXIMUM ELEMENT NUMBER = 2568
(A's 176-184,185-193,194-202)

GENERATE 4 TOTAL SETS OF AREAS
SET IS FROM 149 TO 157 IN STEPS OF 1
DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3486
MAXIMUM ELEMENT NUMBER = 3144

side edge fuel tube above and below
(A's 203-210)

GENERATE 2 TOTAL SETS OF AREAS
SET IS FROM 61 TO 68 IN STEPS OF 1
DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3681
MAXIMUM ELEMENT NUMBER = 3320

(A's 211-218,219-226)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 4071
 MAXIMUM ELEMENT NUMBER = 3672

edge half tube bottom (13)
 (A's 227-232)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 55 TO 60 IN STEPS OF 1

MAXIMUM NODE NUMBER = 4176
 MAXIMUM ELEMENT NUMBER = 3760

Define thin stainless layers
 (K's 380,381,382,383,384,385,286,387,388,389, through 397)
 (A's 233 - 301)

KEYPOINT	380	X,Y,Z=	.912876E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	381	X,Y,Z=	.912876E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	382	X,Y,Z=	.912876E-01	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	383	X,Y,Z=	.936752E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	384	X,Y,Z=	.271475	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	385	X,Y,Z=	.276250	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	386	X,Y,Z=	.456438	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	387	X,Y,Z=	.456438	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	388	X,Y,Z=	.456438	.367538	.000000E+00	IN CSYS= 0
KEYPOINT	389	X,Y,Z=	.458826	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	390	X,Y,Z=	.630276	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	391	X,Y,Z=	.630276	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	392	X,Y,Z=	.458826	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	393	X,Y,Z=	.456438	-.367538	.000000E+00	IN CSYS= 0
KEYPOINT	394	X,Y,Z=	.456438	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	395	X,Y,Z=	.456438	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	396	X,Y,Z=	.276250	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	397	X,Y,Z=	.271475	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	398	X,Y,Z=	.936752E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	399	X,Y,Z=	.912876E-01	-.550113	.000000E+00	IN CSYS= 0
KEYPOINT	400	X,Y,Z=	.912876E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	401	X,Y,Z=	.912876E-01	-.721563	.000000E+00	IN CSYS= 0

DEFINE AREA BY LIST OF KEYPOINTS
 KEYPOINT LIST = 152 116 117 153

AREA NUMBER = 233
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 382 381 153
AREA NUMBER = 234
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 381 383 213 153
AREA NUMBER = 235
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 115 380 382
AREA NUMBER = 236
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 153 213 207 149
AREA NUMBER = 237
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 213 383 384 212
AREA NUMBER = 238
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 384 385 285
AREA NUMBER = 239
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 285 385 386 284
AREA NUMBER = 240
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 285 279 206
AREA NUMBER = 241
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 284 386 388 278
AREA NUMBER = 242
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 388 387 272
AREA NUMBER = 243
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 387 389 333
AREA NUMBER = 244
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 333 327 266
AREA NUMBER = 245
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 333 389 390 332
AREA NUMBER = 246
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 272 273 279

AREA NUMBER = 247
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 206 279 273 200
AREA NUMBER = 248
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 273 267 194
AREA NUMBER = 249
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 206 207 201
AREA NUMBER = 250
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 207 201
AREA NUMBER = 251
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 201 195 137
AREA NUMBER = 252
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 146 140
AREA NUMBER = 253
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 88 134 137 92
AREA NUMBER = 254
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 137 195 105
AREA NUMBER = 255
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 105 95 89
AREA NUMBER = 256
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 105 195 194 106
AREA NUMBER = 257
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 194 267 261
AREA NUMBER = 258
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 261 255 96
AREA NUMBER = 259
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 261 267 266 260
AREA NUMBER = 260
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 266 327 128

AREA NUMBER = 261
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 128 126 254
AREA NUMBER = 262
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 128 327 326 129
AREA NUMBER = 263
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 126 345
AREA NUMBER = 264
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 345 339 290
AREA NUMBER = 265
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 345 126 127 344
AREA NUMBER = 266
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 255 297
AREA NUMBER = 267
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 255 297
AREA NUMBER = 268
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 297 291 218
AREA NUMBER = 269
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 95 225
AREA NUMBER = 270
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 95 225
AREA NUMBER = 271
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 83 164
AREA NUMBER = 272
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 225 219 161
AREA NUMBER = 273
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 219 237
AREA NUMBER = 274
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 158 176

AREA NUMBER = 275
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 237 231 173
AREA NUMBER = 276
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 237 219 218 236
AREA NUMBER = 277
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 218 291 309
AREA NUMBER = 278
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 309 303 230
AREA NUMBER = 279
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 309 291 290 308
AREA NUMBER = 280
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 290 339 357
AREA NUMBER = 281
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 357 351 302
AREA NUMBER = 282
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 357 339 338 356
AREA NUMBER = 283
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 350 391 392 351
AREA NUMBER = 284
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 351 392 394 302
AREA NUMBER = 285
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 302 394 393 320
AREA NUMBER = 286
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 393 395 314
AREA NUMBER = 287
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 302 303 321
AREA NUMBER = 288
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 303 321

AREA NUMBER = 289
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 321 315 242
AREA NUMBER = 290
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 231 249
AREA NUMBER = 291
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 231 249
AREA NUMBER = 292
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 170 188
AREA NUMBER = 293
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 249 243 185
AREA NUMBER = 294
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 243 398 400 185
AREA NUMBER = 295
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 185 400 399 363
AREA NUMBER = 296
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 185 182 362
AREA NUMBER = 297
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 399 401 368
AREA NUMBER = 298
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 398 243 242 397
AREA NUMBER = 299
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 242 315 396 397
AREA NUMBER = 300
DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 315 314 395 396
AREA NUMBER = 301

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

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

GENERATE NODES AND ELEMENTS
IN AREAS 233 TO 301 IN STEPS OF 1

NUMBER OF AREAS MESHED = 69
MAXIMUM NODE NUMBER = 4268
MAXIMUM ELEMENT NUMBER = 4123

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 20.540 TIME= 17:25:11
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Create mesh in tube guides
(L's 686,687,688)

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SET DIVISIONS ON LINE 47 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 48 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 49 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 50 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 51 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 52 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 53 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 55 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 56 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 57 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 58 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 59 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 60 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 61 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 62 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 63 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 64 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 65 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 66 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 67 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 68 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 69 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 70 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 71 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 72 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 73 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 74 (IF SELECTED AND UNMESHED)
TO NDIV = 38, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 75 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 76 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 77 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 78 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 79 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 80 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 81 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 82 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 83 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 84 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 85 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 86 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 87 (IF SELECTED AND UNMESHED)

TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 88 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 89 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 90 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 91 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 92 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 93 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 94 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 95 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 96 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 97 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 98 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 99 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 100 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 101 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 102 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 103 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 104 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 105 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 106 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 107 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 108 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 109 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 110 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 111 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 112 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 113 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 114 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 59 STEP 1

2 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 54 STEP 1

3 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 686 KP1= 49 KP2= 52

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

2 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 80 STEP 1

4 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 83 TO 84 STEP 1

6 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 87 TO 87 STEP 1

7 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 687 KP1= 29 KP2= 36

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 104 TO 106 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 688 KP1= 76 KP2= 73

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 688 STEP 1

688 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 19 TO 38 IN STEPS OF 1

*** WARNING *** CP= 21.790 TIME= 17:25:12
Meshing of area 21 produced 10 poorly shaped elements.

*** NOTE *** CP= 21.790 TIME= 17:25:12
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4167 4168 4169 4170 4171 4185 4186 4187 4188 4189

*** WARNING *** CP= 22.130 TIME= 17:25:13
Meshing of area 27 produced 28 poorly shaped elements.

*** NOTE *** CP= 22.140 TIME= 17:25:13
Worst shape angle is 27 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4274 4275 4276 4277 4278 4286 4287 4290 4291 4299
4300 4301 4302 4303 4312 4313 4314 4315 4316 4324
4325 4328 4329 4337 4338 4339 4340 4341

*** WARNING *** CP= 22.440 TIME= 17:25:13
Meshing of area 35 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.440 TIME= 17:25:13
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4438 4439 4440 4441 4442 4443 4444 4445 4446 4447

NUMBER OF AREAS MESHED = 20
MAXIMUM NODE NUMBER = 4871
MAXIMUM ELEMENT NUMBER = 4515

Create mesh in MPC shell
(L's 689,690,691)

SET DIVISIONS ON LINE 22 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 23 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 25 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 29 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 30 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 32 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 34 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 36 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 37 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 38 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 39 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 41 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 43 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 44 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 44 STEP 1

23 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 689 KP1= 21 KP2= 44

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 689 STEP 1

689 LINES (OF 689 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 17 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 18 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 21 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 45 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

CONCATENATE LINES
LINES = 17 18

COMPOSITE LINE NO.= 690 KP1= 18 KP2= 20

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

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 6 TO 6 IN STEPS OF 1

*** WARNING *** CP= 24.680 TIME= 17:25:15
Meshing of area 6 produced 54 poorly shaped elements.

*** NOTE *** CP= 24.680 TIME= 17:25:15

Worst shape angle is 36 degrees.

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

4540	4541	4542	4543	4544	4545	4546	4547	4548	4611
4613	4614	4615	4616	4617	4651	4652	4653	4705	4706
4707	4708	4709	4710	4711	4712	4713	4756	4757	4758
4759	4760	4761	4762	4763	4764	4816	4817	4818	4852
4853	4854	4856	4857	4860	4921	4922	4923	4924	4925
4926	4927	4928	4929						

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 5430
 MAXIMUM ELEMENT NUMBER = 4953

Assume vacuum between shell and inner barrier

SET DIVISIONS ON LINE 14 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 13 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 19 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 20 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

CONCATENATE LINES
 LINES = 14 13

COMPOSITE LINE NO.= 691 KP1= 17 KP2= 15

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

No MAT,7,
 No TYPE,1,
 No AMESH,5,
 Delete concatenated lines
 (L's freed up 686,687,688,689,690,691)

DELETE SELECTED LINES FROM 686 TO 691 BY 1

DELETED 6 LINES

Create mesh in inner and outer barrier

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 10 STEP 1

4 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 73, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 691 STEP 1

685 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 6 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 15 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 16 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)

TO NDIV = 3, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2
ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 6018
MAXIMUM ELEMENT NUMBER = 5391

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 = 6459
MAXIMUM ELEMENT NUMBER = 5829

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

SET DIVISIONS ON LINE 46 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 115 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

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 7 TO 7 IN STEPS OF 1
** AREA 7 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 28.480 TIME= 17:25:19
Meshing of area 7 produced 1 poorly shaped elements.

*** NOTE *** CP= 28.480 TIME= 17:25:19
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
5830

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6459
MAXIMUM ELEMENT NUMBER = 5833

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	8 TO	11	IN STEPS OF	1	
** AREA	9 MESHED WITH	82	QUADRILATERALS,	21	TRIANGLES **
** AREA	10 MESHED WITH	78	QUADRILATERALS,	19	TRIANGLES **
** AREA	11 MESHED WITH	24	QUADRILATERALS,	7	TRIANGLES **

NUMBER OF AREAS MESHED	=	4
MAXIMUM NODE NUMBER	=	6704
MAXIMUM ELEMENT NUMBER	=	6168

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	12 TO	13	IN STEPS OF	1	
NUMBER OF AREAS MESHED	=	2			
MAXIMUM NODE NUMBER	=	6746			
MAXIMUM ELEMENT NUMBER	=	6232			

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	14 TO	16	IN STEPS OF	1	
** AREA	14 MESHED WITH	25	QUADRILATERALS,	11	TRIANGLES **
** AREA	15 MESHED WITH	74	QUADRILATERALS,	23	TRIANGLES **
** AREA	16 MESHED WITH	75	QUADRILATERALS,	21	TRIANGLES **

NUMBER OF AREAS MESHED	=	3
MAXIMUM NODE NUMBER	=	6901
MAXIMUM ELEMENT NUMBER	=	6461

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	17 TO	17	IN STEPS OF	1	
NUMBER OF AREAS MESHED	=	1			
MAXIMUM NODE NUMBER	=	6985			
MAXIMUM ELEMENT NUMBER	=	6565			

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	18 TO	18	IN STEPS OF	1	
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** AREA 18 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 31.710 TIME= 17:25:22
Meshing of area 18 produced 1 poorly shaped elements.

*** NOTE *** CP= 31.710 TIME= 17:25:22
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
6566

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6985
MAXIMUM ELEMENT NUMBER = 6569

Define mesh and radiation surface elements for
tube/guides gap
(L's 686,687)
(A's 302)

LINE CONNECTS KEYPOINTS 47 111
LINE NO.= 686 KP1= 47 TAN1= .0000 1.0000 .0000
KP2= 111 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 366 82
LINE NO.= 687 KP1= 366 TAN1= .0000 1.0000 .0000
KP2= 82 TAN2= .0000 -1.0000 .0000

Select lines around tubes

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 686 TO 686 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 165 TO 165 STEP 1

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 159 TO 159 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 580 TO 580 STEP 1

4 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 581 TO 581 STEP 1

5 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 575 TO 575 STEP 1

6 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 577 TO 577 STEP 1

7 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 583 TO 583 STEP 1

8 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 585 TO 585 STEP 1
9 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 588 TO 588 STEP 1
10 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 591 TO 591 STEP 1
11 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 593 TO 593 STEP 1
12 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 596 TO 596 STEP 1
13 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 600 TO 600 STEP 1
14 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 601 TO 601 STEP 1
15 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 512 TO 512 STEP 1
16 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 517 TO 517 STEP 1
17 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 506 TO 506 STEP 1
18 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 624 TO 624 STEP 1
19 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 177 TO 177 STEP 1
20 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 188 TO 188 STEP 1
21 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 174 TO 174 STEP 1
22 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 629 TO 629 STEP 1

23 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 531 TO 531 STEP 1

24 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 536 TO 536 STEP 1

25 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 525 TO 525 STEP 1

26 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 652 TO 652 STEP 1

27 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 550 TO 550 STEP 1

28 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 555 TO 555 STEP 1

29 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 544 TO 544 STEP 1

30 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 653 TO 653 STEP 1

31 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 654 TO 654 STEP 1

32 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 656 TO 656 STEP 1

33 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 658 TO 658 STEP 1

34 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 661 TO 661 STEP 1

35 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 685 TO 685 STEP 1

36 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 684 TO 684 STEP 1

37 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 682 TO 682 STEP 1

38 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 673 TO 673 STEP 1

39 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 675 TO 675 STEP 1

40 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 679 TO 679 STEP 1

41 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 680 TO 680 STEP 1

42 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 570 TO 570 STEP 1

43 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 567 TO 567 STEP 1

44 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 687 TO 687 STEP 1

45 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Select lines around tube guides

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 112 TO 112 STEP 1

46 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

47 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 43 TO 43 STEP 1

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

49 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 102 TO 102 STEP 1

50 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

51 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

53 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 37 TO 37 STEP 1

54 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

55 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

56 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

57 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

58 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 72 TO 72 STEP 1

59 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

60 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

61 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

62 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

63 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 23 STEP 1

64 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

65 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

66 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Define area

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

AREA NUMBER = 302
Create radiation surface elements

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

339 NODES (OF 6985 DEFINED) SELECTED FROM
66 SELECTED LINES BY NSLL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 7

GENERATE ELEMENTS ON SURFACE DEFINED BY SELECTED NODES
TYPE= 7 REAL= 1 MATERIAL= 1 ESYS= 0

NUMBER OF ELEMENTS GENERATED= 337

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 6985 STEP 1

6985 NODES (OF 6985 DEFINED) SELECTED BY NSEL COMMAND.
Mesh gap

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

SET DIVISIONS ON LINE 686 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 687 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 302 TO 302 IN STEPS OF 1
** AREA 302 MESHED WITH 102 QUADRILATERALS, 190 TRIANGLES **

*** WARNING *** CP= 51.430 TIME= 17:25:42
Meshing of area 302 produced 7 poorly shaped elements.

*** NOTE *** CP= 51.430 TIME= 17:25:42
Worst aspect ratio is 92.192168 : 1.

*** NOTE *** CP= 51.430 TIME= 17:25:42

Worst shape angle is 2 degrees.

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

6914 6922 6978 6979 7110 7133 7159

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7198

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

Create other radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 22 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7202

GENERATE NODES AND ELEMENTS
 ON LINES 25 TO 27 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7225

GENERATE NODES AND ELEMENTS
 ON LINES 28 TO 38 IN STEPS OF 2

NUMBER OF LINES MESHED = 6
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7287

GENERATE NODES AND ELEMENTS
 ON LINES 39 TO 41 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7310

GENERATE NODES AND ELEMENTS
 ON LINES 44 TO 44 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7314

GENERATE NODES AND ELEMENTS
 ON LINES 46 TO 48 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7319

GENERATE NODES AND ELEMENTS
 ON LINES 53 TO 54 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7340

GENERATE NODES AND ELEMENTS

ON LINES	56 TO	57	IN STEPS OF	1
NUMBER OF LINES MESHED	=	2		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7366		
GENERATE NODES AND ELEMENTS				
ON LINES	59 TO	59	IN STEPS OF	1
NUMBER OF LINES MESHED	=	1		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7374		
GENERATE NODES AND ELEMENTS				
ON LINES	61 TO	64	IN STEPS OF	1
NUMBER OF LINES MESHED	=	4		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7380		
GENERATE NODES AND ELEMENTS				
ON LINES	67 TO	70	IN STEPS OF	3
NUMBER OF LINES MESHED	=	2		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7402		
GENERATE NODES AND ELEMENTS				
ON LINES	75 TO	75	IN STEPS OF	1
NUMBER OF LINES MESHED	=	1		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7410		
GENERATE NODES AND ELEMENTS				
ON LINES	77 TO	79	IN STEPS OF	1
NUMBER OF LINES MESHED	=	3		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7426		
GENERATE NODES AND ELEMENTS				
ON LINES	81 TO	83	IN STEPS OF	1
NUMBER OF LINES MESHED	=	3		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7442		
GENERATE NODES AND ELEMENTS				
ON LINES	85 TO	87	IN STEPS OF	1
NUMBER OF LINES MESHED	=	3		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7458		
GENERATE NODES AND ELEMENTS				
ON LINES	92 TO	97	IN STEPS OF	1
NUMBER OF LINES MESHED	=	6		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7486		
GENERATE NODES AND ELEMENTS				
ON LINES	104 TO	104	IN STEPS OF	1
NUMBER OF LINES MESHED	=	1		
MAXIMUM NODE NUMBER	=	7016		
MAXIMUM ELEMENT NUMBER	=	7494		
GENERATE NODES AND ELEMENTS				

ON LINES 106 TO 107 IN STEPS OF 1
 NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7515

GENERATE NODES AND ELEMENTS
 ON LINES 109 TO 110 IN STEPS OF 1
 NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7541

GENERATE NODES AND ELEMENTS
 ON LINES 114 TO 115 IN STEPS OF 1
 NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7546
 MPC shell/inner barrier gap

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
 ON LINES 17 TO 18 IN STEPS OF 1
 NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7692

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 14 IN STEPS OF 1
 NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7838

***** ROUTINE COMPLETED ***** CP = 51.750

 Create element mesh plots to illustrate model
 View mesh for entire model

GRAPHIC DISPLAY RESET
 XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
 40 BWR MPC/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=
40 BWR MPC/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

6806 ELEMENTS (OF 7838 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=
40 BWR MPC/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

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

685 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

977 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:25:51 APR 01, 1995 CP= 59.910
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

339 NODES (OF 7016 DEFINED) SELECTED FROM
337 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= tubegap.sub

*** WARNING *** CP= 60.250 TIME= 17:25:51
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= 337 NUMBER OF NODES= 339

800 ZONES CREATE 1600 RAYS

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

348 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

346 NODES (OF 7016 DEFINED) SELECTED FROM
348 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= 75.680 TIME= 17:26:07
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= 348 NUMBER OF NODES= 346

800 ZONES CREATE 1600 RAYS

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

292 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

294 NODES (OF 7016 DEFINED) SELECTED FROM
292 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= shellgap.sub

*** WARNING *** CP= 95.800 TIME= 17:26:27
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 292 NUMBER OF NODES= 294

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 108.880

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:26:41 APR 01, 1995 CP= 108.880
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 7839 tubegap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7839

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7839

SUPERELEMENT 7840 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7840

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7840

SUPERELEMENT 7841 shellgap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7841

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7841
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7841 DEFINED) SELECTED BY ESEL COMMAND.

DELETE ALL SELECTED ELEMENTS.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

7504 ELEMENTS (OF 7504 DEFINED) SELECTED BY ESEL COMMAND.

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

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 109.440 TIME= 17:26:41
Nodes cannot be cleared from line 13 because area 3 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.460 TIME= 17:26:41
Nodes cannot be cleared from line 14 because area 4 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.480 TIME= 17:26:41
Nodes cannot be cleared from line 17 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.500 TIME= 17:26:41
Nodes cannot be cleared from line 18 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.520 TIME= 17:26:41
Nodes cannot be cleared from line 22 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.520 TIME= 17:26:41
Nodes cannot be cleared from line 25 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.530 TIME= 17:26:41
Nodes cannot be cleared from line 27 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.530 TIME= 17:26:41
Nodes cannot be cleared from line 28 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.540 TIME= 17:26:41
Nodes cannot be cleared from line 30 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.540 TIME= 17:26:41
Nodes cannot be cleared from line 32 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.550 TIME= 17:26:41
Nodes cannot be cleared from line 34 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.550 TIME= 17:26:41
Nodes cannot be cleared from line 36 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.550 TIME= 17:26:41
Nodes cannot be cleared from line 38 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.560 TIME= 17:26:41
Nodes cannot be cleared from line 39 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.560 TIME= 17:26:41
Nodes cannot be cleared from line 41 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.570 TIME= 17:26:41
Nodes cannot be cleared from line 44 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.570 TIME= 17:26:41
Nodes cannot be cleared from line 46 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.570 TIME= 17:26:41
Nodes cannot be cleared from line 48 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.580 TIME= 17:26:41
Nodes cannot be cleared from line 53 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.580 TIME= 17:26:41
Nodes cannot be cleared from line 54 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.580 TIME= 17:26:41
Nodes cannot be cleared from line 56 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.590 TIME= 17:26:41
Nodes cannot be cleared from line 57 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.590 TIME= 17:26:41
Nodes cannot be cleared from line 59 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.600 TIME= 17:26:41
Nodes cannot be cleared from line 61 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.600 TIME= 17:26:41
Nodes cannot be cleared from line 62 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.600 TIME= 17:26:41
Nodes cannot be cleared from line 63 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.600 TIME= 17:26:41
Nodes cannot be cleared from line 64 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.610 TIME= 17:26:41
Nodes cannot be cleared from line 67 because area 10 is meshed. Only

elements are deleted.

*** NOTE *** CP= 109.610 TIME= 17:26:41
Nodes cannot be cleared from line 70 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.620 TIME= 17:26:41
Nodes cannot be cleared from line 75 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.620 TIME= 17:26:41
Nodes cannot be cleared from line 77 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.620 TIME= 17:26:41
Nodes cannot be cleared from line 78 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.630 TIME= 17:26:41
Nodes cannot be cleared from line 79 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.630 TIME= 17:26:41
Nodes cannot be cleared from line 81 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.630 TIME= 17:26:41
Nodes cannot be cleared from line 82 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.640 TIME= 17:26:41
Nodes cannot be cleared from line 83 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.640 TIME= 17:26:41
Nodes cannot be cleared from line 85 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.640 TIME= 17:26:41
Nodes cannot be cleared from line 86 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.650 TIME= 17:26:41
Nodes cannot be cleared from line 87 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.650 TIME= 17:26:41
Nodes cannot be cleared from line 92 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.650 TIME= 17:26:41
Nodes cannot be cleared from line 93 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.660 TIME= 17:26:41
Nodes cannot be cleared from line 94 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.660 TIME= 17:26:41
Nodes cannot be cleared from line 95 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.660 TIME= 17:26:41
Nodes cannot be cleared from line 96 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.670 TIME= 17:26:41
Nodes cannot be cleared from line 97 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.670 TIME= 17:26:41
Nodes cannot be cleared from line 104 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.670 TIME= 17:26:41
Nodes cannot be cleared from line 106 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.680 TIME= 17:26:42
Nodes cannot be cleared from line 107 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.680 TIME= 17:26:42
Nodes cannot be cleared from line 109 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.690 TIME= 17:26:42
Nodes cannot be cleared from line 110 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.690 TIME= 17:26:42
Nodes cannot be cleared from line 114 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.690 TIME= 17:26:42
Nodes cannot be cleared from line 115 because area 18 is meshed. Only
elements are deleted.

CLEARED 52 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.710

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= 109.710 TIME= 17:26:42
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 7 TO 7 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 7016 BY 1
REAL= 26.1377204 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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= 111.590 TIME= 17:26:44
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:26:44 APR 01, 1995 CP= 111.590
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
 DEGREES OF FREEDOM. TEMP
 ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 112.960 TIME= 17:26:45
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 113.530 TIME= 17:26:46
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER. 1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 6221.4

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .40695	IXX = 1411.	IXX = 1411.
YC = .38649E-08	IYY = 1427.	IYY = 396.3
ZC = .00000E+00	IZZ = 2838.	IZZ = 1808.
	IXY = -.2533E-05	IXY = .7252E-05
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	6221.35

Range of element maximum matrix coefficients in global coordinates
 Maximum= 517.858581 at element 972.
 Minimum= 9.524656763E-10 at element 7841.

*** WARNING *** CP= 139.090 TIME= 17:27:13
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	16.790	.002
18	3	MATRIX50	.410	.137

Time at end of element matrix formulation CP= 139.09.
HT FLOW CONVERGENCE VALUE= 7350. CRITERION= 7.350

Estimated number of active DOF= 6869.
Maximum wavefront= 691.

Time at end of matrix triangularization CP= 229.13.
Equation solver maximum pivot= 1604.85465 at node 3170 TEMP.
Equation solver minimum pivot= 0.234556167 at node 6681 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 496.3
HT FLOW CONVERGENCE VALUE= 1915. CRITERION= .2617
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -176.7
HT FLOW CONVERGENCE VALUE= 304.5 CRITERION= .7128
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -68.35
HT FLOW CONVERGENCE VALUE= 94.69 CRITERION= .3638
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.32
HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .2716
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.333
HT FLOW CONVERGENCE VALUE= 1.835 CRITERION= .2596
EQUIL ITER 6 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3430
HT FLOW CONVERGENCE VALUE= .3836 CRITERION= .2605
EQUIL ITER 7 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6317E-01
HT FLOW CONVERGENCE VALUE= .4998E-01 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 7

*** ELEMENT RESULT CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP
1 6861 PLANE55 9.570 .001
18 3 MATRIX50 .540 .180

*** NODAL LOAD CALCULATION TIMES
TYPE NUMBER ENAME TOTAL CP AVE CP
1 6861 PLANE55 1.290 .000
18 3 MATRIX50 .000 .000
*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 6869
R.M.S. WAVEFRONT SIZE = 269.8

*** ANSYS BINARY FILE STATISTICS
BUFFER SIZE USED= 4096
4.938 MB WRITTEN ON ELEMENT MATRIX FILE: ma40b1.emat
3.078 MB WRITTEN ON ELEMENT SAVED DATA FILE: ma40b1.esav
12.609 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ma40b1.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ma40b1.dsub
3.734 MB WRITTEN ON RESULTS FILE: ma40b1.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 8 TO 8 STEP 1
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.
147 NODES (OF 7016 DEFINED) SELECTED FROM

2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 7016 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 147

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.929 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.988 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 68.992 .00000E+00 EXPANSION KEY = 1

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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 = 147

*** WARNING *** CP= 941.230 TIME= 17:40:43
This load step will be a static (steady-state) step.

*** NOTE *** CP= 941.800 TIME= 17:40:44
The step data was checked and warning messages were found.

Please review output or errors file (ma40b1.err) for these warning messages.

*** NOTE *** CP= 941.800 TIME= 17:40:44
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:40:44 APR 01, 1995 CP= 941.800
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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= .1209E+05 CRITERION= 12.10
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.15
HT FLOW CONVERGENCE VALUE= 52.90 CRITERION= .2801
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.48
HT FLOW CONVERGENCE VALUE= 14.70 CRITERION= .2727
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.110
HT FLOW CONVERGENCE VALUE= 1.087 CRITERION= .2609
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2904
HT FLOW CONVERGENCE VALUE= .2866 CRITERION= .2606
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2452E-01
HT FLOW CONVERGENCE VALUE= .2124E-01 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 5
*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 12
*** 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 4 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.929 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.988 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 68.992 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 1211.810 TIME= 17:45:22
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:45:22 APR 01, 1995 CP= 1211.810
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .2124E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1432E-03
HT FLOW CONVERGENCE VALUE= .4263E-05 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 13
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .7556 OSCILLATION LIMIT = .5961
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3880E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6227E-04
HT FLOW CONVERGENCE VALUE= .4903E-05 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 14
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .2020 OSCILLATION LIMIT = .1594
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .3500E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8599E-04
HT FLOW CONVERGENCE VALUE= .1135E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 15
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .9341E-01 OSCILLATION LIMIT = .2211
*** AUTO TIME STEP: NEXT TIME INC = 5.3529 INCREASED (FACTOR = 2.2617)

HT FLOW CONVERGENCE VALUE= .3076E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6102E-04
HT FLOW CONVERGENCE VALUE= .1767E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 16
*** TIME = 9.29765 TIME INC = 5.35294
*** RESPONSE EIGENVALUE = .3342E-01 OSCILLATION LIMIT = .1789
*** AUTO TIME STEP: NEXT TIME INC = 7.8894 INCREASED (FACTOR = 1.4738)

HT FLOW CONVERGENCE VALUE= .2801E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1868E-04
HT FLOW CONVERGENCE VALUE= .1758E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 17
*** TIME = 17.1870 TIME INC = 7.88940
*** RESPONSE EIGENVALUE = .1211E-01 OSCILLATION LIMIT = .9557E-01
*** AUTO STEP TIME: NEXT TIME INC = 7.8894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2615E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2448E-04
HT FLOW CONVERGENCE VALUE= .1406E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 18
*** TIME = 25.0764 TIME INC = 7.88940
*** RESPONSE EIGENVALUE = .7155E-02 OSCILLATION LIMIT = .5644E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.4812 DECREASED (FACTOR = .8215)

HT FLOW CONVERGENCE VALUE= .2510E-01 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1574E-04
HT FLOW CONVERGENCE VALUE= .1026E-04 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 19
*** TIME = 31.5576 TIME INC = 6.48116
*** RESPONSE EIGENVALUE = .5322E-02 OSCILLATION LIMIT = .3449E-01

*ENDDO INDEX= TM

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:55:57 APR 01, 1995 CP= 1836.400
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 202.1 CRITERION= .3299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7551
 HT FLOW CONVERGENCE VALUE= .6901 CRITERION= .2591
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
 HT FLOW CONVERGENCE VALUE= .1344 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 21
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1186E-05 OSCILLATION LIMIT = .9354E-01
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 203.1 CRITERION= .3289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7595
 HT FLOW CONVERGENCE VALUE= .7805 CRITERION= .2603
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
 HT FLOW CONVERGENCE VALUE= .1325 CRITERION= .2603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 23
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6073E-06 OSCILLATION LIMIT = .4791E-01
 *** AUTO TIME STEP: NEXT TIME INC = .2366E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 606.6 CRITERION= .6601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.265
 HT FLOW CONVERGENCE VALUE= 2.412 CRITERION= .2592
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5010
 HT FLOW CONVERGENCE VALUE= .5347 CRITERION= .2592
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4260E-01
 HT FLOW CONVERGENCE VALUE= .3074E-01 CRITERION= .2588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 26
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .2497E-06 OSCILLATION LIMIT = .5910E-01
 *** AUTO STEP TIME: NEXT TIME INC = .2366E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 607.9 CRITERION= .6603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.266
 HT FLOW CONVERGENCE VALUE= 2.457 CRITERION= .2604
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5079
 HT FLOW CONVERGENCE VALUE= .5370 CRITERION= .2604
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4253E-01
 HT FLOW CONVERGENCE VALUE= .3097E-01 CRITERION= .2600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 29
 *** TIME = 631184. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .2835E-06 OSCILLATION LIMIT = .6710E-01
 *** AUTO STEP TIME: NEXT TIME INC = .7100E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 1822. CRITERION= 1.840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 6.796
 HT FLOW CONVERGENCE VALUE= 7.408 CRITERION= .2601
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.831
 HT FLOW CONVERGENCE VALUE= 1.852 CRITERION= .2598
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1626
 HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 32
 *** TIME = .134123E+07 TIME INC = 710046.
 *** RESPONSE EIGENVALUE = .2568E-06 OSCILLATION LIMIT = .1823
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 2029. CRITERION= 2.045

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.551
 HT FLOW CONVERGENCE VALUE= 8.181 CRITERION= .2612
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.025
 HT FLOW CONVERGENCE VALUE= 2.009 CRITERION= .2609
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1748
 HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .2595 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 35
 *** TIME = .213017E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2691E-06 OSCILLATION LIMIT = .2123
 *** AUTO TIME STEP: NEXT TIME INC = .51281E+06 DECREASED (FACTOR = .6500)

HT FLOW CONVERGENCE VALUE= 1321. CRITERION= 1.346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.908
 HT FLOW CONVERGENCE VALUE= 4.776 CRITERION= .2589
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.221
 HT FLOW CONVERGENCE VALUE= 1.210 CRITERION= .2588
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1035
 HT FLOW CONVERGENCE VALUE= .6752E-01 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 38
 *** TIME = .264298E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2692E-06 OSCILLATION LIMIT = .1380
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1324. CRITERION= 1.348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.908
 HT FLOW CONVERGENCE VALUE= 4.701 CRITERION= .2598
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.212
 HT FLOW CONVERGENCE VALUE= 1.187 CRITERION= .2600
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1009
 HT FLOW CONVERGENCE VALUE= .6573E-01 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 41
 *** TIME = .315579E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2840E-06 OSCILLATION LIMIT = .1456

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:18:26 APR 01, 1995 CP= 3169.430
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 273.1 CRITERION= .3765
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9516
 HT FLOW CONVERGENCE VALUE= 1.117 CRITERION= .2594
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2647
 HT FLOW CONVERGENCE VALUE= .2413 CRITERION= .2597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 43
 *** TIME = .366860E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2216E-06 OSCILLATION LIMIT = .1136
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 273.3 CRITERION= .3769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9425
 HT FLOW CONVERGENCE VALUE= .8438 CRITERION= .2593
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2278
 HT FLOW CONVERGENCE VALUE= .2447 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 45
 *** TIME = .418141E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .1129E-05 OSCILLATION LIMIT = .5789
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 273.1 CRITERION= .3765

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9425
 HT FLOW CONVERGENCE VALUE= .9934 CRITERION= .2590
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2484
 HT FLOW CONVERGENCE VALUE= .2378 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 47
 *** TIME = .469422E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .1910E-06 OSCILLATION LIMIT = .9792E-01
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.5385)

HT FLOW CONVERGENCE VALUE= 420.4 CRITERION= .4937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.450
 HT FLOW CONVERGENCE VALUE= 1.381 CRITERION= .2590
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3857
 HT FLOW CONVERGENCE VALUE= .3874 CRITERION= .2589
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3568E-01
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 50
 *** TIME = .548316E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4747E-06 OSCILLATION LIMIT = .3745
 *** AUTO TIME STEP: NEXT TIME INC = .41419E+06 DECREASED (FACTOR = .5250)

HT FLOW CONVERGENCE VALUE= 220.6 CRITERION= .3399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7619
 HT FLOW CONVERGENCE VALUE= .7742 CRITERION= .2586
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1911
 HT FLOW CONVERGENCE VALUE= .1872 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 52
 *** TIME = .589736E+07 TIME INC = 414194.
 *** RESPONSE EIGENVALUE = .3872E-06 OSCILLATION LIMIT = .1604
 *** AUTO STEP TIME: NEXT TIME INC = .41419E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 220.8 CRITERION= .3400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7612
 HT FLOW CONVERGENCE VALUE= .7173 CRITERION= .2585
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1816
 HT FLOW CONVERGENCE VALUE= .1856 CRITERION= .2585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 54
 *** TIME = .631155E+07 TIME INC = 414194.
 *** RESPONSE EIGENVALUE = .5225E-06 OSCILLATION LIMIT = .2164

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:32:45 APR 01, 1995 CP= 4015.020
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 138.8 CRITERION= .2935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4786
 HT FLOW CONVERGENCE VALUE= .4800 CRITERION= .2584
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1181
 HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 56
 *** TIME = .672575E+07 TIME INC = 414194.
 *** RESPONSE EIGENVALUE = .2754E-06 OSCILLATION LIMIT = .1141
 *** AUTO STEP TIME: NEXT TIME INC = .41419E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 138.9 CRITERION= .2934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4786
 HT FLOW CONVERGENCE VALUE= .4378 CRITERION= .2583
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1121
 HT FLOW CONVERGENCE VALUE= .1165 CRITERION= .2583 <<< CONVERGED

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 58
*** TIME = .713994E+07 TIME INC = 414194.
*** RESPONSE EIGENVALUE = .7055E-06 OSCILLATION LIMIT = .2922
*** AUTO TIME STEP: NEXT TIME INC = .70875E+06 INCREASED (FACTOR = 1.7112)
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```
HT FLOW CONVERGENCE VALUE= 237.6 CRITERION= .3509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8189
HT FLOW CONVERGENCE VALUE= .7924 CRITERION= .2581
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2165
HT FLOW CONVERGENCE VALUE= .2143 CRITERION= .2581 <<< CONVERGED
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```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 60
*** TIME = .784869E+07 TIME INC = 708748.
*** RESPONSE EIGENVALUE = .5950E-06 OSCILLATION LIMIT = .4217
*** AUTO STEP TIME: NEXT TIME INC = .70875E+06 UNCHANGED
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```
HT FLOW CONVERGENCE VALUE= 237.7 CRITERION= .3508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8189
HT FLOW CONVERGENCE VALUE= .7712 CRITERION= .2579
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2113
HT FLOW CONVERGENCE VALUE= .2111 CRITERION= .2578 <<< CONVERGED
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```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 62
*** TIME = .855744E+07 TIME INC = 708748.
*** RESPONSE EIGENVALUE = .5871E-06 OSCILLATION LIMIT = .4161
*** AUTO TIME STEP: NEXT TIME INC = .45494E+06 DECREASED (FACTOR = .6419)
```

```
HT FLOW CONVERGENCE VALUE= 152.5 CRITERION= .2996
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5257
HT FLOW CONVERGENCE VALUE= .5028 CRITERION= .2576
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1278
HT FLOW CONVERGENCE VALUE= .1272 CRITERION= .2576 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 64
*** TIME = .901237E+07 TIME INC = 454938.
*** RESPONSE EIGENVALUE = .4669E-06 OSCILLATION LIMIT = .2124
*** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 152.6 CRITERION= .2994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5257
HT FLOW CONVERGENCE VALUE= .4924 CRITERION= .2575
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1261
HT FLOW CONVERGENCE VALUE= .1272 CRITERION= .2575 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 66
*** TIME = .946731E+07 TIME INC = 454938.
*** RESPONSE EIGENVALUE = .5465E-06 OSCILLATION LIMIT = .2486
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***** ANSYS SOLVE COMMAND *****
1
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:46:16 APR 01, 1995 CP= 4816.680
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2820
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
HT FLOW CONVERGENCE VALUE= .3762 CRITERION= .2574
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9628E-01
HT FLOW CONVERGENCE VALUE= .9632E-01 CRITERION= .2574 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 68
*** TIME = .992225E+07 TIME INC = 454938.
*** RESPONSE EIGENVALUE = .6110E-06 OSCILLATION LIMIT = .2780
*** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED
```

HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
 HT FLOW CONVERGENCE VALUE= .3613 CRITERION= .2572
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9344E-01
 HT FLOW CONVERGENCE VALUE= .9560E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 70
 *** TIME = .103772E+08 TIME INC = 454938.
 *** RESPONSE EIGENVALUE = .7322E-06 OSCILLATION LIMIT = .3331
 *** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
 HT FLOW CONVERGENCE VALUE= .3713 CRITERION= .2570
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9564E-01
 HT FLOW CONVERGENCE VALUE= .9626E-01 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 72
 *** TIME = .108321E+08 TIME INC = 454938.
 *** RESPONSE EIGENVALUE = .7376E-06 OSCILLATION LIMIT = .3356
 *** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2816
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
 HT FLOW CONVERGENCE VALUE= .3632 CRITERION= .2569
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9352E-01
 HT FLOW CONVERGENCE VALUE= .9498E-01 CRITERION= .2569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 74
 *** TIME = .112871E+08 TIME INC = 454938.
 *** RESPONSE EIGENVALUE = .6876E-06 OSCILLATION LIMIT = .3128
 *** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
 HT FLOW CONVERGENCE VALUE= .3692 CRITERION= .2567
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9510E-01
 HT FLOW CONVERGENCE VALUE= .9574E-01 CRITERION= .2567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 76
 *** TIME = .117420E+08 TIME INC = 454938.
 *** RESPONSE EIGENVALUE = .7621E-06 OSCILLATION LIMIT = .3467
 *** AUTO STEP TIME: NEXT TIME INC = .45494E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.1 CRITERION= .2813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972
 HT FLOW CONVERGENCE VALUE= .3638 CRITERION= .2566
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9340E-01
 HT FLOW CONVERGENCE VALUE= .9442E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 78
 *** TIME = .121969E+08 TIME INC = 454938.
 *** RESPONSE EIGENVALUE = .6739E-06 OSCILLATION LIMIT = .3066
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 DECREASED (FACTOR = .9367)

HT FLOW CONVERGENCE VALUE= 107.8 CRITERION= .2783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3721
 HT FLOW CONVERGENCE VALUE= .3444 CRITERION= .2564
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8757E-01
 HT FLOW CONVERGENCE VALUE= .8825E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 80
 *** TIME = .126231E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .7603E-06 OSCILLATION LIMIT = .3240

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:02:01 APR 01, 1995 CP= 5750.470

FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 87.38 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2741 CRITERION= .2563
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6952E-01
 HT FLOW CONVERGENCE VALUE= .7052E-01 CRITERION= .2563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 82
 *** TIME = .130492E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .6939E-06 OSCILLATION LIMIT = .2957
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.30 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2723 CRITERION= .2562
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6996E-01
 HT FLOW CONVERGENCE VALUE= .7156E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 84
 *** TIME = .134753E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .1008E-05 OSCILLATION LIMIT = .4294
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.38 CRITERION= .2706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2721 CRITERION= .2560
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6926E-01
 HT FLOW CONVERGENCE VALUE= .7050E-01 CRITERION= .2560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 86
 *** TIME = .139015E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .7867E-06 OSCILLATION LIMIT = .3352
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.30 CRITERION= .2705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2729 CRITERION= .2559
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6990E-01
 HT FLOW CONVERGENCE VALUE= .7119E-01 CRITERION= .2559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 88
 *** TIME = .143276E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .9644E-06 OSCILLATION LIMIT = .4110
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.38 CRITERION= .2703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2713 CRITERION= .2558
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6904E-01
 HT FLOW CONVERGENCE VALUE= .7026E-01 CRITERION= .2557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 90
 *** TIME = .147537E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .8093E-06 OSCILLATION LIMIT = .3449
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.30 CRITERION= .2702
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2729 CRITERION= .2556
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6976E-01
 HT FLOW CONVERGENCE VALUE= .7086E-01 CRITERION= .2556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 92
 *** TIME = .151799E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .9455E-06 OSCILLATION LIMIT = .4029
 *** AUTO STEP TIME: NEXT TIME INC = .42613E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.38 CRITERION= .2701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3015
 HT FLOW CONVERGENCE VALUE= .2709 CRITERION= .2555
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6890E-01
 HT FLOW CONVERGENCE VALUE= .7001E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 94
 *** TIME = .156060E+08 TIME INC = 426130.
 *** RESPONSE EIGENVALUE = .8201E-06 OSCILLATION LIMIT = .3495
 *** AUTO TIME STEP: NEXT TIME INC = .17285E+06 DECREASED (FACTOR = .4056)

HT FLOW CONVERGENCE VALUE= 35.42 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1223
 HT FLOW CONVERGENCE VALUE= .1083 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 95
 *** TIME = .157788E+08 TIME INC = 172847.
 *** RESPONSE EIGENVALUE = .7129E-06 OSCILLATION LIMIT = .1232

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:19:18 APR 01, 1995 CP= 6773.350
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 29.87 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1033
 HT FLOW CONVERGENCE VALUE= .8819E-01 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 96
 *** TIME = .159517E+08 TIME INC = 172847.
 *** RESPONSE EIGENVALUE = .4369E-06 OSCILLATION LIMIT = .7552E-01
 *** AUTO STEP TIME: NEXT TIME INC = .17285E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.79 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1030
 HT FLOW CONVERGENCE VALUE= .8262E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 97
 *** TIME = .161245E+08 TIME INC = 172847.
 *** RESPONSE EIGENVALUE = .1760E-05 OSCILLATION LIMIT = .3042
 *** AUTO STEP TIME: NEXT TIME INC = .17285E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.87 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1030
 HT FLOW CONVERGENCE VALUE= .8399E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 98
 *** TIME = .162974E+08 TIME INC = 172847.
 *** RESPONSE EIGENVALUE = .8944E-06 OSCILLATION LIMIT = .1546
 *** AUTO TIME STEP: NEXT TIME INC = .51854E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 89.37 CRITERION= .2704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3090
 HT FLOW CONVERGENCE VALUE= .2646 CRITERION= .2551
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7109E-01
 HT FLOW CONVERGENCE VALUE= .7465E-01 CRITERION= .2551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 100
 *** TIME = .168159E+08 TIME INC = 518542.
 *** RESPONSE EIGENVALUE = .1347E-05 OSCILLATION LIMIT = .6984
 *** AUTO STEP TIME: NEXT TIME INC = .51854E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.46 CRITERION= .2703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3090

HT FLOW CONVERGENCE VALUE= .2709 CRITERION= .2549
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7201E-01
 HT FLOW CONVERGENCE VALUE= .7373E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 102
 *** TIME = .173345E+08 TIME INC = 518542.
 *** RESPONSE EIGENVALUE = .1161E-05 OSCILLATION LIMIT = .6022
 *** AUTO STEP TIME: NEXT TIME INC = .51854E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.37 CRITERION= .2701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3090
 HT FLOW CONVERGENCE VALUE= .2765 CRITERION= .2547
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7304E-01
 HT FLOW CONVERGENCE VALUE= .7369E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 104
 *** TIME = .178530E+08 TIME INC = 518542.
 *** RESPONSE EIGENVALUE = .1008E-05 OSCILLATION LIMIT = .5227
 *** AUTO STEP TIME: NEXT TIME INC = .51854E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.46 CRITERION= .2699
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3090
 HT FLOW CONVERGENCE VALUE= .2721 CRITERION= .2546
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7207E-01
 HT FLOW CONVERGENCE VALUE= .7339E-01 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 106
 *** TIME = .183715E+08 TIME INC = 518542.
 *** RESPONSE EIGENVALUE = .1094E-05 OSCILLATION LIMIT = .5674
 *** AUTO STEP TIME: NEXT TIME INC = .28152E+06 DECREASED (FACTOR = .5429)

HT FLOW CONVERGENCE VALUE= 48.52 CRITERION= .2592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1678
 HT FLOW CONVERGENCE VALUE= .1477 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 107
 *** TIME = .186531E+08 TIME INC = 281524.
 *** RESPONSE EIGENVALUE = .6469E-06 OSCILLATION LIMIT = .1821
 *** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.60 CRITERION= .2590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1679
 HT FLOW CONVERGENCE VALUE= .1404 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 108
 *** TIME = .189346E+08 TIME INC = 281524.
 *** RESPONSE EIGENVALUE = .7187E-06 OSCILLATION LIMIT = .2023

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:35:47 APR 01, 1995 CP= 7744.830
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 42.40 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
 HT FLOW CONVERGENCE VALUE= .1165 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 109
 *** TIME = .192161E+08 TIME INC = 281524.
 *** RESPONSE EIGENVALUE = .1661E-05 OSCILLATION LIMIT = .4675
 *** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.47 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
 HT FLOW CONVERGENCE VALUE= .1176 CRITERION= .2542 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 110
*** TIME = .194976E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1160E-05 OSCILLATION LIMIT = .3265
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.40 CRITERION= .2577
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1177 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 111
*** TIME = .197792E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1260E-05 OSCILLATION LIMIT = .3547
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.47 CRITERION= .2576
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1176 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 112
*** TIME = .200607E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1211E-05 OSCILLATION LIMIT = .3409
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.40 CRITERION= .2576
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1175 CRITERION= .2539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 113
*** TIME = .203422E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1263E-05 OSCILLATION LIMIT = .3555
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.47 CRITERION= .2574
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1175 CRITERION= .2539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 114
*** TIME = .206237E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1213E-05 OSCILLATION LIMIT = .3414
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.40 CRITERION= .2574
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .2538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 115
*** TIME = .209053E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1258E-05 OSCILLATION LIMIT = .3543
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.47 CRITERION= .2573
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .2537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 116
*** TIME = .211868E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1216E-05 OSCILLATION LIMIT = .3422
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.40 CRITERION= .2572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 117
*** TIME = .214683E+08 TIME INC = 281524.
*** RESPONSE EIGENVALUE = .1254E-05 OSCILLATION LIMIT = .3531
*** AUTO STEP TIME: NEXT TIME INC = .28152E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.47 CRITERION= .2571

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
 HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 118
 *** TIME = .217498E+08 TIME INC = 281524.
 *** RESPONSE EIGENVALUE = .1218E-05 OSCILLATION LIMIT = .3430
 *** AUTO TIME STEP: NEXT TIME INC = .17026E+06 DECREASED (FACTOR = .6048)

HT FLOW CONVERGENCE VALUE= 25.64 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8862E-01
 HT FLOW CONVERGENCE VALUE= .6990E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 119
 *** TIME = .219201E+08 TIME INC = 170261.
 *** RESPONSE EIGENVALUE = .1322E-05 OSCILLATION LIMIT = .2251
 *** AUTO STEP TIME: NEXT TIME INC = .17026E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.71 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8862E-01
 HT FLOW CONVERGENCE VALUE= .6985E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 120
 *** TIME = .220904E+08 TIME INC = 170261.
 *** RESPONSE EIGENVALUE = .1585E-05 OSCILLATION LIMIT = .2698

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 19:53:53 APR 01, 1995 CP= 8801.960
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.89 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7918E-01
 HT FLOW CONVERGENCE VALUE= .6327E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 121
 *** TIME = .222606E+08 TIME INC = 170261.
 *** RESPONSE EIGENVALUE = .1184E-05 OSCILLATION LIMIT = .2015
 *** AUTO STEP TIME: NEXT TIME INC = .17026E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.96 CRITERION= .2543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7918E-01
 HT FLOW CONVERGENCE VALUE= .6255E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 122
 *** TIME = .224309E+08 TIME INC = 170261.
 *** RESPONSE EIGENVALUE = .1524E-05 OSCILLATION LIMIT = .2594
 *** AUTO TIME STEP: NEXT TIME INC = .32813E+06 INCREASED (FACTOR = 1.9272)

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1245 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 123
 *** TIME = .227590E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1292E-05 OSCILLATION LIMIT = .4238
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.19 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1220 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 124
 *** TIME = .230871E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1222E-05 OSCILLATION LIMIT = .4010
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1203 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 125
 *** TIME = .234152E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1611E-05 OSCILLATION LIMIT = .5286
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.18 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1210 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 126
 *** TIME = .237434E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1310E-05 OSCILLATION LIMIT = .4297
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .2567
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1206 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 127
 *** TIME = .240715E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1461E-05 OSCILLATION LIMIT = .4795
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.18 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1205 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 128
 *** TIME = .243996E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1379E-05 OSCILLATION LIMIT = .4524
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.12 CRITERION= .2565
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1204 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 129
 *** TIME = .247278E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1427E-05 OSCILLATION LIMIT = .4681
 *** AUTO STEP TIME: NEXT TIME INC = .32813E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.18 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1526
 HT FLOW CONVERGENCE VALUE= .1206 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 130
 *** TIME = .250559E+08 TIME INC = 328126.
 *** RESPONSE EIGENVALUE = .1397E-05 OSCILLATION LIMIT = .4585
 *** AUTO TIME STEP: NEXT TIME INC = .19023E+06 DECREASED (FACTOR = .5798)

HT FLOW CONVERGENCE VALUE= 25.58 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8847E-01
 HT FLOW CONVERGENCE VALUE= .6965E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 131
 *** TIME = .252461E+08 TIME INC = 190234.
 *** RESPONSE EIGENVALUE = .1504E-05 OSCILLATION LIMIT = .2860

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:10:15 APR 01, 1995 CP= 9770.580
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 23.25 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8018E-01
 HT FLOW CONVERGENCE VALUE= .6269E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 132
 *** TIME = .254363E+08 TIME INC = 190234.
 *** RESPONSE EIGENVALUE = .1976E-05 OSCILLATION LIMIT = .3759
 *** AUTO STEP TIME: NEXT TIME INC = .19023E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.18 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8018E-01
 HT FLOW CONVERGENCE VALUE= .6324E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 133
 *** TIME = .256266E+08 TIME INC = 190234.
 *** RESPONSE EIGENVALUE = .1490E-05 OSCILLATION LIMIT = .2834
 *** AUTO TIME STEP: NEXT TIME INC = .33566E+06 INCREASED (FACTOR = 1.7645)

HT FLOW CONVERGENCE VALUE= 40.98 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1134 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 134
 *** TIME = .259622E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1460E-05 OSCILLATION LIMIT = .4902
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.91 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1122 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 135
 *** TIME = .262979E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1436E-05 OSCILLATION LIMIT = .4821
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.98 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1112 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 136
 *** TIME = .266336E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1738E-05 OSCILLATION LIMIT = .5835
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.91 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 137
 *** TIME = .269692E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1526E-05 OSCILLATION LIMIT = .5121
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.98 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 138
 *** TIME = .273049E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1602E-05 OSCILLATION LIMIT = .5377
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.91 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 139
 *** TIME = .276406E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1590E-05 OSCILLATION LIMIT = .5336
 *** AUTO STEP TIME: NEXT TIME INC = .33566E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.98 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 140
 *** TIME = .279762E+08 TIME INC = 335662.
 *** RESPONSE EIGENVALUE = .1573E-05 OSCILLATION LIMIT = .5279
 *** AUTO TIME STEP: NEXT TIME INC = .21283E+06 DECREASED (FACTOR = .6341)

HT FLOW CONVERGENCE VALUE= 25.94 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8970E-01
 HT FLOW CONVERGENCE VALUE= .7080E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 141
 *** TIME = .281890E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1698E-05 OSCILLATION LIMIT = .3614
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8970E-01
 HT FLOW CONVERGENCE VALUE= .7056E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 142
 *** TIME = .284019E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1888E-05 OSCILLATION LIMIT = .4017
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 6218.59052 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 117.39 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 118.50 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 121.02 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 10743.980 TIME= 20:26:50
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 20:26:50 APR 01, 1995 CP= 10743.980
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= 23.89 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
HT FLOW CONVERGENCE VALUE= .6543E-01 CRITERION= .2513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 143
*** TIME = .286147E+08 TIME INC = 212827.
*** RESPONSE EIGENVALUE = .1532E-05 OSCILLATION LIMIT = .3261
*** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
HT FLOW CONVERGENCE VALUE= .6507E-01 CRITERION= .2513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 144
*** TIME = .288275E+08 TIME INC = 212827.
*** RESPONSE EIGENVALUE = .1863E-05 OSCILLATION LIMIT = .3965
*** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
HT FLOW CONVERGENCE VALUE= .6515E-01 CRITERION= .2512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 145
*** TIME = .290404E+08 TIME INC = 212827.
*** RESPONSE EIGENVALUE = .1759E-05 OSCILLATION LIMIT = .3744
*** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2523

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .2511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 146
 *** TIME = .292532E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1726E-05 OSCILLATION LIMIT = .3673
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6511E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 147
 *** TIME = .294660E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1806E-05 OSCILLATION LIMIT = .3845
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 148
 *** TIME = .296788E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1718E-05 OSCILLATION LIMIT = .3657
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6507E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 149
 *** TIME = .298917E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = .3833
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6514E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 150
 *** TIME = .301045E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1727E-05 OSCILLATION LIMIT = .3675
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6506E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 151
 *** TIME = .303173E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1793E-05 OSCILLATION LIMIT = .3815
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 152
 *** TIME = .305301E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1736E-05 OSCILLATION LIMIT = .3694
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6510E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 153
 *** TIME = .307430E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1785E-05 OSCILLATION LIMIT = .3799
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6518E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 154
 *** TIME = .309558E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1743E-05 OSCILLATION LIMIT = .3710
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.89 CRITERION= .2517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6512E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 155
 *** TIME = .311686E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1778E-05 OSCILLATION LIMIT = .3783
 *** AUTO STEP TIME: NEXT TIME INC = .21283E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8269E-01
 HT FLOW CONVERGENCE VALUE= .6520E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 156
 *** TIME = .313815E+08 TIME INC = 212827.
 *** RESPONSE EIGENVALUE = .1749E-05 OSCILLATION LIMIT = .3723
 *** AUTO TIME STEP: NEXT TIME INC = .17618E+06 DECREASED (FACTOR = .8278)

HT FLOW CONVERGENCE VALUE= 19.78 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6845E-01
 HT FLOW CONVERGENCE VALUE= .5401E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 157
 *** TIME = .315576E+08 TIME INC = 176176.
 *** RESPONSE EIGENVALUE = .1793E-05 OSCILLATION LIMIT = .3160

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 20:49:24 APR 01, 1995 CP= 12068.930
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1788 CRITERION= .2503 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 158
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1938E-05 OSCILLATION LIMIT = 1.529
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1772 CRITERION= .2500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 159
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2266E-05 OSCILLATION LIMIT = 1.787
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1780 CRITERION= .2499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 160
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2525E-05 OSCILLATION LIMIT = 1.992
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1784 CRITERION= .2496 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 161
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2158E-05 OSCILLATION LIMIT = 1.702
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1784 CRITERION= .2494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 162
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2427E-05 OSCILLATION LIMIT = 1.915
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1779 CRITERION= .2492 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 163
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2232E-05 OSCILLATION LIMIT = 1.761
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1779 CRITERION= .2490 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 164
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2371E-05 OSCILLATION LIMIT = 1.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1774 CRITERION= .2487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 165
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2271E-05 OSCILLATION LIMIT = 1.792
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1775 CRITERION= .2486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 166
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2339E-05 OSCILLATION LIMIT = 1.846
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1770 CRITERION= .2483 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 167
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2294E-05 OSCILLATION LIMIT = 1.810
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2565
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232

HT FLOW CONVERGENCE VALUE= .1770 CRITERION= .2481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 168
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2321E-05 OSCILLATION LIMIT = 1.831
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1765 CRITERION= .2479 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 169
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2306E-05 OSCILLATION LIMIT = 1.819
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1765 CRITERION= .2477 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 170
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2311E-05 OSCILLATION LIMIT = 1.823
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1761 CRITERION= .2474 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 171
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2312E-05 OSCILLATION LIMIT = 1.824
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1761 CRITERION= .2473 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 172
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2305E-05 OSCILLATION LIMIT = 1.818
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1756 CRITERION= .2470 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 173
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2315E-05 OSCILLATION LIMIT = 1.826
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1756 CRITERION= .2468 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 174
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2301E-05 OSCILLATION LIMIT = 1.815
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1752 CRITERION= .2466 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 175
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = 1.827
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1752 CRITERION= .2464 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 176
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2299E-05 OSCILLATION LIMIT = 1.814
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1747 CRITERION= .2461 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 177
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = 1.827
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1747 CRITERION= .2460 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 178
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2297E-05 OSCILLATION LIMIT = 1.813
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1742 CRITERION= .2457 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 179
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = 1.827
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1743 CRITERION= .2455 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 180
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2296E-05 OSCILLATION LIMIT = 1.812
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1738 CRITERION= .2453 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 181
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2315E-05 OSCILLATION LIMIT = 1.826
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1738 CRITERION= .2451 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 182
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2296E-05 OSCILLATION LIMIT = 1.811
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1734 CRITERION= .2448 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 183
 *** TIME = .520701E+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= 64.62 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1734 CRITERION= .2447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 184
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2295E-05 OSCILLATION LIMIT = 1.810
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1729 CRITERION= .2444 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 185
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2312E-05 OSCILLATION LIMIT = 1.824
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1729 CRITERION= .2442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 186
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2294E-05 OSCILLATION LIMIT = 1.810
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1725 CRITERION= .2440 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 187
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2311E-05 OSCILLATION LIMIT = 1.823
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1725 CRITERION= .2438 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 188
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2293E-05 OSCILLATION LIMIT = 1.809
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1720 CRITERION= .2435 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 189
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2309E-05 OSCILLATION LIMIT = 1.822
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.62 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1720 CRITERION= .2434 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 190
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2293E-05 OSCILLATION LIMIT = 1.809
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.55 CRITERION= .2518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1716 CRITERION= .2431 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 191

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*** TIME = .583816E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2308E-05    OSCILLATION LIMIT = 1.821
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.62    CRITERION= .2515
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1716    CRITERION= .2429    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED.    CUM ITER = 192
*** TIME = .591705E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2292E-05    OSCILLATION LIMIT = 1.808
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.55    CRITERION= .2513
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1712    CRITERION= .2427    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED.    CUM ITER = 193
*** TIME = .599595E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2306E-05    OSCILLATION LIMIT = 1.819
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.62    CRITERION= .2511
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1711    CRITERION= .2425    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED.    CUM ITER = 194
*** TIME = .607484E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2291E-05    OSCILLATION LIMIT = 1.808
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.55    CRITERION= .2509
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1707    CRITERION= .2422    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 38 COMPLETED.    CUM ITER = 195
*** TIME = .615374E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2304E-05    OSCILLATION LIMIT = 1.818
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.62    CRITERION= .2507
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1707    CRITERION= .2421    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 39 COMPLETED.    CUM ITER = 196
*** TIME = .623263E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2290E-05    OSCILLATION LIMIT = 1.807
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 64.55    CRITERION= .2505
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1703    CRITERION= .2418    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 40 COMPLETED.    CUM ITER = 197
*** TIME = .631152E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2303E-05    OSCILLATION LIMIT = 1.817

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 21:49:10 APR 01, 1995 CP= 15571.890
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 44.70    CRITERION= .2459
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1200    CRITERION= .2417    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 198
*** TIME = .639042E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3377E-05 OSCILLATION LIMIT = 2.664
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2457
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1178 CRITERION= .2414 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 199
*** TIME = .646931E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3536E-05 OSCILLATION LIMIT = 2.789
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2455
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1175 CRITERION= .2413 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 200
*** TIME = .654821E+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= 44.61 CRITERION= .2454
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .2410 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 201
*** TIME = .662710E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3501E-05 OSCILLATION LIMIT = 2.762
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2409 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 202
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3092E-05 OSCILLATION LIMIT = 2.440
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1171 CRITERION= .2407 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 203
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3397E-05 OSCILLATION LIMIT = 2.680
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2448
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1171 CRITERION= .2405 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 204
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3167E-05 OSCILLATION LIMIT = 2.499
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2446
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
HT FLOW CONVERGENCE VALUE= .1167 CRITERION= .2403 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 205
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3339E-05 OSCILLATION LIMIT = 2.634
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2444

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1168 CRITERION= .2402 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 206
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3210E-05 OSCILLATION LIMIT = 2.532
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1165 CRITERION= .2399 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 207
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3306E-05 OSCILLATION LIMIT = 2.608
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2440
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1166 CRITERION= .2398 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 208
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3234E-05 OSCILLATION LIMIT = 2.551
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2439
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1162 CRITERION= .2395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 209
 *** TIME = .725825E+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= 44.70 CRITERION= .2436
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1163 CRITERION= .2394 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 210
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3247E-05 OSCILLATION LIMIT = 2.562
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2435
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1159 CRITERION= .2392 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 211
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3276E-05 OSCILLATION LIMIT = 2.585
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1161 CRITERION= .2390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 212
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3254E-05 OSCILLATION LIMIT = 2.567
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1157 CRITERION= .2388 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 213
 *** TIME = .757383E+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= 44.70 CRITERION= .2429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1158 CRITERION= .2387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 214
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3258E-05 OSCILLATION LIMIT = 2.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2428
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .2384 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 215
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3266E-05 OSCILLATION LIMIT = 2.577
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1155 CRITERION= .2383 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 216
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1151 CRITERION= .2380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 217
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3264E-05 OSCILLATION LIMIT = 2.575
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1153 CRITERION= .2379 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 218
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1149 CRITERION= .2377 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 219
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3263E-05 OSCILLATION LIMIT = 2.574
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1150 CRITERION= .2375 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 220
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1146 CRITERION= .2373 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 221
 *** TIME = .820498E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .3263E-05 OSCILLATION LIMIT = 2.574
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1148 CRITERION= .2371 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 222
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1144 CRITERION= .2369 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 223
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3262E-05 OSCILLATION LIMIT = 2.574
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1145 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 224
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3259E-05 OSCILLATION LIMIT = 2.571
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2409
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1141 CRITERION= .2365 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 225
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3262E-05 OSCILLATION LIMIT = 2.573
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1142 CRITERION= .2364 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 226
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3258E-05 OSCILLATION LIMIT = 2.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1138 CRITERION= .2362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 227
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3261E-05 OSCILLATION LIMIT = 2.573
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1140 CRITERION= .2360 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 228
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3257E-05 OSCILLATION LIMIT = 2.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .2358 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 229
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3261E-05 OSCILLATION LIMIT = 2.573
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1137 CRITERION= .2356 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 230
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3256E-05 OSCILLATION LIMIT = 2.569
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1133 CRITERION= .2354 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 231
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3261E-05 OSCILLATION LIMIT = 2.573
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2396
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1135 CRITERION= .2353 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 232
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3255E-05 OSCILLATION LIMIT = 2.568
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1131 CRITERION= .2350 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 233
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3261E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2392
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1132 CRITERION= .2349 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 234
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3254E-05 OSCILLATION LIMIT = 2.567
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2391
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1128 CRITERION= .2347 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 235
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1130 CRITERION= .2345 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 236
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3253E-05 OSCILLATION LIMIT = 2.567
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .2387
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548

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HT FLOW CONVERGENCE VALUE= .1126    CRITERION= .2343    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 237
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3260E-05 OSCILLATION LIMIT = 2.572

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 22:48:53 APR 01, 1995 CP= 19076.840
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2367
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8684E-01 CRITERION= .2342    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 238
*** TIME = .954618E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4239E-05 OSCILLATION LIMIT = 3.345
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2365
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8540E-01 CRITERION= .2339    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 239
*** TIME = .962507E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4368E-05 OSCILLATION LIMIT = 3.446
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8512E-01 CRITERION= .2338    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 240
*** TIME = .970397E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3954E-05 OSCILLATION LIMIT = 3.120
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8514E-01 CRITERION= .2336    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 241
*** TIME = .978286E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4345E-05 OSCILLATION LIMIT = 3.428
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2360
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8505E-01 CRITERION= .2335    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 242
*** TIME = .986175E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4049E-05 OSCILLATION LIMIT = 3.195
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2359
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8489E-01 CRITERION= .2333    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 243
*** TIME = .994065E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4272E-05 OSCILLATION LIMIT = 3.371
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8493E-01 CRITERION= .2332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 244
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4103E-05 OSCILLATION LIMIT = 3.237
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2356
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8468E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 245
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4232E-05 OSCILLATION LIMIT = 3.339
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8479E-01 CRITERION= .2328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 246
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4134E-05 OSCILLATION LIMIT = 3.262
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8448E-01 CRITERION= .2326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 247
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4209E-05 OSCILLATION LIMIT = 3.321
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8464E-01 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 248
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4151E-05 OSCILLATION LIMIT = 3.275
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8430E-01 CRITERION= .2323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 249
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4196E-05 OSCILLATION LIMIT = 3.311
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8447E-01 CRITERION= .2322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 250
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4161E-05 OSCILLATION LIMIT = 3.283
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8412E-01 CRITERION= .2319 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 251
 *** TIME = .105718E+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= 33.66 CRITERION= .2344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8431E-01 CRITERION= .2318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 252
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4166E-05 OSCILLATION LIMIT = 3.286
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8394E-01 CRITERION= .2316 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 253
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4186E-05 OSCILLATION LIMIT = 3.303
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8414E-01 CRITERION= .2315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 254
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4168E-05 OSCILLATION LIMIT = 3.288
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8377E-01 CRITERION= .2313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 255
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4185E-05 OSCILLATION LIMIT = 3.302
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8397E-01 CRITERION= .2312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 256
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4169E-05 OSCILLATION LIMIT = 3.289
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8360E-01 CRITERION= .2309 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 257
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4185E-05 OSCILLATION LIMIT = 3.301
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8381E-01 CRITERION= .2308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 258
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4169E-05 OSCILLATION LIMIT = 3.289
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8343E-01 CRITERION= .2306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 259

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*** TIME = .112030E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4185E-05    OSCILLATION LIMIT = 3.301
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2330
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8364E-01    CRITERION= .2305    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED.    CUM ITER = 260
*** TIME = .112818E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4169E-05    OSCILLATION LIMIT = 3.289
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2329
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8326E-01    CRITERION= .2303    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED.    CUM ITER = 261
*** TIME = .113607E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4185E-05    OSCILLATION LIMIT = 3.302
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2327
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8347E-01    CRITERION= .2302    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED.    CUM ITER = 262
*** TIME = .114396E+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= 33.57    CRITERION= .2326
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8310E-01    CRITERION= .2300    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED.    CUM ITER = 263
*** TIME = .115185E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4186E-05    OSCILLATION LIMIT = 3.302
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2324
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8330E-01    CRITERION= .2298    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED.    CUM ITER = 264
*** TIME = .115974E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4168E-05    OSCILLATION LIMIT = 3.288
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2323
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8293E-01    CRITERION= .2296    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED.    CUM ITER = 265
*** TIME = .116763E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4186E-05    OSCILLATION LIMIT = 3.303
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.66    CRITERION= .2321
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8313E-01    CRITERION= .2295    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED.    CUM ITER = 266
*** TIME = .117552E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4167E-05    OSCILLATION LIMIT = 3.288
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.57    CRITERION= .2319
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
    HT FLOW CONVERGENCE VALUE= .8276E-01    CRITERION= .2293    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 267
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4187E-05 OSCILLATION LIMIT = 3.303
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8296E-01 CRITERION= .2292 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 268
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4166E-05 OSCILLATION LIMIT = 3.287
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2316
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8259E-01 CRITERION= .2290 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 269
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4188E-05 OSCILLATION LIMIT = 3.304
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2314
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8279E-01 CRITERION= .2288 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 270
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4166E-05 OSCILLATION LIMIT = 3.286
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8243E-01 CRITERION= .2286 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 271
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4189E-05 OSCILLATION LIMIT = 3.305
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2311
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8263E-01 CRITERION= .2285 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 272
*** TIME = .122286E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4165E-05 OSCILLATION LIMIT = 3.286
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2310
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8226E-01 CRITERION= .2283 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 273
*** TIME = .123075E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4189E-05 OSCILLATION LIMIT = 3.305
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.66 CRITERION= .2307
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .8246E-01 CRITERION= .2282 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 274
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4164E-05 OSCILLATION LIMIT = 3.285
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2306

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8209E-01 CRITERION= .2280 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 275
 *** TIME = .124653E+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= 33.66 CRITERION= .2304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8229E-01 CRITERION= .2279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 276
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4163E-05 OSCILLATION LIMIT = 3.285
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2303
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .8193E-01 CRITERION= .2276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 277
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4190E-05 OSCILLATION LIMIT = 3.306

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 23:48:26 APR 01, 1995 CP= 22581.300
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6717E-01 CRITERION= .2275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 278
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4715E-05 OSCILLATION LIMIT = 3.720
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.92 CRITERION= .2291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6611E-01 CRITERION= .2273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 279
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4799E-05 OSCILLATION LIMIT = 3.786
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6609E-01 CRITERION= .2273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 280
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4534E-05 OSCILLATION LIMIT = 3.577
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6597E-01 CRITERION= .2270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 281
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4800E-05 OSCILLATION LIMIT = 3.787
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6604E-01 CRITERION= .2270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 282
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4591E-05 OSCILLATION LIMIT = 3.622
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6581E-01 CRITERION= .2268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 283
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4756E-05 OSCILLATION LIMIT = 3.752
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6595E-01 CRITERION= .2267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 284
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4624E-05 OSCILLATION LIMIT = 3.648
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6567E-01 CRITERION= .2265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 285
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4732E-05 OSCILLATION LIMIT = 3.733
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6585E-01 CRITERION= .2264 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 286
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4642E-05 OSCILLATION LIMIT = 3.662
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6554E-01 CRITERION= .2262 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 287
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4719E-05 OSCILLATION LIMIT = 3.723
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6574E-01 CRITERION= .2261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 288
 *** TIME = .134909E+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= 26.93 CRITERION= .2277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6542E-01 CRITERION= .2259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 289
 *** TIME = .135698E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4712E-05  OSCILLATION LIMIT = 3.717
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.02  CRITERION= .2275
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6563E-01 CRITERION= .2258  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 290
*** TIME = .136487E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4657E-05  OSCILLATION LIMIT = 3.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.93  CRITERION= .2274
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6530E-01 CRITERION= .2256  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 291
*** TIME = .137276E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4708E-05  OSCILLATION LIMIT = 3.715
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.02  CRITERION= .2272
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6552E-01 CRITERION= .2255  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 292
*** TIME = .138065E+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= 26.93  CRITERION= .2271
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6518E-01 CRITERION= .2253  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 293
*** TIME = .138853E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4707E-05  OSCILLATION LIMIT = 3.713
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.02  CRITERION= .2269
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6541E-01 CRITERION= .2252  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 294
*** TIME = .139642E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4661E-05  OSCILLATION LIMIT = 3.678
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.93  CRITERION= .2268
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6506E-01 CRITERION= .2250  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 295
*** TIME = .140431E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4706E-05  OSCILLATION LIMIT = 3.713
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 27.02  CRITERION= .2266
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6529E-01 CRITERION= .2250  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 296
*** TIME = .141220E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4662E-05  OSCILLATION LIMIT = 3.678
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 26.93  CRITERION= .2266
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
  HT FLOW CONVERGENCE VALUE= .6495E-01 CRITERION= .2248  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 297
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4707E-05 OSCILLATION LIMIT = 3.713
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6518E-01 CRITERION= .2247 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 298
*** TIME = .142798E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4662E-05 OSCILLATION LIMIT = 3.678
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2263
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6483E-01 CRITERION= .2245 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 299
*** TIME = .143587E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4707E-05 OSCILLATION LIMIT = 3.714
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2261
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6506E-01 CRITERION= .2244 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 300
*** TIME = .144376E+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= 26.93 CRITERION= .2260
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6472E-01 CRITERION= .2242 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 301
*** TIME = .145165E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4708E-05 OSCILLATION LIMIT = 3.715
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2258
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6495E-01 CRITERION= .2241 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 302
*** TIME = .145954E+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= 26.93 CRITERION= .2257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6461E-01 CRITERION= .2239 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 303
*** TIME = .146743E+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= 27.02 CRITERION= .2255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6483E-01 CRITERION= .2238 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 304
*** TIME = .147532E+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= 26.93 CRITERION= .2254
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01

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HT FLOW CONVERGENCE VALUE= .6449E-01 CRITERION= .2236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 305
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4710E-05 OSCILLATION LIMIT = 3.716
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6472E-01 CRITERION= .2235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 306
 *** TIME = .149110E+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= 26.93 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6438E-01 CRITERION= .2233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 307
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4711E-05 OSCILLATION LIMIT = 3.717
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6460E-01 CRITERION= .2232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 308
 *** TIME = .150688E+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= 26.93 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6426E-01 CRITERION= .2230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 309
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4712E-05 OSCILLATION LIMIT = 3.717
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6449E-01 CRITERION= .2230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 310
 *** TIME = .152265E+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= 26.93 CRITERION= .2246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6415E-01 CRITERION= .2228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 311
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4713E-05 OSCILLATION LIMIT = 3.718
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .6437E-01 CRITERION= .2227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 312
 *** TIME = .153843E+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= 26.93 CRITERION= .2243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6404E-01 CRITERION= .2225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 313
*** TIME = .154632E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4713E-05 OSCILLATION LIMIT = 3.719
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6426E-01 CRITERION= .2224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 314
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4657E-05 OSCILLATION LIMIT = 3.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6393E-01 CRITERION= .2222 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 315
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4714E-05 OSCILLATION LIMIT = 3.719
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .2238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6414E-01 CRITERION= .2221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 316
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4657E-05 OSCILLATION LIMIT = 3.674
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .2237
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .6381E-01 CRITERION= .2219 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 317
*** TIME = .157788E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4715E-05 OSCILLATION LIMIT = 3.720

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 00:48:12 APR 02, 1995 CP= 26086.570
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5623E-01 CRITERION= .2218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 318
*** TIME = .158577E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6201E-05 OSCILLATION LIMIT = 4.893
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.69 CRITERION= .2230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5572E-01 CRITERION= .2216 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 319
*** TIME = .159366E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 5.126

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

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5533E-01 CRITERION= .2215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 320
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6048E-05 OSCILLATION LIMIT = 4.771
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5548E-01 CRITERION= .2213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 321
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6451E-05 OSCILLATION LIMIT = 5.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5534E-01 CRITERION= .2212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 322
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6126E-05 OSCILLATION LIMIT = 4.833
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2224
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5529E-01 CRITERION= .2210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 323
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6395E-05 OSCILLATION LIMIT = 5.046
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5530E-01 CRITERION= .2209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 324
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6172E-05 OSCILLATION LIMIT = 4.869
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5514E-01 CRITERION= .2207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 325
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6365E-05 OSCILLATION LIMIT = 5.021
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5523E-01 CRITERION= .2206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 326
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6198E-05 OSCILLATION LIMIT = 4.890
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5501E-01 CRITERION= .2204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 327

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*** TIME = .165677E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6348E-05    OSCILLATION LIMIT = 5.008
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.79    CRITERION= .2216
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5515E-01    CRITERION= .2203    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 328
*** TIME = .166466E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6213E-05    OSCILLATION LIMIT = 4.902
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2215
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5489E-01    CRITERION= .2201    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 329
*** TIME = .167255E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6339E-05    OSCILLATION LIMIT = 5.001
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.79    CRITERION= .2213
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5506E-01    CRITERION= .2200    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 330
*** TIME = .168044E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6222E-05    OSCILLATION LIMIT = 4.909
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2212
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5478E-01    CRITERION= .2198    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 331
*** TIME = .168833E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6336E-05    OSCILLATION LIMIT = 4.998
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.79    CRITERION= .2210
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5496E-01    CRITERION= .2197    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 332
*** TIME = .169622E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6228E-05    OSCILLATION LIMIT = 4.914
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2209
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5467E-01    CRITERION= .2195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 333
*** TIME = .170411E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6334E-05    OSCILLATION LIMIT = 4.997
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.79    CRITERION= .2207
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5486E-01    CRITERION= .2194    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 334
*** TIME = .171200E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6232E-05    OSCILLATION LIMIT = 4.916
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2206
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
    HT FLOW CONVERGENCE VALUE= .5456E-01    CRITERION= .2192    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 335
*** TIME = .171989E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6335E-05 OSCILLATION LIMIT = 4.998
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2204
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5476E-01 CRITERION= .2191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 336
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6234E-05 OSCILLATION LIMIT = 4.918
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5446E-01 CRITERION= .2189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 337
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6336E-05 OSCILLATION LIMIT = 4.999
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5465E-01 CRITERION= .2189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 338
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6236E-05 OSCILLATION LIMIT = 4.920
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5436E-01 CRITERION= .2186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 339
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6338E-05 OSCILLATION LIMIT = 5.000
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5455E-01 CRITERION= .2186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 340
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6237E-05 OSCILLATION LIMIT = 4.921
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2197
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5426E-01 CRITERION= .2183 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 341
*** TIME = .176723E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6340E-05 OSCILLATION LIMIT = 5.002
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5445E-01 CRITERION= .2183 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 342
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6238E-05 OSCILLATION LIMIT = 4.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2194

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5415E-01 CRITERION= .2181 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 343
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6342E-05 OSCILLATION LIMIT = 5.004
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5435E-01 CRITERION= .2180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 344
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6240E-05 OSCILLATION LIMIT = 4.923
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5405E-01 CRITERION= .2178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 345
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6344E-05 OSCILLATION LIMIT = 5.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5425E-01 CRITERION= .2177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 346
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6241E-05 OSCILLATION LIMIT = 4.923
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5395E-01 CRITERION= .2175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 347
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6347E-05 OSCILLATION LIMIT = 5.007
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5414E-01 CRITERION= .2174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 348
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6242E-05 OSCILLATION LIMIT = 4.924
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5385E-01 CRITERION= .2172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 349
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6349E-05 OSCILLATION LIMIT = 5.009
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5404E-01 CRITERION= .2171 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 350
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6243E-05 OSCILLATION LIMIT = 4.925
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5375E-01 CRITERION= .2169 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 351
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6351E-05 OSCILLATION LIMIT = 5.010
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5394E-01 CRITERION= .2168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 352
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6244E-05 OSCILLATION LIMIT = 4.926
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5365E-01 CRITERION= .2166 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 353
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6353E-05 OSCILLATION LIMIT = 5.012
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5384E-01 CRITERION= .2165 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 354
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6245E-05 OSCILLATION LIMIT = 4.927
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5355E-01 CRITERION= .2163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 355
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6355E-05 OSCILLATION LIMIT = 5.014
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.79 CRITERION= .2175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5374E-01 CRITERION= .2162 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 356
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6246E-05 OSCILLATION LIMIT = 4.928
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5348E-01 CRITERION= .2160 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 357
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6357E-05 OSCILLATION LIMIT = 5.015

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 01:47:54 APR 02, 1995 CP= 29591.200
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4673E-01 CRITERION= .2159 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 358
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6352E-05 OSCILLATION LIMIT = 5.011
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4589E-01 CRITERION= .2157 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 359
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6485E-05 OSCILLATION LIMIT = 5.117
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4601E-01 CRITERION= .2157 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 360
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6309E-05 OSCILLATION LIMIT = 4.978
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4584E-01 CRITERION= .2155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 361
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6509E-05 OSCILLATION LIMIT = 5.135
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4598E-01 CRITERION= .2154 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 362
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6328E-05 OSCILLATION LIMIT = 4.993
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4577E-01 CRITERION= .2152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 363
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6495E-05 OSCILLATION LIMIT = 5.124
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4594E-01 CRITERION= .2151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 364
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6340E-05 OSCILLATION LIMIT = 5.002
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4570E-01 CRITERION= .2150 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 365
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6489E-05 OSCILLATION LIMIT = 5.119
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4589E-01 CRITERION= .2149 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 366
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6347E-05 OSCILLATION LIMIT = 5.007
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4564E-01 CRITERION= .2147 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 367
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6486E-05 OSCILLATION LIMIT = 5.117
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4585E-01 CRITERION= .2146 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 368
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6351E-05 OSCILLATION LIMIT = 5.011
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4560E-01 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 369
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6485E-05 OSCILLATION LIMIT = 5.116
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4582E-01 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 370
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6354E-05 OSCILLATION LIMIT = 5.013
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4556E-01 CRITERION= .2142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 371
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6485E-05 OSCILLATION LIMIT = 5.116
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4577E-01 CRITERION= .2141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 372
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6355E-05 OSCILLATION LIMIT = 5.014
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2150
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01

HT FLOW CONVERGENCE VALUE= .4551E-01 CRITERION= .2139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 373
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6486E-05 OSCILLATION LIMIT = 5.117
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2148
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4573E-01 CRITERION= .2139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 374
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6357E-05 OSCILLATION LIMIT = 5.015
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4548E-01 CRITERION= .2137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 375
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6488E-05 OSCILLATION LIMIT = 5.118
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4570E-01 CRITERION= .2136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 376
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6357E-05 OSCILLATION LIMIT = 5.016
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4543E-01 CRITERION= .2134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 377
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6489E-05 OSCILLATION LIMIT = 5.120
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4564E-01 CRITERION= .2134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 378
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6358E-05 OSCILLATION LIMIT = 5.016
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4538E-01 CRITERION= .2132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 379
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6491E-05 OSCILLATION LIMIT = 5.121
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4558E-01 CRITERION= .2131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 380
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6359E-05 OSCILLATION LIMIT = 5.017
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4532E-01 CRITERION= .2129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 381
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6492E-05 OSCILLATION LIMIT = 5.122
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4552E-01 CRITERION= .2128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 382
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6360E-05 OSCILLATION LIMIT = 5.017
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4526E-01 CRITERION= .2127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 383
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6494E-05 OSCILLATION LIMIT = 5.123
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4547E-01 CRITERION= .2126 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 384
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6360E-05 OSCILLATION LIMIT = 5.018
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4521E-01 CRITERION= .2124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 385
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6495E-05 OSCILLATION LIMIT = 5.124
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4541E-01 CRITERION= .2123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 386
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6361E-05 OSCILLATION LIMIT = 5.019
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4515E-01 CRITERION= .2121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 387
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 5.125
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4535E-01 CRITERION= .2121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 388
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6362E-05 OSCILLATION LIMIT = 5.019

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

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4510E-01 CRITERION= .2119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 389
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6498E-05 OSCILLATION LIMIT = 5.127
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4531E-01 CRITERION= .2118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 390
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6363E-05 OSCILLATION LIMIT = 5.020
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4506E-01 CRITERION= .2116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 391
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6500E-05 OSCILLATION LIMIT = 5.128
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4534E-01 CRITERION= .2116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 392
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6364E-05 OSCILLATION LIMIT = 5.020
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4513E-01 CRITERION= .2114 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 393
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6501E-05 OSCILLATION LIMIT = 5.129
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4535E-01 CRITERION= .2113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 394
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6364E-05 OSCILLATION LIMIT = 5.021
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4511E-01 CRITERION= .2111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 395
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6502E-05 OSCILLATION LIMIT = 5.130
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.52 CRITERION= .2120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4533E-01 CRITERION= .2110 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 396

*** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6365E-05 OSCILLATION LIMIT = 5.021
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.43 CRITERION= .2119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4508E-01 CRITERION= .2109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 397
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6503E-05 OSCILLATION LIMIT = 5.130

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 03:48:23 APR 02, 1995 CP= 33130.410
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4169E-01 CRITERION= .2108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 398
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6574E-05 OSCILLATION LIMIT = 5.186
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4126E-01 CRITERION= .2106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 399
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6750E-05 OSCILLATION LIMIT = 5.325
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4144E-01 CRITERION= .2106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 400
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6541E-05 OSCILLATION LIMIT = 5.161
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2113
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4126E-01 CRITERION= .2104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 401
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6756E-05 OSCILLATION LIMIT = 5.330
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4141E-01 CRITERION= .2103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 402
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6557E-05 OSCILLATION LIMIT = 5.173
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4118E-01 CRITERION= .2101 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 403
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6745E-05 OSCILLATION LIMIT = 5.321
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2109
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4135E-01 CRITERION= .2101 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 404
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6567E-05 OSCILLATION LIMIT = 5.181
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2108
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4112E-01 CRITERION= .2099 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 405
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = 5.317
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2106
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4129E-01 CRITERION= .2098 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 406
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6573E-05 OSCILLATION LIMIT = 5.186
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2106
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4105E-01 CRITERION= .2097 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 407
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6737E-05 OSCILLATION LIMIT = 5.315
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2104
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4123E-01 CRITERION= .2096 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 408
*** TIME = .229582E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6577E-05 OSCILLATION LIMIT = 5.189
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2103
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4098E-01 CRITERION= .2094 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 409
*** TIME = .230371E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6736E-05 OSCILLATION LIMIT = 5.314
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2102
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4117E-01 CRITERION= .2094 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 410
*** TIME = .231159E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6580E-05 OSCILLATION LIMIT = 5.191
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2101

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4092E-01 CRITERION= .2092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 411
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6736E-05 OSCILLATION LIMIT = 5.314
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.76 CRITERION= .2099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4110E-01 CRITERION= .2091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 412
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6582E-05 OSCILLATION LIMIT = 5.192
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4085E-01 CRITERION= .2090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 413
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6736E-05 OSCILLATION LIMIT = 5.314
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4104E-01 CRITERION= .2089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 414
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6583E-05 OSCILLATION LIMIT = 5.193
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4079E-01 CRITERION= .2087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 415
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6737E-05 OSCILLATION LIMIT = 5.315
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4097E-01 CRITERION= .2087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 416
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6584E-05 OSCILLATION LIMIT = 5.194
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2094
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4072E-01 CRITERION= .2085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 417
 *** TIME = .236682E+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= 17.75 CRITERION= .2092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4091E-01 CRITERION= .2084 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 418
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6585E-05 OSCILLATION LIMIT = 5.195
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4066E-01 CRITERION= .2082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 419
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = 5.316
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4084E-01 CRITERION= .2082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 420
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6586E-05 OSCILLATION LIMIT = 5.196
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4059E-01 CRITERION= .2080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 421
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6740E-05 OSCILLATION LIMIT = 5.317
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4078E-01 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 422
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6587E-05 OSCILLATION LIMIT = 5.197
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4053E-01 CRITERION= .2078 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 423
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6741E-05 OSCILLATION LIMIT = 5.318
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2085
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4071E-01 CRITERION= .2077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 424
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6588E-05 OSCILLATION LIMIT = 5.198
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 425
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6742E-05 OSCILLATION LIMIT = 5.319
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4064E-01 CRITERION= .2075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 426
 *** TIME = .243782E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6589E-05 OSCILLATION LIMIT = 5.199
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4040E-01 CRITERION= .2073 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 427
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6743E-05 OSCILLATION LIMIT = 5.320
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4058E-01 CRITERION= .2072 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 428
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6591E-05 OSCILLATION LIMIT = 5.200
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4034E-01 CRITERION= .2071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 429
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6745E-05 OSCILLATION LIMIT = 5.321
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4052E-01 CRITERION= .2070 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 430
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6592E-05 OSCILLATION LIMIT = 5.201
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4028E-01 CRITERION= .2068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 431
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6746E-05 OSCILLATION LIMIT = 5.322
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 432
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6593E-05 OSCILLATION LIMIT = 5.202
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.66 CRITERION= .2075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4022E-01 CRITERION= .2066 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 433
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6747E-05 OSCILLATION LIMIT = 5.323
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4039E-01 CRITERION= .2065 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 434
 *** TIME = .250094E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6594E-05 OSCILLATION LIMIT = 5.203
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.66 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4016E-01 CRITERION= .2063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 435
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6749E-05 OSCILLATION LIMIT = 5.324
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.75 CRITERION= .2071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4033E-01 CRITERION= .2063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 436
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6596E-05 OSCILLATION LIMIT = 5.204
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.66 CRITERION= .2070
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4010E-01 CRITERION= .2061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 437
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6750E-05 OSCILLATION LIMIT = 5.326

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 04:49:51 APR 02, 1995 CP= 36687.290
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3862E-01
 HT FLOW CONVERGENCE VALUE= .3108E-01 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 438
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9469E-05 OSCILLATION LIMIT = 7.470
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3805E-01
 HT FLOW CONVERGENCE VALUE= .3017E-01 CRITERION= .2059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 439
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 8.241
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2883E-01 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 440
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9855E-05 OSCILLATION LIMIT = 7.775
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01

HT FLOW CONVERGENCE VALUE= .2981E-01 CRITERION= .2056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 441
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 8.250
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2907E-01 CRITERION= .2056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 442
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9946E-05 OSCILLATION LIMIT = 7.847
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2955E-01 CRITERION= .2054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 443
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = 8.207
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2918E-01 CRITERION= .2054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 444
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1000E-04 OSCILLATION LIMIT = 7.891
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2939E-01 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 445
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1037E-04 OSCILLATION LIMIT = 8.184
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2923E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 446
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1003E-04 OSCILLATION LIMIT = 7.916
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2928E-01 CRITERION= .2050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 447
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1036E-04 OSCILLATION LIMIT = 8.172
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2924E-01 CRITERION= .2049 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 448
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 7.931
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2920E-01 CRITERION= .2047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 449
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 8.166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2923E-01 CRITERION= .2047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 450
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 7.940
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2913E-01 CRITERION= .2045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 451
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 8.165
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2921E-01 CRITERION= .2045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 452
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 7.946
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2908E-01 CRITERION= .2043 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 453
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 8.166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2918E-01 CRITERION= .2042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 454
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.950
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2903E-01 CRITERION= .2041 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 455
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 8.168
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2914E-01 CRITERION= .2040 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 456
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.953

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

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2899E-01 CRITERION= .2038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 457
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1036E-04 OSCILLATION LIMIT = 8.171
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2911E-01 CRITERION= .2038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 458
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.956
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2894E-01 CRITERION= .2036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 459
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1036E-04 OSCILLATION LIMIT = 8.174
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2907E-01 CRITERION= .2036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 460
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.958
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2890E-01 CRITERION= .2034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 461
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1037E-04 OSCILLATION LIMIT = 8.178
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2903E-01 CRITERION= .2033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 462
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.960
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2886E-01 CRITERION= .2032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 463
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1037E-04 OSCILLATION LIMIT = 8.182
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2899E-01 CRITERION= .2031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 464


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*** TIME = .273762E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1009E-04    OSCILLATION LIMIT = 7.962
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.78    CRITERION= .2034
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2882E-01    CRITERION= .2029    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED.    CUM ITER = 465
*** TIME = .274551E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1037E-04    OSCILLATION LIMIT = 8.185
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.87    CRITERION= .2032
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2895E-01    CRITERION= .2029    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED.    CUM ITER = 466
*** TIME = .275340E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1010E-04    OSCILLATION LIMIT = 7.964
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.78    CRITERION= .2032
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2878E-01    CRITERION= .2027    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED.    CUM ITER = 467
*** TIME = .276129E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1038E-04    OSCILLATION LIMIT = 8.189
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.87    CRITERION= .2030
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2891E-01    CRITERION= .2027    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 31 COMPLETED.    CUM ITER = 468
*** TIME = .276918E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1010E-04    OSCILLATION LIMIT = 7.967
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.78    CRITERION= .2029
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2874E-01    CRITERION= .2025    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED.    CUM ITER = 469
*** TIME = .277707E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1038E-04    OSCILLATION LIMIT = 8.192
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.87    CRITERION= .2028
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2887E-01    CRITERION= .2024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED.    CUM ITER = 470
*** TIME = .278496E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1010E-04    OSCILLATION LIMIT = 7.969
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.78    CRITERION= .2027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2870E-01    CRITERION= .2023    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED.    CUM ITER = 471
*** TIME = .279285E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1039E-04    OSCILLATION LIMIT = 8.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.87    CRITERION= .2026
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2884E-01    CRITERION= .2022    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 472
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1010E-04 OSCILLATION LIMIT = 7.971
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2866E-01 CRITERION= .2020 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 473
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1039E-04 OSCILLATION LIMIT = 8.199
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2880E-01 CRITERION= .2020 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 474
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 7.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2862E-01 CRITERION= .2018 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 475
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = 8.203
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.87 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2876E-01 CRITERION= .2018 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 476
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 7.976
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2016 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 477
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = 8.206
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4913.36056 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 152.19 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 153.05 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 155.02 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 40241.560 TIME= 05:50:51
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 05:50:51 APR 02, 1995 CP= 40241.560
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2556E-01 CRITERION= .2016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 478
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9337E-05 OSCILLATION LIMIT = 7.366
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2476E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 479
 *** TIME = .285596E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9639E-05 OSCILLATION LIMIT = 7.604
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2522E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 480
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9505E-05 OSCILLATION LIMIT = 7.499
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2483E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 481
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9691E-05 OSCILLATION LIMIT = 7.645
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2514E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 482
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9475E-05 OSCILLATION LIMIT = 7.475
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 483
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9717E-05 OSCILLATION LIMIT = 7.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2508E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 484
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9459E-05 OSCILLATION LIMIT = 7.463
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2482E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 485
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9733E-05 OSCILLATION LIMIT = 7.679
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2503E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 486
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9451E-05 OSCILLATION LIMIT = 7.456

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

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 487
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9744E-05 OSCILLATION LIMIT = 7.687
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2498E-01 CRITERION= .2006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 488
 *** TIME = .292697E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9447E-05 OSCILLATION LIMIT = 7.453
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 489
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9752E-05 OSCILLATION LIMIT = 7.693
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2493E-01 CRITERION= .2004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 490
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9446E-05 OSCILLATION LIMIT = 7.452
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2474E-01 CRITERION= .2003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 491
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9757E-05 OSCILLATION LIMIT = 7.698
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2490E-01 CRITERION= .2002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 492
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9446E-05 OSCILLATION LIMIT = 7.453
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .2001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 493
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9762E-05 OSCILLATION LIMIT = 7.702
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .2000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 494

*** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9448E-05 OSCILLATION LIMIT = 7.454
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2468E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 495
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9766E-05 OSCILLATION LIMIT = 7.705
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .2001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 496
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9449E-05 OSCILLATION LIMIT = 7.455
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .2001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2465E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 497
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9769E-05 OSCILLATION LIMIT = 7.707
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 498
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9451E-05 OSCILLATION LIMIT = 7.456
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 499
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9772E-05 OSCILLATION LIMIT = 7.710
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 500
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9453E-05 OSCILLATION LIMIT = 7.458
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2459E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 501
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9775E-05 OSCILLATION LIMIT = 7.712
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2474E-01 CRITERION= .1993 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 502
*** TIME = .303742E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9456E-05 OSCILLATION LIMIT = 7.460
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1995
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2456E-01 CRITERION= .1992 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 503
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9778E-05 OSCILLATION LIMIT = 7.714
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .1991 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 504
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9458E-05 OSCILLATION LIMIT = 7.462
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2452E-01 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 505
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9781E-05 OSCILLATION LIMIT = 7.716
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1992
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2467E-01 CRITERION= .1989 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 506
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9461E-05 OSCILLATION LIMIT = 7.464
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1992
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2449E-01 CRITERION= .1988 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 507
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9783E-05 OSCILLATION LIMIT = 7.719
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2464E-01 CRITERION= .1987 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 508
*** TIME = .308476E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9463E-05 OSCILLATION LIMIT = 7.466
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2446E-01 CRITERION= .1986 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 509
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9786E-05 OSCILLATION LIMIT = 7.721
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1988

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 510
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9466E-05 OSCILLATION LIMIT = 7.468
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2443E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 511
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9789E-05 OSCILLATION LIMIT = 7.723
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2458E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 512
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9469E-05 OSCILLATION LIMIT = 7.470
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2440E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 513
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9791E-05 OSCILLATION LIMIT = 7.725
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2455E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 514
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9472E-05 OSCILLATION LIMIT = 7.472
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2437E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 515
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9794E-05 OSCILLATION LIMIT = 7.727
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2451E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 516
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9474E-05 OSCILLATION LIMIT = 7.475
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.04 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2433E-01 CRITERION= .1978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 517
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9796E-05 OSCILLATION LIMIT = 7.729

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 06:51:50 APR 02, 1995 CP= 43794.290
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 52.10 CRITERION= .2045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3340
 HT FLOW CONVERGENCE VALUE= .1825 CRITERION= .1972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 518
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1285E-04 OSCILLATION LIMIT = 101.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.01 CRITERION= .2038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3495
 HT FLOW CONVERGENCE VALUE= .1998 CRITERION= .1962
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3654E-01
 HT FLOW CONVERGENCE VALUE= .2802E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 520
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9275E-05 OSCILLATION LIMIT = 73.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.10 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3269
 HT FLOW CONVERGENCE VALUE= .1757 CRITERION= .1954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 521
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1325E-04 OSCILLATION LIMIT = 104.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.01 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3485
 HT FLOW CONVERGENCE VALUE= .1971 CRITERION= .1945
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3626E-01
 HT FLOW CONVERGENCE VALUE= .2758E-01 CRITERION= .1943 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 523
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9323E-05 OSCILLATION LIMIT = 73.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.10 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3290
 HT FLOW CONVERGENCE VALUE= .1751 CRITERION= .1936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 524
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1322E-04 OSCILLATION LIMIT = 104.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.01 CRITERION= .2004
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3471
 HT FLOW CONVERGENCE VALUE= .1945 CRITERION= .1927
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3593E-01
 HT FLOW CONVERGENCE VALUE= .2708E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 526
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9360E-05 OSCILLATION LIMIT = 73.85

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.09 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3311
 HT FLOW CONVERGENCE VALUE= .1743 CRITERION= .1919 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 527
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1320E-04 OSCILLATION LIMIT = 104.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.00 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3457
 HT FLOW CONVERGENCE VALUE= .1918 CRITERION= .1910
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3560E-01
 HT FLOW CONVERGENCE VALUE= .2658E-01 CRITERION= .1908 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 529
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9397E-05 OSCILLATION LIMIT = 74.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.09 CRITERION= .1977
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3330
 HT FLOW CONVERGENCE VALUE= .1732 CRITERION= .1901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 530
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1317E-04 OSCILLATION LIMIT = 103.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.00 CRITERION= .1971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3444
 HT FLOW CONVERGENCE VALUE= .1889 CRITERION= .1892 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 531
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1112E-04 OSCILLATION LIMIT = 87.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.09 CRITERION= .1962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3525
 HT FLOW CONVERGENCE VALUE= .1918 CRITERION= .1884
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3518E-01
 HT FLOW CONVERGENCE VALUE= .2580E-01 CRITERION= .1883 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 533
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9345E-05 OSCILLATION LIMIT = 73.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.00 CRITERION= .1952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3239
 HT FLOW CONVERGENCE VALUE= .1661 CRITERION= .1875 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 534
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1338E-04 OSCILLATION LIMIT = 105.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.09 CRITERION= .1945
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3547
 HT FLOW CONVERGENCE VALUE= .1900 CRITERION= .1867
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3513E-01
 HT FLOW CONVERGENCE VALUE= .2552E-01 CRITERION= .1865 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 536
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9365E-05 OSCILLATION LIMIT = 73.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.00 CRITERION= .1935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3263
 HT FLOW CONVERGENCE VALUE= .1654 CRITERION= .1857 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 537
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1335E-04 OSCILLATION LIMIT = 105.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.08 CRITERION= .1928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3530
 HT FLOW CONVERGENCE VALUE= .1873 CRITERION= .1849
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3479E-01
 HT FLOW CONVERGENCE VALUE= .2505E-01 CRITERION= .1848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 539
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9404E-05 OSCILLATION LIMIT = 74.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.99 CRITERION= .1919
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3285
 HT FLOW CONVERGENCE VALUE= .1646 CRITERION= .1840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 540
 *** TIME = .441806E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1333E-04 OSCILLATION LIMIT = 105.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.08 CRITERION= .1911
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3514
 HT FLOW CONVERGENCE VALUE= .1845 CRITERION= .1832
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3445E-01
 HT FLOW CONVERGENCE VALUE= .2455E-01 CRITERION= .1830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 542
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9442E-05 OSCILLATION LIMIT = 74.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.99 CRITERION= .1902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3307
 HT FLOW CONVERGENCE VALUE= .1636 CRITERION= .1822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 543
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1330E-04 OSCILLATION LIMIT = 104.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.08 CRITERION= .1894
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3499
 HT FLOW CONVERGENCE VALUE= .1817 CRITERION= .1814
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3411E-01
 HT FLOW CONVERGENCE VALUE= .2408E-01 CRITERION= .1813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 545
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9481E-05 OSCILLATION LIMIT = 74.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.99 CRITERION= .1885
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3327
 HT FLOW CONVERGENCE VALUE= .1624 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 546
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1328E-04 OSCILLATION LIMIT = 104.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.08 CRITERION= .1877
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3485
 HT FLOW CONVERGENCE VALUE= .1789 CRITERION= .1797 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 547
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 87.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.98 CRITERION= .1870
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3513
 HT FLOW CONVERGENCE VALUE= .1793 CRITERION= .1787
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3351E-01
 HT FLOW CONVERGENCE VALUE= .2326E-01 CRITERION= .1786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 549
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9564E-05 OSCILLATION LIMIT = 75.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.07 CRITERION= .1859
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3291
 HT FLOW CONVERGENCE VALUE= .1586 CRITERION= .1779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 550
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1329E-04 OSCILLATION LIMIT = 104.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.98 CRITERION= .1853
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3533
 HT FLOW CONVERGENCE VALUE= .1778 CRITERION= .1770
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3342E-01
 HT FLOW CONVERGENCE VALUE= .2297E-01 CRITERION= .1768 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 552
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9586E-05 OSCILLATION LIMIT = 75.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.07 CRITERION= .1843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3312
 HT FLOW CONVERGENCE VALUE= .1577 CRITERION= .1761 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 553
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1327E-04 OSCILLATION LIMIT = 104.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.98 CRITERION= .1836
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3518
 HT FLOW CONVERGENCE VALUE= .1752 CRITERION= .1752
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3308E-01
 HT FLOW CONVERGENCE VALUE= .2252E-01 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 555
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9626E-05 OSCILLATION LIMIT = 75.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.07 CRITERION= .1826
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3333
 HT FLOW CONVERGENCE VALUE= .1568 CRITERION= .1744 <<< 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 = .1324E-04 OSCILLATION LIMIT = 104.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.98 CRITERION= .1819

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3504
 HT FLOW CONVERGENCE VALUE= .1727 CRITERION= .1735 <<< 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 = .1126E-04 OSCILLATION LIMIT = 88.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.06 CRITERION= .1810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3512
 HT FLOW CONVERGENCE VALUE= .1724 CRITERION= .1726 <<< 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 = .1118E-04 OSCILLATION LIMIT = 88.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.97 CRITERION= .1802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3473
 HT FLOW CONVERGENCE VALUE= .1697 CRITERION= .1717 <<< 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 = .1129E-04 OSCILLATION LIMIT = 89.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.06 CRITERION= .1793
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3513
 HT FLOW CONVERGENCE VALUE= .1704 CRITERION= .1709 <<< 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 = .1121E-04 OSCILLATION LIMIT = 88.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.97 CRITERION= .1785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3477
 HT FLOW CONVERGENCE VALUE= .1680 CRITERION= .1700 <<< 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 = .1130E-04 OSCILLATION LIMIT = 89.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.06 CRITERION= .1777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3515
 HT FLOW CONVERGENCE VALUE= .1685 CRITERION= .1691 <<< 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 = .1123E-04 OSCILLATION LIMIT = 88.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.97 CRITERION= .1769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3481
 HT FLOW CONVERGENCE VALUE= .1662 CRITERION= .1682 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 563
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1132E-04 OSCILLATION LIMIT = 89.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.06 CRITERION= .1760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3517
 HT FLOW CONVERGENCE VALUE= .1667 CRITERION= .1674 <<< 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 = .1125E-04 OSCILLATION LIMIT = 88.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.97 CRITERION= .1752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3485
 HT FLOW CONVERGENCE VALUE= .1644 CRITERION= .1665 <<< 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 = .1134E-04 OSCILLATION LIMIT = 89.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.05 CRITERION= .1743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3518
 HT FLOW CONVERGENCE VALUE= .1648 CRITERION= .1656 <<< 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 = .1127E-04 OSCILLATION LIMIT = 88.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.96 CRITERION= .1735
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3489
 HT FLOW CONVERGENCE VALUE= .1626 CRITERION= .1647 <<< 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 = .1136E-04 OSCILLATION LIMIT = 89.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.05 CRITERION= .1727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3520
 HT FLOW CONVERGENCE VALUE= .1629 CRITERION= .1639 <<< 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 = .1129E-04 OSCILLATION LIMIT = 89.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.96 CRITERION= .1719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3492
 HT FLOW CONVERGENCE VALUE= .1607 CRITERION= .1630 <<< 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 = .1138E-04 OSCILLATION LIMIT = 89.79

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 08:01:50 APR 02, 1995 CP= 47894.940
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 25.99 CRITERION= .1649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3052
 HT FLOW CONVERGENCE VALUE= .1322 CRITERION= .1623 <<< 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 = .9251E-05 OSCILLATION LIMIT = 72.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2894
 HT FLOW CONVERGENCE VALUE= .1218 CRITERION= .1616 <<< 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 = .1016E-04 OSCILLATION LIMIT = 80.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.99 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2938
 HT FLOW CONVERGENCE VALUE= .1228 CRITERION= .1610 <<< 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 = .1008E-04 OSCILLATION LIMIT = 79.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2911
 HT FLOW CONVERGENCE VALUE= .1212 CRITERION= .1603 <<< 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 = .1017E-04 OSCILLATION LIMIT = 80.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2941
 HT FLOW CONVERGENCE VALUE= .1218 CRITERION= .1597 <<< 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 = .1007E-04 OSCILLATION LIMIT = 79.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1617
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2915
 HT FLOW CONVERGENCE VALUE= .1202 CRITERION= .1590 <<< 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 = .1017E-04 OSCILLATION LIMIT = 80.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2944
 HT FLOW CONVERGENCE VALUE= .1208 CRITERION= .1584 <<< 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 = .1008E-04 OSCILLATION LIMIT = 79.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2920
 HT FLOW CONVERGENCE VALUE= .1192 CRITERION= .1577 <<< 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 = .1017E-04 OSCILLATION LIMIT = 80.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2946
 HT FLOW CONVERGENCE VALUE= .1198 CRITERION= .1571 <<< 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 = .1008E-04 OSCILLATION LIMIT = 79.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2924
 HT FLOW CONVERGENCE VALUE= .1184 CRITERION= .1564 <<< 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 = .1018E-04 OSCILLATION LIMIT = 80.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2949
 HT FLOW CONVERGENCE VALUE= .1189 CRITERION= .1558 <<< 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 = .1008E-04 OSCILLATION LIMIT = 79.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2928
 HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .1551 <<< 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 = .1018E-04 OSCILLATION LIMIT = 80.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2952
 HT FLOW CONVERGENCE VALUE= .1179 CRITERION= .1545 <<< 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 = .1009E-04 OSCILLATION LIMIT = 79.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2932
 HT FLOW CONVERGENCE VALUE= .1165 CRITERION= .1537 <<< 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 = .1018E-04 OSCILLATION LIMIT = 80.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2955
 HT FLOW CONVERGENCE VALUE= .1168 CRITERION= .1531 <<< 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 = .1009E-04 OSCILLATION LIMIT = 79.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2936
 HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .1524 <<< 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 = .1018E-04 OSCILLATION LIMIT = 80.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2958
 HT FLOW CONVERGENCE VALUE= .1158 CRITERION= .1518 <<< 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 = .1009E-04 OSCILLATION LIMIT = 79.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2940

HT FLOW CONVERGENCE VALUE= .1145 CRITERION= .1511 <<< 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 = .1018E-04 OSCILLATION LIMIT = 80.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2961
 HT FLOW CONVERGENCE VALUE= .1148 CRITERION= .1505 <<< 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 = .1010E-04 OSCILLATION LIMIT = 79.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2945
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .1498 <<< 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 = .1019E-04 OSCILLATION LIMIT = 80.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2964
 HT FLOW CONVERGENCE VALUE= .1138 CRITERION= .1492 <<< 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 = .1010E-04 OSCILLATION LIMIT = 79.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2949
 HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .1485 <<< 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 = .1019E-04 OSCILLATION LIMIT = 80.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2968
 HT FLOW CONVERGENCE VALUE= .1128 CRITERION= .1479 <<< 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 = .1010E-04 OSCILLATION LIMIT = 79.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2954
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 593
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1019E-04 OSCILLATION LIMIT = 80.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2973
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .1466 <<< 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 = .1011E-04 OSCILLATION LIMIT = 79.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1488
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2959
 HT FLOW CONVERGENCE VALUE= .1107 CRITERION= .1459 <<< 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 = .1019E-04 OSCILLATION LIMIT = 80.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1481
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2976
 HT FLOW CONVERGENCE VALUE= .1108 CRITERION= .1453 <<< 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 = .1011E-04 OSCILLATION LIMIT = 79.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1475
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2964
 HT FLOW CONVERGENCE VALUE= .1098 CRITERION= .1446 <<< 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 = .1019E-04 OSCILLATION LIMIT = 80.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1468
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2980
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .1440 <<< 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 = .1011E-04 OSCILLATION LIMIT = 79.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1462
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2968
 HT FLOW CONVERGENCE VALUE= .1089 CRITERION= .1433 <<< 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 = .1019E-04 OSCILLATION LIMIT = 80.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1455
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2983
 HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .1427 <<< 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 = .1011E-04 OSCILLATION LIMIT = 79.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2972
 HT FLOW CONVERGENCE VALUE= .1080 CRITERION= .1420 <<< 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 = .1020E-04 OSCILLATION LIMIT = 80.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .1443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2987
 HT FLOW CONVERGENCE VALUE= .1081 CRITERION= .1414 <<< 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 = .1011E-04 OSCILLATION LIMIT = 79.80

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1437
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2977
 HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .1406 <<< 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 = .1020E-04 OSCILLATION LIMIT = 80.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .1430
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2991
 HT FLOW CONVERGENCE VALUE= .1072 CRITERION= .1401 <<< 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 = .1012E-04 OSCILLATION LIMIT = 79.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2982
 HT FLOW CONVERGENCE VALUE= .1065 CRITERION= .1393 <<< 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 = .1020E-04 OSCILLATION LIMIT = 80.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .1417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2995
 HT FLOW CONVERGENCE VALUE= .1074 CRITERION= .1387 <<< 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 = .1012E-04 OSCILLATION LIMIT = 79.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2986
 HT FLOW CONVERGENCE VALUE= .1066 CRITERION= .1380 <<< 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 = .1020E-04 OSCILLATION LIMIT = 80.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .1404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2999
 HT FLOW CONVERGENCE VALUE= .1075 CRITERION= .1374 <<< 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 = .1012E-04 OSCILLATION LIMIT = 79.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2991
 HT FLOW CONVERGENCE VALUE= .1073 CRITERION= .1367 <<< 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 = .1020E-04 OSCILLATION LIMIT = 80.47

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 09:02:50 APR 02, 1995 CP= 51450.100
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 7.509 CRITERION= .1369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2655
 HT FLOW CONVERGENCE VALUE= .9533E-01 CRITERION= .1363 <<< 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 = .7291E-05 OSCILLATION LIMIT = 57.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2565
 HT FLOW CONVERGENCE VALUE= .9005E-01 CRITERION= .1357 <<< 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 = .7833E-05 OSCILLATION LIMIT = 61.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2585
 HT FLOW CONVERGENCE VALUE= .9051E-01 CRITERION= .1353 <<< 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 = .7775E-05 OSCILLATION LIMIT = 61.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2575
 HT FLOW CONVERGENCE VALUE= .8993E-01 CRITERION= .1347 <<< 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 = .7836E-05 OSCILLATION LIMIT = 61.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2588
 HT FLOW CONVERGENCE VALUE= .9017E-01 CRITERION= .1343 <<< 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 = .7767E-05 OSCILLATION LIMIT = 61.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2579
 HT FLOW CONVERGENCE VALUE= .8949E-01 CRITERION= .1337 <<< 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 = .7830E-05 OSCILLATION LIMIT = 61.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2591
 HT FLOW CONVERGENCE VALUE= .8966E-01 CRITERION= .1333 <<< 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 = .7762E-05 OSCILLATION LIMIT = 61.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2583
 HT FLOW CONVERGENCE VALUE= .8904E-01 CRITERION= .1327 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 617
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7824E-05 OSCILLATION LIMIT = 61.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1329
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2594
HT FLOW CONVERGENCE VALUE= .8930E-01 CRITERION= .1323 <<< 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 = .7757E-05 OSCILLATION LIMIT = 61.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1324
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2586
HT FLOW CONVERGENCE VALUE= .8866E-01 CRITERION= .1317 <<< 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 = .7819E-05 OSCILLATION LIMIT = 61.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2598
HT FLOW CONVERGENCE VALUE= .8877E-01 CRITERION= .1313 <<< 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 = .7752E-05 OSCILLATION LIMIT = 61.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.417 CRITERION= .1315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2590
HT FLOW CONVERGENCE VALUE= .8814E-01 CRITERION= .1307 <<< 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 = .7813E-05 OSCILLATION LIMIT = 61.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1309
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2601
HT FLOW CONVERGENCE VALUE= .8823E-01 CRITERION= .1303 <<< 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 = .7747E-05 OSCILLATION LIMIT = 61.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1305
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2594
HT FLOW CONVERGENCE VALUE= .8762E-01 CRITERION= .1297 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 623
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7808E-05 OSCILLATION LIMIT = 61.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1299
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2604
HT FLOW CONVERGENCE VALUE= .8770E-01 CRITERION= .1293 <<< 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 = .7742E-05 OSCILLATION LIMIT = 61.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1295

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2598
 HT FLOW CONVERGENCE VALUE= .8712E-01 CRITERION= .1287 <<< 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 = .7803E-05 OSCILLATION LIMIT = 61.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2607
 HT FLOW CONVERGENCE VALUE= .8724E-01 CRITERION= .1283 <<< 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 = .7737E-05 OSCILLATION LIMIT = 61.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2601
 HT FLOW CONVERGENCE VALUE= .8679E-01 CRITERION= .1277 <<< 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 = .7797E-05 OSCILLATION LIMIT = 61.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2611
 HT FLOW CONVERGENCE VALUE= .8716E-01 CRITERION= .1273 <<< 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 = .7732E-05 OSCILLATION LIMIT = 61.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2605
 HT FLOW CONVERGENCE VALUE= .8704E-01 CRITERION= .1268 <<< 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 = .7792E-05 OSCILLATION LIMIT = 61.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1269
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2614
 HT FLOW CONVERGENCE VALUE= .8727E-01 CRITERION= .1263 <<< 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 = .7727E-05 OSCILLATION LIMIT = 60.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2609
 HT FLOW CONVERGENCE VALUE= .8710E-01 CRITERION= .1258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 631
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7787E-05 OSCILLATION LIMIT = 61.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2617
 HT FLOW CONVERGENCE VALUE= .8750E-01 CRITERION= .1253 <<< 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 = .7722E-05 OSCILLATION LIMIT = 60.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2612
 HT FLOW CONVERGENCE VALUE= .8709E-01 CRITERION= .1248 <<< 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 = .7781E-05 OSCILLATION LIMIT = 61.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2621
 HT FLOW CONVERGENCE VALUE= .8715E-01 CRITERION= .1243 <<< 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 = .7718E-05 OSCILLATION LIMIT = 60.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2616
 HT FLOW CONVERGENCE VALUE= .8664E-01 CRITERION= .1238 <<< 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 = .7776E-05 OSCILLATION LIMIT = 61.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2624
 HT FLOW CONVERGENCE VALUE= .8665E-01 CRITERION= .1233 <<< 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 = .7713E-05 OSCILLATION LIMIT = 60.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1235
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2620
 HT FLOW CONVERGENCE VALUE= .8651E-01 CRITERION= .1228 <<< 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 = .7771E-05 OSCILLATION LIMIT = 61.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.508 CRITERION= .1230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2627
 HT FLOW CONVERGENCE VALUE= .8682E-01 CRITERION= .1223 <<< 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 = .7708E-05 OSCILLATION LIMIT = 60.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2624
 HT FLOW CONVERGENCE VALUE= .8667E-01 CRITERION= .1218 <<< 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 = .7766E-05 OSCILLATION LIMIT = 61.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.507 CRITERION= .1220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2631
 HT FLOW CONVERGENCE VALUE= .8674E-01 CRITERION= .1213 <<< 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 = .7703E-05 OSCILLATION LIMIT = 60.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2627
 HT FLOW CONVERGENCE VALUE= .8624E-01 CRITERION= .1208 <<< 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 = .7761E-05 OSCILLATION LIMIT = 61.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.507 CRITERION= .1210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634
 HT FLOW CONVERGENCE VALUE= .8617E-01 CRITERION= .1204 <<< 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 = .7699E-05 OSCILLATION LIMIT = 60.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2631
 HT FLOW CONVERGENCE VALUE= .8569E-01 CRITERION= .1198 <<< 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 = .7756E-05 OSCILLATION LIMIT = 61.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.507 CRITERION= .1200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638
 HT FLOW CONVERGENCE VALUE= .8565E-01 CRITERION= .1194 <<< 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 = .7695E-05 OSCILLATION LIMIT = 60.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635
 HT FLOW CONVERGENCE VALUE= .8530E-01 CRITERION= .1188 <<< 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 = .7751E-05 OSCILLATION LIMIT = 61.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.507 CRITERION= .1190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2641
 HT FLOW CONVERGENCE VALUE= .8533E-01 CRITERION= .1184 <<< 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 = .7690E-05 OSCILLATION LIMIT = 60.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2639
 HT FLOW CONVERGENCE VALUE= .8500E-01 CRITERION= .1178 <<< 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 = .7747E-05 OSCILLATION LIMIT = 61.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.507 CRITERION= .1180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2645
 HT FLOW CONVERGENCE VALUE= .8498E-01 CRITERION= .1174 <<< 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 = .7686E-05 OSCILLATION LIMIT = 60.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.416 CRITERION= .1176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2643
 HT FLOW CONVERGENCE VALUE= .8454E-01 CRITERION= .1168 <<< 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 = .7742E-05 OSCILLATION LIMIT = 61.08

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 10:03:48 APR 02, 1995 CP= 55004.380
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= .9221 CRITERION= .1168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2362
 HT FLOW CONVERGENCE VALUE= .7717E-01 CRITERION= .1165 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 650
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5973E-05 OSCILLATION LIMIT = 47.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.002 CRITERION= .1164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2327
 HT FLOW CONVERGENCE VALUE= .7505E-01 CRITERION= .1160 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 651
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6213E-05 OSCILLATION LIMIT = 49.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9214 CRITERION= .1160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2340
 HT FLOW CONVERGENCE VALUE= .7528E-01 CRITERION= .1156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 652
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6163E-05 OSCILLATION LIMIT = 48.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2333
 HT FLOW CONVERGENCE VALUE= .7485E-01 CRITERION= .1152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 653
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6212E-05 OSCILLATION LIMIT = 49.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9214 CRITERION= .1151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2343
 HT FLOW CONVERGENCE VALUE= .7506E-01 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 654
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6159E-05 OSCILLATION LIMIT = 48.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1148
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2336

HT FLOW CONVERGENCE VALUE= .7465E-01 CRITERION= .1144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 655
 *** TIME = .130964E+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= .9214 CRITERION= .1143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2346
 HT FLOW CONVERGENCE VALUE= .7472E-01 CRITERION= .1140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 656
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6155E-05 OSCILLATION LIMIT = 48.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2339
 HT FLOW CONVERGENCE VALUE= .7426E-01 CRITERION= .1136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 657
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6204E-05 OSCILLATION LIMIT = 48.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9214 CRITERION= .1135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2348
 HT FLOW CONVERGENCE VALUE= .7430E-01 CRITERION= .1132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 658
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6151E-05 OSCILLATION LIMIT = 48.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2343
 HT FLOW CONVERGENCE VALUE= .7387E-01 CRITERION= .1128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 659
 *** TIME = .134120E+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= .9214 CRITERION= .1127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2351
 HT FLOW CONVERGENCE VALUE= .7391E-01 CRITERION= .1124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 660
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6147E-05 OSCILLATION LIMIT = 48.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2346
 HT FLOW CONVERGENCE VALUE= .7348E-01 CRITERION= .1119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 661
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6196E-05 OSCILLATION LIMIT = 48.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9214 CRITERION= .1119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2354
 HT FLOW CONVERGENCE VALUE= .7351E-01 CRITERION= .1116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 662
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6143E-05 OSCILLATION LIMIT = 48.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2349
 HT FLOW CONVERGENCE VALUE= .7310E-01 CRITERION= .1111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 663
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6192E-05 OSCILLATION LIMIT = 48.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9213 CRITERION= .1111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2357
 HT FLOW CONVERGENCE VALUE= .7310E-01 CRITERION= .1108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 664
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6139E-05 OSCILLATION LIMIT = 48.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2353
 HT FLOW CONVERGENCE VALUE= .7270E-01 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 665
 *** TIME = .138853E+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= .9213 CRITERION= .1103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2360
 HT FLOW CONVERGENCE VALUE= .7270E-01 CRITERION= .1100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 666
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6135E-05 OSCILLATION LIMIT = 48.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2356
 HT FLOW CONVERGENCE VALUE= .7231E-01 CRITERION= .1095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 667
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6184E-05 OSCILLATION LIMIT = 48.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9213 CRITERION= .1095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2363
 HT FLOW CONVERGENCE VALUE= .7230E-01 CRITERION= .1092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 668
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6131E-05 OSCILLATION LIMIT = 48.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2360
 HT FLOW CONVERGENCE VALUE= .7192E-01 CRITERION= .1087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 669
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6180E-05 OSCILLATION LIMIT = 48.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9213 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2367
 HT FLOW CONVERGENCE VALUE= .7189E-01 CRITERION= .1084 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 670
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6128E-05 OSCILLATION LIMIT = 48.34

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.001      CRITERION= .1083
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2363
  HT FLOW CONVERGENCE VALUE= .7152E-01 CRITERION= .1079 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 671
*** TIME = .143587E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6176E-05 OSCILLATION LIMIT = 48.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= .9213      CRITERION= .1079
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2370
  HT FLOW CONVERGENCE VALUE= .7149E-01 CRITERION= .1075 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 672
*** TIME = .144376E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6124E-05 OSCILLATION LIMIT = 48.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.001      CRITERION= .1075
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2366
  HT FLOW CONVERGENCE VALUE= .7113E-01 CRITERION= .1071 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 673
*** TIME = .145165E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6172E-05 OSCILLATION LIMIT = 48.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= .9213      CRITERION= .1071
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2373
  HT FLOW CONVERGENCE VALUE= .7108E-01 CRITERION= .1067 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 674
*** TIME = .145954E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6120E-05 OSCILLATION LIMIT = 48.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.001      CRITERION= .1067
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2370
  HT FLOW CONVERGENCE VALUE= .7073E-01 CRITERION= .1063 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 675
*** TIME = .146743E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6168E-05 OSCILLATION LIMIT = 48.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= .9212      CRITERION= .1062
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2376
  HT FLOW CONVERGENCE VALUE= .7067E-01 CRITERION= .1059 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 676
*** TIME = .147532E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6116E-05 OSCILLATION LIMIT = 48.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.001      CRITERION= .1059
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2373
  HT FLOW CONVERGENCE VALUE= .7032E-01 CRITERION= .1055 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 677
*** TIME = .148321E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6164E-05 OSCILLATION LIMIT = 48.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= .9212      CRITERION= .1054
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2379
  HT FLOW CONVERGENCE VALUE= .7026E-01 CRITERION= .1051 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 678

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*** TIME = .149110E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6112E-05    OSCILLATION LIMIT = 48.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.001    CRITERION= .1051
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2377
    HT FLOW CONVERGENCE VALUE= .6992E-01 CRITERION= .1047    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 679
*** TIME = .149899E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6160E-05    OSCILLATION LIMIT = 48.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9212    CRITERION= .1046
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2382
    HT FLOW CONVERGENCE VALUE= .6985E-01 CRITERION= .1043    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 680
*** TIME = .150688E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6109E-05    OSCILLATION LIMIT = 48.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.001    CRITERION= .1043
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2380
    HT FLOW CONVERGENCE VALUE= .6952E-01 CRITERION= .1038    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 681
*** TIME = .151476E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6156E-05    OSCILLATION LIMIT = 48.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9212    CRITERION= .1038
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2385
    HT FLOW CONVERGENCE VALUE= .6944E-01 CRITERION= .1035    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 682
*** TIME = .152265E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6105E-05    OSCILLATION LIMIT = 48.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.001    CRITERION= .1035
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2383
    HT FLOW CONVERGENCE VALUE= .6911E-01 CRITERION= .1030    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 683
*** TIME = .153054E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6152E-05    OSCILLATION LIMIT = 48.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9212    CRITERION= .1030
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2389
    HT FLOW CONVERGENCE VALUE= .6902E-01 CRITERION= .1027    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 684
*** TIME = .153843E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6101E-05    OSCILLATION LIMIT = 48.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.001    CRITERION= .1027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2387
    HT FLOW CONVERGENCE VALUE= .6870E-01 CRITERION= .1022    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 685
*** TIME = .154632E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6148E-05    OSCILLATION LIMIT = 48.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9212    CRITERION= .1022
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2392
    HT FLOW CONVERGENCE VALUE= .6861E-01 CRITERION= .1019    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 686
*** TIME = .155421E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6098E-05 OSCILLATION LIMIT = 48.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2390
HT FLOW CONVERGENCE VALUE= .6829E-01 CRITERION= .1014 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 687
*** TIME = .156210E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6144E-05 OSCILLATION LIMIT = 48.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9212 CRITERION= .1014
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2395
HT FLOW CONVERGENCE VALUE= .6819E-01 CRITERION= .1011 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 688
*** TIME = .156999E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6094E-05 OSCILLATION LIMIT = 48.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.001 CRITERION= .1010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2394
HT FLOW CONVERGENCE VALUE= .6788E-01 CRITERION= .1006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 689
*** TIME = .157788E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6140E-05 OSCILLATION LIMIT = 48.44
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 11:04:39 APR 02, 1995 CP= 58557.930
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .1007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2004
HT FLOW CONVERGENCE VALUE= .5837E-01 CRITERION= .1003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 690
*** TIME = .158577E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4827E-05 OSCILLATION LIMIT = 38.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .1005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1985
HT FLOW CONVERGENCE VALUE= .5716E-01 CRITERION= .9997E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 691
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4999E-05 OSCILLATION LIMIT = 39.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .1001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2000
HT FLOW CONVERGENCE VALUE= .5741E-01 CRITERION= .9971E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 692
*** TIME = .160155E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4956E-05 OSCILLATION LIMIT = 39.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9984E-01
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1989
HT FLOW CONVERGENCE VALUE= .5695E-01 CRITERION= .9934E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 693
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4997E-05 OSCILLATION LIMIT = 39.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9946E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2002
HT FLOW CONVERGENCE VALUE= .5713E-01 CRITERION= .9908E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 694
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4953E-05 OSCILLATION LIMIT = 39.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9921E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1992
HT FLOW CONVERGENCE VALUE= .5669E-01 CRITERION= .9871E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 695
*** TIME = .162522E+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= 5.519 CRITERION= .9883E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2004
HT FLOW CONVERGENCE VALUE= .5686E-01 CRITERION= .9845E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 696
*** TIME = .163311E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4951E-05 OSCILLATION LIMIT = 39.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9858E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1995
HT FLOW CONVERGENCE VALUE= .5643E-01 CRITERION= .9808E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 697
*** TIME = .164100E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4992E-05 OSCILLATION LIMIT = 39.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9821E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2007
HT FLOW CONVERGENCE VALUE= .5658E-01 CRITERION= .9782E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 698
*** TIME = .164888E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4948E-05 OSCILLATION LIMIT = 39.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9795E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1998
HT FLOW CONVERGENCE VALUE= .5618E-01 CRITERION= .9745E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 699
*** TIME = .165677E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4990E-05 OSCILLATION LIMIT = 39.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9758E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2009
HT FLOW CONVERGENCE VALUE= .5631E-01 CRITERION= .9719E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 700
*** TIME = .166466E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4945E-05 OSCILLATION LIMIT = 39.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9732E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2000
 HT FLOW CONVERGENCE VALUE= .5592E-01 CRITERION= .9682E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 701
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4987E-05 OSCILLATION LIMIT = 39.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9695E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2011
 HT FLOW CONVERGENCE VALUE= .5603E-01 CRITERION= .9656E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 702
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4943E-05 OSCILLATION LIMIT = 39.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9670E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2003
 HT FLOW CONVERGENCE VALUE= .5565E-01 CRITERION= .9619E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 703
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4985E-05 OSCILLATION LIMIT = 39.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9632E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2013
 HT FLOW CONVERGENCE VALUE= .5575E-01 CRITERION= .9593E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 704
 *** TIME = .169622E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4940E-05 OSCILLATION LIMIT = 38.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9607E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2006
 HT FLOW CONVERGENCE VALUE= .5539E-01 CRITERION= .9556E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 705
 *** TIME = .170411E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4983E-05 OSCILLATION LIMIT = 39.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9569E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2015
 HT FLOW CONVERGENCE VALUE= .5547E-01 CRITERION= .9531E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 706
 *** TIME = .171200E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4938E-05 OSCILLATION LIMIT = 38.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .9544E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2008
 HT FLOW CONVERGENCE VALUE= .5513E-01 CRITERION= .9493E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 707
 *** TIME = .171989E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4980E-05 OSCILLATION LIMIT = 39.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9507E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2018
 HT FLOW CONVERGENCE VALUE= .5520E-01 CRITERION= .9468E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 708
 *** TIME = .172778E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .4935E-05 OSCILLATION LIMIT = 38.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9481E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2011
HT FLOW CONVERGENCE VALUE= .5486E-01 CRITERION= .9430E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 709
*** TIME = .173567E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4978E-05 OSCILLATION LIMIT = 39.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9444E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2020
HT FLOW CONVERGENCE VALUE= .5492E-01 CRITERION= .9405E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 710
*** TIME = .174356E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4933E-05 OSCILLATION LIMIT = 38.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9418E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2014
HT FLOW CONVERGENCE VALUE= .5459E-01 CRITERION= .9367E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 711
*** TIME = .175145E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4975E-05 OSCILLATION LIMIT = 39.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9381E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2022
HT FLOW CONVERGENCE VALUE= .5464E-01 CRITERION= .9342E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 712
*** TIME = .175934E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4930E-05 OSCILLATION LIMIT = 38.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9356E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2016
HT FLOW CONVERGENCE VALUE= .5433E-01 CRITERION= .9305E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 713
*** TIME = .176723E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4973E-05 OSCILLATION LIMIT = 39.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9318E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2024
HT FLOW CONVERGENCE VALUE= .5436E-01 CRITERION= .9279E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 714
*** TIME = .177512E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4928E-05 OSCILLATION LIMIT = 38.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9293E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2019
HT FLOW CONVERGENCE VALUE= .5406E-01 CRITERION= .9242E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 715
*** TIME = .178300E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4970E-05 OSCILLATION LIMIT = 39.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9255E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2027
HT FLOW CONVERGENCE VALUE= .5408E-01 CRITERION= .9216E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 716
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4925E-05 OSCILLATION LIMIT = 38.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9230E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2022
 HT FLOW CONVERGENCE VALUE= .5379E-01 CRITERION= .9179E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 717
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4968E-05 OSCILLATION LIMIT = 39.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9193E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2029
 HT FLOW CONVERGENCE VALUE= .5380E-01 CRITERION= .9153E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 718
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4923E-05 OSCILLATION LIMIT = 38.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9167E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2024
 HT FLOW CONVERGENCE VALUE= .5351E-01 CRITERION= .9116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 719
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4966E-05 OSCILLATION LIMIT = 39.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9130E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2031
 HT FLOW CONVERGENCE VALUE= .5351E-01 CRITERION= .9090E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 720
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4920E-05 OSCILLATION LIMIT = 38.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9104E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2027
 HT FLOW CONVERGENCE VALUE= .5324E-01 CRITERION= .9053E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 721
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4963E-05 OSCILLATION LIMIT = 39.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2034
 HT FLOW CONVERGENCE VALUE= .5323E-01 CRITERION= .9027E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 722
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4918E-05 OSCILLATION LIMIT = 38.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .9042E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2030
 HT FLOW CONVERGENCE VALUE= .5297E-01 CRITERION= .8990E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 723
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4961E-05 OSCILLATION LIMIT = 39.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .9004E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2036

HT FLOW CONVERGENCE VALUE= .5295E-01 CRITERION= .8964E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 724
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4916E-05 OSCILLATION LIMIT = 38.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .8979E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2032
 HT FLOW CONVERGENCE VALUE= .5269E-01 CRITERION= .8927E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 725
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4958E-05 OSCILLATION LIMIT = 39.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .8941E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2038
 HT FLOW CONVERGENCE VALUE= .5267E-01 CRITERION= .8901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 726
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4913E-05 OSCILLATION LIMIT = 38.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .8916E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2035
 HT FLOW CONVERGENCE VALUE= .5241E-01 CRITERION= .8864E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 727
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4956E-05 OSCILLATION LIMIT = 39.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.519 CRITERION= .8879E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2041
 HT FLOW CONVERGENCE VALUE= .5238E-01 CRITERION= .8838E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 728
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4911E-05 OSCILLATION LIMIT = 38.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.611 CRITERION= .8853E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2038
 HT FLOW CONVERGENCE VALUE= .5213E-01 CRITERION= .8801E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 729
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4954E-05 OSCILLATION LIMIT = 39.08

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 12:05:30 APR 02, 1995 CP= 62106.340
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 6.719 CRITERION= .8825E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1708
 HT FLOW CONVERGENCE VALUE= .4440E-01 CRITERION= .8781E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 730
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4293E-05 OSCILLATION LIMIT = 33.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8805E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1699
 HT FLOW CONVERGENCE VALUE= .4383E-01 CRITERION= .8750E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 731
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4407E-05 OSCILLATION LIMIT = 34.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.719 CRITERION= .8774E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1714
 HT FLOW CONVERGENCE VALUE= .4407E-01 CRITERION= .8730E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 732
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4366E-05 OSCILLATION LIMIT = 34.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8754E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1702
 HT FLOW CONVERGENCE VALUE= .4367E-01 CRITERION= .8699E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 733
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4405E-05 OSCILLATION LIMIT = 34.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.719 CRITERION= .8723E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1715
 HT FLOW CONVERGENCE VALUE= .4387E-01 CRITERION= .8680E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 734
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4364E-05 OSCILLATION LIMIT = 34.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8704E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1704
 HT FLOW CONVERGENCE VALUE= .4348E-01 CRITERION= .8649E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 735
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4403E-05 OSCILLATION LIMIT = 34.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.719 CRITERION= .8673E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1717
 HT FLOW CONVERGENCE VALUE= .4366E-01 CRITERION= .8629E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 736
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4362E-05 OSCILLATION LIMIT = 34.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8653E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1706
 HT FLOW CONVERGENCE VALUE= .4330E-01 CRITERION= .8598E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 737
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4402E-05 OSCILLATION LIMIT = 34.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8622E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1718
 HT FLOW CONVERGENCE VALUE= .4346E-01 CRITERION= .8578E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 738
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4361E-05 OSCILLATION LIMIT = 34.40

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8603E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1708
 HT FLOW CONVERGENCE VALUE= .4311E-01 CRITERION= .8547E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 739
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4401E-05 OSCILLATION LIMIT = 34.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8572E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1720
 HT FLOW CONVERGENCE VALUE= .4326E-01 CRITERION= .8528E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 740
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4359E-05 OSCILLATION LIMIT = 34.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8552E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1710
 HT FLOW CONVERGENCE VALUE= .4293E-01 CRITERION= .8497E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 741
 *** TIME = .198813E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4399E-05 OSCILLATION LIMIT = 34.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8521E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1721
 HT FLOW CONVERGENCE VALUE= .4306E-01 CRITERION= .8477E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 742
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4357E-05 OSCILLATION LIMIT = 34.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8502E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1713
 HT FLOW CONVERGENCE VALUE= .4274E-01 CRITERION= .8446E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 743
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4398E-05 OSCILLATION LIMIT = 34.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8471E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1723
 HT FLOW CONVERGENCE VALUE= .4286E-01 CRITERION= .8426E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 744
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4355E-05 OSCILLATION LIMIT = 34.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8452E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1715
 HT FLOW CONVERGENCE VALUE= .4255E-01 CRITERION= .8395E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 745
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4396E-05 OSCILLATION LIMIT = 34.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8420E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1724
 HT FLOW CONVERGENCE VALUE= .4266E-01 CRITERION= .8376E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 746

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*** TIME = .202758E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4353E-05    OSCILLATION LIMIT = 34.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.811    CRITERION= .8401E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1717
    HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .8345E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 747
*** TIME = .203547E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4395E-05    OSCILLATION LIMIT = 34.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.720    CRITERION= .8370E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1726
    HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .8325E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 748
*** TIME = .204335E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4352E-05    OSCILLATION LIMIT = 34.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.811    CRITERION= .8351E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1719
    HT FLOW CONVERGENCE VALUE= .4217E-01 CRITERION= .8294E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 749
*** TIME = .205124E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4393E-05    OSCILLATION LIMIT = 34.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.720    CRITERION= .8319E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1728
    HT FLOW CONVERGENCE VALUE= .4225E-01 CRITERION= .8275E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 750
*** TIME = .205913E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4350E-05    OSCILLATION LIMIT = 34.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.811    CRITERION= .8300E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1721
    HT FLOW CONVERGENCE VALUE= .4198E-01 CRITERION= .8243E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 751
*** TIME = .206702E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4392E-05    OSCILLATION LIMIT = 34.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.720    CRITERION= .8269E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1729
    HT FLOW CONVERGENCE VALUE= .4205E-01 CRITERION= .8224E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 752
*** TIME = .207491E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4348E-05    OSCILLATION LIMIT = 34.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.811    CRITERION= .8250E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1723
    HT FLOW CONVERGENCE VALUE= .4179E-01 CRITERION= .8193E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 753
*** TIME = .208280E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4391E-05    OSCILLATION LIMIT = 34.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.720    CRITERION= .8218E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
    HT FLOW CONVERGENCE VALUE= .4185E-01 CRITERION= .8173E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 754
*** TIME = .209069E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4347E-05 OSCILLATION LIMIT = 34.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8199E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1725
HT FLOW CONVERGENCE VALUE= .4160E-01 CRITERION= .8142E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 755
*** TIME = .209858E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4389E-05 OSCILLATION LIMIT = 34.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8168E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1732
HT FLOW CONVERGENCE VALUE= .4164E-01 CRITERION= .8123E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 756
*** TIME = .210647E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4345E-05 OSCILLATION LIMIT = 34.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8149E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1727
HT FLOW CONVERGENCE VALUE= .4140E-01 CRITERION= .8092E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 757
*** TIME = .211436E+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= 6.720 CRITERION= .8117E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1734
HT FLOW CONVERGENCE VALUE= .4142E-01 CRITERION= .8072E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 758
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4343E-05 OSCILLATION LIMIT = 34.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8098E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1729
HT FLOW CONVERGENCE VALUE= .4118E-01 CRITERION= .8041E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 759
*** TIME = .213014E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4386E-05 OSCILLATION LIMIT = 34.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8067E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1736
HT FLOW CONVERGENCE VALUE= .4121E-01 CRITERION= .8021E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 760
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4342E-05 OSCILLATION LIMIT = 34.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.811 CRITERION= .8048E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .4098E-01 CRITERION= .7990E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 761
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4385E-05 OSCILLATION LIMIT = 34.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .8016E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1738
 HT FLOW CONVERGENCE VALUE= .4099E-01 CRITERION= .7971E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 762
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4340E-05 OSCILLATION LIMIT = 34.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.812 CRITERION= .7997E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1733
 HT FLOW CONVERGENCE VALUE= .4077E-01 CRITERION= .7940E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 763
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4383E-05 OSCILLATION LIMIT = 34.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .7966E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .4078E-01 CRITERION= .7920E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 764
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4339E-05 OSCILLATION LIMIT = 34.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.812 CRITERION= .7947E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
 HT FLOW CONVERGENCE VALUE= .4057E-01 CRITERION= .7889E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 765
 *** TIME = .217747E+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= 6.720 CRITERION= .7915E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1741
 HT FLOW CONVERGENCE VALUE= .4057E-01 CRITERION= .7869E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 766
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4337E-05 OSCILLATION LIMIT = 34.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.812 CRITERION= .7896E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
 HT FLOW CONVERGENCE VALUE= .4036E-01 CRITERION= .7838E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 767
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4381E-05 OSCILLATION LIMIT = 34.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.720 CRITERION= .7865E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
 HT FLOW CONVERGENCE VALUE= .4035E-01 CRITERION= .7819E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 768
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4336E-05 OSCILLATION LIMIT = 34.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.812 CRITERION= .7846E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .4016E-01 CRITERION= .7788E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 769
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4379E-05 OSCILLATION LIMIT = 34.55

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 13:06:16 APR 02, 1995 CP= 65656.090
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7868E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
 HT FLOW CONVERGENCE VALUE= .3844E-01 CRITERION= .7772E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 770
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2986E-05 OSCILLATION LIMIT = 23.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7854E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1573
 HT FLOW CONVERGENCE VALUE= .3778E-01 CRITERION= .7746E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 771
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7827E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1581
 HT FLOW CONVERGENCE VALUE= .3784E-01 CRITERION= .7731E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 772
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3037E-05 OSCILLATION LIMIT = 23.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7814E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1575
 HT FLOW CONVERGENCE VALUE= .3764E-01 CRITERION= .7705E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 773
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-05 OSCILLATION LIMIT = 24.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7787E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1583
 HT FLOW CONVERGENCE VALUE= .3768E-01 CRITERION= .7690E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 774
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3036E-05 OSCILLATION LIMIT = 23.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7773E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1577
 HT FLOW CONVERGENCE VALUE= .3749E-01 CRITERION= .7664E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 775
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-05 OSCILLATION LIMIT = 24.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7746E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .3752E-01 CRITERION= .7649E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 776
 *** TIME = .226426E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .3036E-05 OSCILLATION LIMIT = 23.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7732E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1579
 HT FLOW CONVERGENCE VALUE= .3733E-01 CRITERION= .7623E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 777
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-05 OSCILLATION LIMIT = 24.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7706E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
 HT FLOW CONVERGENCE VALUE= .3736E-01 CRITERION= .7608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 778
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3035E-05 OSCILLATION LIMIT = 23.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7692E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1581
 HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .7582E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 779
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3067E-05 OSCILLATION LIMIT = 24.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7665E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1587
 HT FLOW CONVERGENCE VALUE= .3718E-01 CRITERION= .7567E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 780
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3034E-05 OSCILLATION LIMIT = 23.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7651E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1582
 HT FLOW CONVERGENCE VALUE= .3701E-01 CRITERION= .7541E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 781
 *** TIME = .230370E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3067E-05 OSCILLATION LIMIT = 24.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7624E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1588
 HT FLOW CONVERGENCE VALUE= .3702E-01 CRITERION= .7526E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 782
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3034E-05 OSCILLATION LIMIT = 23.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7611E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .3685E-01 CRITERION= .7500E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 783
 *** TIME = .231948E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3067E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7584E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1590
 HT FLOW CONVERGENCE VALUE= .3685E-01 CRITERION= .7485E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 784
 *** TIME = .232737E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3033E-05 OSCILLATION LIMIT = 23.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7570E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
 HT FLOW CONVERGENCE VALUE= .3669E-01 CRITERION= .7459E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 785
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3067E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7543E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
 HT FLOW CONVERGENCE VALUE= .3669E-01 CRITERION= .7444E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 786
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3033E-05 OSCILLATION LIMIT = 23.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7530E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1588
 HT FLOW CONVERGENCE VALUE= .3653E-01 CRITERION= .7418E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 787
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7503E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1593
 HT FLOW CONVERGENCE VALUE= .3652E-01 CRITERION= .7403E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 788
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3032E-05 OSCILLATION LIMIT = 23.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7489E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1589
 HT FLOW CONVERGENCE VALUE= .3636E-01 CRITERION= .7377E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 789
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7462E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
 HT FLOW CONVERGENCE VALUE= .3634E-01 CRITERION= .7362E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 790
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3032E-05 OSCILLATION LIMIT = 23.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7448E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
 HT FLOW CONVERGENCE VALUE= .3619E-01 CRITERION= .7336E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 791
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7422E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1596

HT FLOW CONVERGENCE VALUE= .3617E-01 CRITERION= .7321E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 792
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3032E-05 OSCILLATION LIMIT = 23.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7408E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1593
 HT FLOW CONVERGENCE VALUE= .3602E-01 CRITERION= .7295E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 793
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7381E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
 HT FLOW CONVERGENCE VALUE= .3600E-01 CRITERION= .7280E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 794
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3031E-05 OSCILLATION LIMIT = 23.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7367E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
 HT FLOW CONVERGENCE VALUE= .3587E-01 CRITERION= .7254E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 795
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7341E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
 HT FLOW CONVERGENCE VALUE= .3584E-01 CRITERION= .7239E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 796
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3031E-05 OSCILLATION LIMIT = 23.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7327E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1596
 HT FLOW CONVERGENCE VALUE= .3571E-01 CRITERION= .7213E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 797
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7300E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
 HT FLOW CONVERGENCE VALUE= .3562E-01 CRITERION= .7198E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 798
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3030E-05 OSCILLATION LIMIT = 23.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7286E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1598
 HT FLOW CONVERGENCE VALUE= .3548E-01 CRITERION= .7172E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 799
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3065E-05 OSCILLATION LIMIT = 24.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7260E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
 HT FLOW CONVERGENCE VALUE= .3538E-01 CRITERION= .7157E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 800
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3030E-05 OSCILLATION LIMIT = 23.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7246E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
 HT FLOW CONVERGENCE VALUE= .3521E-01 CRITERION= .7131E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 801
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3065E-05 OSCILLATION LIMIT = 24.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7219E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .3512E-01 CRITERION= .7116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 802
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3030E-05 OSCILLATION LIMIT = 23.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7205E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
 HT FLOW CONVERGENCE VALUE= .3490E-01 CRITERION= .7090E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 803
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3065E-05 OSCILLATION LIMIT = 24.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7179E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
 HT FLOW CONVERGENCE VALUE= .3480E-01 CRITERION= .7075E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 804
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3029E-05 OSCILLATION LIMIT = 23.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7165E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .3466E-01 CRITERION= .7049E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 805
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3064E-05 OSCILLATION LIMIT = 24.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7138E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .3461E-01 CRITERION= .7034E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 806
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3029E-05 OSCILLATION LIMIT = 23.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7124E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
 HT FLOW CONVERGENCE VALUE= .3449E-01 CRITERION= .7008E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 807
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3064E-05 OSCILLATION LIMIT = 24.17

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .7098E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1608
 HT FLOW CONVERGENCE VALUE= .3443E-01 CRITERION= .6993E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 808
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3028E-05 OSCILLATION LIMIT = 23.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.45 CRITERION= .7084E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .6967E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 809
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3064E-05 OSCILLATION LIMIT = 24.17

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 14:07:12 APR 02, 1995 CP= 69217.330
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.389 CRITERION= .7028E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1263
 HT FLOW CONVERGENCE VALUE= .2714E-01 CRITERION= .6956E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 810
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2872E-05 OSCILLATION LIMIT = 22.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.480 CRITERION= .7018E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1263
 HT FLOW CONVERGENCE VALUE= .2699E-01 CRITERION= .6934E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 811
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2945E-05 OSCILLATION LIMIT = 23.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.389 CRITERION= .6996E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1277
 HT FLOW CONVERGENCE VALUE= .2718E-01 CRITERION= .6924E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 812
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2918E-05 OSCILLATION LIMIT = 23.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.480 CRITERION= .6987E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1264
 HT FLOW CONVERGENCE VALUE= .2690E-01 CRITERION= .6902E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 813
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2944E-05 OSCILLATION LIMIT = 23.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.389 CRITERION= .6965E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1277
 HT FLOW CONVERGENCE VALUE= .2707E-01 CRITERION= .6892E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 814

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*** TIME = .256406E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2917E-05    OSCILLATION LIMIT = 23.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.480    CRITERION= .6955E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1266
    HT FLOW CONVERGENCE VALUE= .2680E-01    CRITERION= .6870E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 815
*** TIME = .257194E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2944E-05    OSCILLATION LIMIT = 23.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.389    CRITERION= .6933E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1278
    HT FLOW CONVERGENCE VALUE= .2696E-01    CRITERION= .6860E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 816
*** TIME = .257983E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2916E-05    OSCILLATION LIMIT = 23.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.480    CRITERION= .6923E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1267
    HT FLOW CONVERGENCE VALUE= .2670E-01    CRITERION= .6838E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 817
*** TIME = .258772E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2944E-05    OSCILLATION LIMIT = 23.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.389    CRITERION= .6901E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1279
    HT FLOW CONVERGENCE VALUE= .2684E-01    CRITERION= .6828E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 818
*** TIME = .259561E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2916E-05    OSCILLATION LIMIT = 23.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.480    CRITERION= .6892E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1268
    HT FLOW CONVERGENCE VALUE= .2660E-01    CRITERION= .6806E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 819
*** TIME = .260350E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2945E-05    OSCILLATION LIMIT = 23.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.389    CRITERION= .6870E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1279
    HT FLOW CONVERGENCE VALUE= .2670E-01    CRITERION= .6796E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 820
*** TIME = .261139E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2915E-05    OSCILLATION LIMIT = 23.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.480    CRITERION= .6860E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1270
    HT FLOW CONVERGENCE VALUE= .2644E-01    CRITERION= .6774E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 821
*** TIME = .261928E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2945E-05    OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.389    CRITERION= .6838E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1280
    HT FLOW CONVERGENCE VALUE= .2654E-01    CRITERION= .6764E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 822
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2914E-05 OSCILLATION LIMIT = 22.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6828E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1271
HT FLOW CONVERGENCE VALUE= .2631E-01 CRITERION= .6742E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 823
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2946E-05 OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6806E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1281
HT FLOW CONVERGENCE VALUE= .2637E-01 CRITERION= .6732E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 824
*** TIME = .264295E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2914E-05 OSCILLATION LIMIT = 22.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6797E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1272
HT FLOW CONVERGENCE VALUE= .2615E-01 CRITERION= .6710E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 825
*** TIME = .265084E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2946E-05 OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6775E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1281
HT FLOW CONVERGENCE VALUE= .2623E-01 CRITERION= .6700E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 826
*** TIME = .265873E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2913E-05 OSCILLATION LIMIT = 22.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6765E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1274
HT FLOW CONVERGENCE VALUE= .2604E-01 CRITERION= .6678E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 827
*** TIME = .266662E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6743E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1282
HT FLOW CONVERGENCE VALUE= .2612E-01 CRITERION= .6668E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 828
*** TIME = .267451E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2913E-05 OSCILLATION LIMIT = 22.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6733E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1275
HT FLOW CONVERGENCE VALUE= .2593E-01 CRITERION= .6646E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 829
*** TIME = .268240E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6711E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1283
HT FLOW CONVERGENCE VALUE= .2598E-01 CRITERION= .6636E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 830
*** TIME = .269029E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2912E-05 OSCILLATION LIMIT = 22.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6702E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1276
HT FLOW CONVERGENCE VALUE= .2578E-01 CRITERION= .6614E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 831
*** TIME = .269817E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6680E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1284
HT FLOW CONVERGENCE VALUE= .2582E-01 CRITERION= .6604E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 832
*** TIME = .270606E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2912E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6670E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1277
HT FLOW CONVERGENCE VALUE= .2565E-01 CRITERION= .6582E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 833
*** TIME = .271395E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6648E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
HT FLOW CONVERGENCE VALUE= .2571E-01 CRITERION= .6572E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 834
*** TIME = .272184E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2912E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6638E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1279
HT FLOW CONVERGENCE VALUE= .2555E-01 CRITERION= .6550E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 835
*** TIME = .272973E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 23.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .6616E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
HT FLOW CONVERGENCE VALUE= .2559E-01 CRITERION= .6540E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 836
*** TIME = .273762E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2911E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481 CRITERION= .6607E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1280
HT FLOW CONVERGENCE VALUE= .2546E-01 CRITERION= .6518E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 837
*** TIME = .274551E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 23.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.390      CRITERION= .6585E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1286
HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .6508E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 838
*** TIME = .275340E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2911E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481      CRITERION= .6575E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1281
HT FLOW CONVERGENCE VALUE= .2537E-01 CRITERION= .6487E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 839
*** TIME = .276129E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390      CRITERION= .6553E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1287
HT FLOW CONVERGENCE VALUE= .2540E-01 CRITERION= .6476E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 840
*** TIME = .276918E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2911E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481      CRITERION= .6543E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1282
HT FLOW CONVERGENCE VALUE= .2525E-01 CRITERION= .6455E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 841
*** TIME = .277707E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390      CRITERION= .6521E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .6444E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 842
*** TIME = .278496E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2911E-05 OSCILLATION LIMIT = 22.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481      CRITERION= .6512E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1284
HT FLOW CONVERGENCE VALUE= .2517E-01 CRITERION= .6423E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 843
*** TIME = .279285E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.391      CRITERION= .6490E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
HT FLOW CONVERGENCE VALUE= .2521E-01 CRITERION= .6412E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 844
*** TIME = .280074E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2911E-05 OSCILLATION LIMIT = 22.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.481      CRITERION= .6480E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .6391E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 845
*** TIME = .280863E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.391 CRITERION= .6458E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
 HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .6380E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 846
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2910E-05 OSCILLATION LIMIT = 22.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.482 CRITERION= .6449E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1286
 HT FLOW CONVERGENCE VALUE= .2500E-01 CRITERION= .6359E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 847
 *** TIME = .282441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 23.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.391 CRITERION= .6426E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1291
 HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .6348E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 848
 *** TIME = .283229E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2910E-05 OSCILLATION LIMIT = 22.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.482 CRITERION= .6417E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1287
 HT FLOW CONVERGENCE VALUE= .2490E-01 CRITERION= .6327E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 849
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 23.27
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 1429.42469 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 158.87 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 159.18 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 159.84 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 72792.840 TIME= 15:08:09
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 15:08:09 APR 02, 1995 CP= 72792.840
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= 8.237 CRITERION= .6379E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1148
HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .6318E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 850
*** TIME = .284807E+10 TIME INC = .738940E+07
*** RESPONSE EIGENVALUE = .2934E-05 OSCILLATION LIMIT = 23.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6371E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1145
HT FLOW CONVERGENCE VALUE= .2202E-01 CRITERION= .6298E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 851
*** TIME = .285596E+10 TIME INC = .738940E+07
*** RESPONSE EIGENVALUE = .2989E-05 OSCILLATION LIMIT = 23.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.237 CRITERION= .6351E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1154
HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .6289E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 852
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2952E-05 OSCILLATION LIMIT = 23.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6343E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1146
HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .6269E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 853
*** TIME = .287174E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2989E-05 OSCILLATION LIMIT = 23.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6322E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
HT FLOW CONVERGENCE VALUE= .2205E-01 CRITERION= .6261E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 854
*** TIME = .287963E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2951E-05 OSCILLATION LIMIT = 23.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6314E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1147
HT FLOW CONVERGENCE VALUE= .2189E-01 CRITERION= .6241E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 855
*** TIME = .288752E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2989E-05 OSCILLATION LIMIT = 23.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6294E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1155
HT FLOW CONVERGENCE VALUE= .2197E-01 CRITERION= .6232E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 856
*** TIME = .289541E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2951E-05 OSCILLATION LIMIT = 23.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6286E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1149
HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .6212E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 857
*** TIME = .290330E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2990E-05 OSCILLATION LIMIT = 23.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6265E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
HT FLOW CONVERGENCE VALUE= .2191E-01 CRITERION= .6203E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 858
*** TIME = .291119E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2951E-05 OSCILLATION LIMIT = 23.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6257E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1150
HT FLOW CONVERGENCE VALUE= .2178E-01 CRITERION= .6183E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 859
*** TIME = .291908E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2990E-05 OSCILLATION LIMIT = 23.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6237E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
HT FLOW CONVERGENCE VALUE= .2185E-01 CRITERION= .6175E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 860
*** TIME = .292697E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 23.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.328 CRITERION= .6229E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1151
HT FLOW CONVERGENCE VALUE= .2172E-01 CRITERION= .6155E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 861
*** TIME = .293486E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2991E-05 OSCILLATION LIMIT = 23.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6209E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
HT FLOW CONVERGENCE VALUE= .2179E-01 CRITERION= .6146E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 862
*** TIME = .294275E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 23.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6201E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1152
HT FLOW CONVERGENCE VALUE= .2169E-01 CRITERION= .6126E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 863
*** TIME = .295064E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2991E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6180E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
HT FLOW CONVERGENCE VALUE= .2176E-01 CRITERION= .6118E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 864
*** TIME = .295853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2950E-05 OSCILLATION LIMIT = 23.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6172E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1153
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .6098E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 865
*** TIME = .296641E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2991E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6152E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
HT FLOW CONVERGENCE VALUE= .2169E-01 CRITERION= .6089E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 866
*** TIME = .297430E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6144E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1154
HT FLOW CONVERGENCE VALUE= .2159E-01 CRITERION= .6069E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 867
*** TIME = .298219E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2991E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6124E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1160
 HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .6060E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 868
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6116E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1156
 HT FLOW CONVERGENCE VALUE= .2153E-01 CRITERION= .6040E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 869
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6095E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .2156E-01 CRITERION= .6032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 870
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2949E-05 OSCILLATION LIMIT = 23.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6087E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1157
 HT FLOW CONVERGENCE VALUE= .2147E-01 CRITERION= .6012E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 871
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .2149E-01 CRITERION= .6003E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 872
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 23.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6059E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1158
 HT FLOW CONVERGENCE VALUE= .2139E-01 CRITERION= .5983E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 873
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6039E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .2142E-01 CRITERION= .5975E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 874
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 23.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6031E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1159
 HT FLOW CONVERGENCE VALUE= .2133E-01 CRITERION= .5955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 875
 *** TIME = .304531E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .6010E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .2136E-01 CRITERION= .5946E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 876
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = 23.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .6002E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1160
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .5926E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 877
 *** TIME = .306109E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.238 CRITERION= .5982E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
 HT FLOW CONVERGENCE VALUE= .2129E-01 CRITERION= .5917E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 878
 *** TIME = .306898E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5974E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1161
 HT FLOW CONVERGENCE VALUE= .2121E-01 CRITERION= .5897E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 879
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.239 CRITERION= .5954E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
 HT FLOW CONVERGENCE VALUE= .2122E-01 CRITERION= .5889E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 880
 *** TIME = .308476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5946E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
 HT FLOW CONVERGENCE VALUE= .2116E-01 CRITERION= .5869E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 881
 *** TIME = .309264E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.239 CRITERION= .5925E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1166
 HT FLOW CONVERGENCE VALUE= .2116E-01 CRITERION= .5860E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 882
 *** TIME = .310053E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2947E-05 OSCILLATION LIMIT = 23.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5917E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1163
 HT FLOW CONVERGENCE VALUE= .2109E-01 CRITERION= .5840E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 883
*** TIME = .310842E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.239 CRITERION= .5897E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1167
HT FLOW CONVERGENCE VALUE= .2109E-01 CRITERION= .5832E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 884
*** TIME = .311631E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2946E-05 OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5889E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1164
HT FLOW CONVERGENCE VALUE= .2102E-01 CRITERION= .5812E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 885
*** TIME = .312420E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.239 CRITERION= .5869E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1168
HT FLOW CONVERGENCE VALUE= .2102E-01 CRITERION= .5803E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 886
*** TIME = .313209E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2946E-05 OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5861E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1165
HT FLOW CONVERGENCE VALUE= .2096E-01 CRITERION= .5783E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 887
*** TIME = .313998E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.239 CRITERION= .5840E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1168
HT FLOW CONVERGENCE VALUE= .2095E-01 CRITERION= .5774E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 888
*** TIME = .314787E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2946E-05 OSCILLATION LIMIT = 23.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.329 CRITERION= .5832E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1166
HT FLOW CONVERGENCE VALUE= .2089E-01 CRITERION= .5754E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 889
*** TIME = .315576E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2992E-05 OSCILLATION LIMIT = 23.60

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*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 16:09:14 APR 02, 1995 CP= 76376.370
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 49.40      CRITERION= .7581E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5625
HT FLOW CONVERGENCE VALUE= .1019      CRITERION= .5701E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2128E-01
HT FLOW CONVERGENCE VALUE= .2828E-02 CRITERION= .5697E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 891
*** TIME = .323465E+10 TIME INC = .788940E+08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.49      CRITERION= .7541E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5651
HT FLOW CONVERGENCE VALUE= .1011      CRITERION= .5634E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2109E-01
HT FLOW CONVERGENCE VALUE= .2767E-02 CRITERION= .5630E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 893
*** TIME = .331355E+10 TIME INC = .788940E+08
*** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 148.3      CRITERION= .1586
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.702
HT FLOW CONVERGENCE VALUE= .2907      CRITERION= .5461E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5992E-01
HT FLOW CONVERGENCE VALUE= .7485E-02 CRITERION= .5450E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 895
*** TIME = .355023E+10 TIME INC = .236682E+09
*** AUTO TIME STEP: NEXT TIME INC = .71005E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 445.1      CRITERION= .4483
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -5.123
HT FLOW CONVERGENCE VALUE= .7546      CRITERION= .4922E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1478
HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .4889E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 897
*** TIME = .426028E+10 TIME INC = .710046E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 494.5      CRITERION= .4969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -5.767
HT FLOW CONVERGENCE VALUE= .7526      CRITERION= .4311E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1409
HT FLOW CONVERGENCE VALUE= .1298E-01 CRITERION= .4277E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 899
*** TIME = .504922E+10 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 494.8      CRITERION= .4965
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -5.848
HT FLOW CONVERGENCE VALUE= .6448      CRITERION= .3685E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1197
HT FLOW CONVERGENCE VALUE= .8300E-02 CRITERION= .3655E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 901
*** TIME = .583816E+10 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 296.9      CRITERION= .2991
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.563
HT FLOW CONVERGENCE VALUE= .3477      CRITERION= .3307E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7147E-01
HT FLOW CONVERGENCE VALUE= .4710E-02 CRITERION= .3291E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 903
*** TIME = .631152E+10 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:25:30 APR 02, 1995 CP= 77333.920
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 183.8 CRITERION= .1867
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.464
 HT FLOW CONVERGENCE VALUE= .1589 CRITERION= .3169E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4095E-01
 HT FLOW CONVERGENCE VALUE= .3357E-02 CRITERION= .3164E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 905
 *** TIME = .678488E+10 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 183.7 CRITERION= .1864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.470
 HT FLOW CONVERGENCE VALUE= .1534 CRITERION= .3052E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3966E-01
 HT FLOW CONVERGENCE VALUE= .3125E-02 CRITERION= .3048E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 907
 *** TIME = .725825E+10 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 306.3 CRITERION= .3078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.457
 HT FLOW CONVERGENCE VALUE= .2342 CRITERION= .2847E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6037E-01
 HT FLOW CONVERGENCE VALUE= .4377E-02 CRITERION= .2840E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 909
 *** TIME = .804719E+10 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 306.3 CRITERION= .3076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.473
 HT FLOW CONVERGENCE VALUE= .2184 CRITERION= .2650E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5654E-01
 HT FLOW CONVERGENCE VALUE= .3798E-02 CRITERION= .2642E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 911
 *** TIME = .883613E+10 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 245.2 CRITERION= .2465
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.988
 HT FLOW CONVERGENCE VALUE= .1665 CRITERION= .2480E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4361E-01
 HT FLOW CONVERGENCE VALUE= .2770E-02 CRITERION= .2475E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 913
 *** TIME = .946728E+10 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:37:09 APR 02, 1995 CP= 78019.940
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 140.5 CRITERION= .1426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.129

HT FLOW CONVERGENCE VALUE= .9339E-01 CRITERION= .2393E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2494E-01
 HT FLOW CONVERGENCE VALUE= .1559E-02 CRITERION= .2390E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 915
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 140.5 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.130
 HT FLOW CONVERGENCE VALUE= .9003E-01 CRITERION= .2297E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2413E-01
 HT FLOW CONVERGENCE VALUE= .1452E-02 CRITERION= .2294E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 917
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 175.6 CRITERION= .1771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.418
 HT FLOW CONVERGENCE VALUE= .1065 CRITERION= .2190E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2851E-01
 HT FLOW CONVERGENCE VALUE= .1621E-02 CRITERION= .2186E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 919
 *** TIME = .115185E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 175.7 CRITERION= .1770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.421
 HT FLOW CONVERGENCE VALUE= .1012 CRITERION= .2071E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2719E-01
 HT FLOW CONVERGENCE VALUE= .1466E-02 CRITERION= .2068E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 921
 *** TIME = .123075E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 70.20 CRITERION= .7320E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5717
 HT FLOW CONVERGENCE VALUE= .4083E-01 CRITERION= .2029E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1109E-01
 HT FLOW CONVERGENCE VALUE= .5940E-03 CRITERION= .2028E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 923
 *** TIME = .126230E+11 TIME INC = .315576E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 16:48:47 APR 02, 1995 CP= 78705.880
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 57.46 CRITERION= .6090E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4073
 HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .1994E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8638E-02
 HT FLOW CONVERGENCE VALUE= .4822E-03 CRITERION= .1994E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 925
 *** TIME = .129386E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.37 CRITERION= .6075E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4094
 HT FLOW CONVERGENCE VALUE= .2971E-01 CRITERION= .1971E-01

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8534E-02
HT FLOW CONVERGENCE VALUE= .4687E-03 CRITERION= .1970E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 927
*** TIME = .132542E+11 TIME INC = .315576E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 143.6 CRITERION= .1449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.021
HT FLOW CONVERGENCE VALUE= .7020E-01 CRITERION= .1894E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2016E-01
HT FLOW CONVERGENCE VALUE= .1058E-02 CRITERION= .1892E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 929
*** TIME = .140431E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 143.5 CRITERION= .1447
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.025
HT FLOW CONVERGENCE VALUE= .6771E-01 CRITERION= .1827E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1948E-01
HT FLOW CONVERGENCE VALUE= .9826E-03 CRITERION= .1825E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 931
*** TIME = .148321E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 86.16 CRITERION= .8805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6154
HT FLOW CONVERGENCE VALUE= .4023E-01 CRITERION= .1777E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1165E-01
HT FLOW CONVERGENCE VALUE= .5783E-03 CRITERION= .1776E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 933
*** TIME = .153054E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.08 CRITERION= .8790E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6179
HT FLOW CONVERGENCE VALUE= .3927E-01 CRITERION= .1739E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1140E-01
HT FLOW CONVERGENCE VALUE= .5513E-03 CRITERION= .1738E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 6 COMPLETED. CUM ITER = 935
*** TIME = .157788E+11 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:02:50 APR 02, 1995 CP= 79528.030
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 95.19 CRITERION= .9674E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5738
HT FLOW CONVERGENCE VALUE= .3751E-01 CRITERION= .1699E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1185E-01
HT FLOW CONVERGENCE VALUE= .5966E-03 CRITERION= .1698E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 937
*** TIME = .162522E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.10 CRITERION= .9662E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5762
HT FLOW CONVERGENCE VALUE= .3632E-01 CRITERION= .1671E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1168E-01

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HT FLOW CONVERGENCE VALUE= .5759E-03 CRITERION= .1670E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 939
 *** TIME = .167255E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 158.6 CRITERION= .1595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9592
 HT FLOW CONVERGENCE VALUE= .5744E-01 CRITERION= .1609E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1870E-01
 HT FLOW CONVERGENCE VALUE= .8887E-03 CRITERION= .1608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 941
 *** TIME = .175145E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 158.5 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9627
 HT FLOW CONVERGENCE VALUE= .5527E-01 CRITERION= .1558E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1822E-01
 HT FLOW CONVERGENCE VALUE= .8299E-03 CRITERION= .1557E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 943
 *** TIME = .183034E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 126.9 CRITERION= .1278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7702
 HT FLOW CONVERGENCE VALUE= .4286E-01 CRITERION= .1508E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1437E-01
 HT FLOW CONVERGENCE VALUE= .6279E-03 CRITERION= .1507E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 945
 *** TIME = .189346E+11 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:14:29 APR 02, 1995 CP= 80214.230
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 112.8 CRITERION= .1138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6411
 HT FLOW CONVERGENCE VALUE= .3516E-01 CRITERION= .1479E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1241E-01
 HT FLOW CONVERGENCE VALUE= .5337E-03 CRITERION= .1478E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 947
 *** TIME = .195657E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.9 CRITERION= .1138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6401
 HT FLOW CONVERGENCE VALUE= .3373E-01 CRITERION= .1439E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221E-01
 HT FLOW CONVERGENCE VALUE= .4951E-03 CRITERION= .1439E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 949
 *** TIME = .201969E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 141.0 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8031
 HT FLOW CONVERGENCE VALUE= .3922E-01 CRITERION= .1402E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1489E-01
 HT FLOW CONVERGENCE VALUE= .5553E-03 CRITERION= .1402E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 951
*** TIME = .209858E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 141.1 CRITERION= .1418
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8026
HT FLOW CONVERGENCE VALUE= .3729E-01 CRITERION= .1354E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1463E-01
HT FLOW CONVERGENCE VALUE= .5319E-03 CRITERION= .1354E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 953
*** TIME = .217747E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)
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HT FLOW CONVERGENCE VALUE= 56.39 CRITERION= .5800E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3228
HT FLOW CONVERGENCE VALUE= .1532E-01 CRITERION= .1342E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5857E-02
HT FLOW CONVERGENCE VALUE= .2176E-03 CRITERION= .1342E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 955
*** TIME = .220903E+11 TIME INC = .315576E+09
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 17:26:05 APR 02, 1995 CP= 80898.570
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 49.63 CRITERION= .5139E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2779
HT FLOW CONVERGENCE VALUE= .1336E-01 CRITERION= .1322E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5057E-02
HT FLOW CONVERGENCE VALUE= .1898E-03 CRITERION= .1322E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 957
*** TIME = .224059E+11 TIME INC = .315576E+09
*** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 49.54 CRITERION= .5129E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2798
HT FLOW CONVERGENCE VALUE= .1331E-01 CRITERION= .1313E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5005E-02
HT FLOW CONVERGENCE VALUE= .1861E-03 CRITERION= .1313E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 959
*** TIME = .227215E+11 TIME INC = .315576E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)
```

```
HT FLOW CONVERGENCE VALUE= 124.0 CRITERION= .1247
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6968
HT FLOW CONVERGENCE VALUE= .3185E-01 CRITERION= .1272E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1203E-01
HT FLOW CONVERGENCE VALUE= .4340E-03 CRITERION= .1272E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 961
*** TIME = .235104E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 123.9 CRITERION= .1246
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6996
HT FLOW CONVERGENCE VALUE= .3103E-01 CRITERION= .1242E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1174E-01
HT FLOW CONVERGENCE VALUE= .4112E-03 CRITERION= .1241E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
```

*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 963
 *** TIME = .242994E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 74.43 CRITERION= .7543E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4189
 HT FLOW CONVERGENCE VALUE= .1849E-01 CRITERION= .1215E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7013E-02
 HT FLOW CONVERGENCE VALUE= .2428E-03 CRITERION= .1214E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 965
 *** TIME = .247727E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.34 CRITERION= .7534E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210
 HT FLOW CONVERGENCE VALUE= .1822E-01 CRITERION= .1198E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6906E-02
 HT FLOW CONVERGENCE VALUE= .2345E-03 CRITERION= .1198E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 6 COMPLETED. CUM ITER = 967
 *** TIME = .252461E+11 TIME INC = .473364E+09

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:39:58 APR 02, 1995 CP= 81717.100
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 66.67 CRITERION= .6771E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3590
 HT FLOW CONVERGENCE VALUE= .1567E-01 CRITERION= .1176E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6055E-02
 HT FLOW CONVERGENCE VALUE= .2061E-03 CRITERION= .1175E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 969
 *** TIME = .257194E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.58 CRITERION= .6763E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3609
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .1164E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5980E-02
 HT FLOW CONVERGENCE VALUE= .2003E-03 CRITERION= .1164E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 971
 *** TIME = .261928E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 111.1 CRITERION= .1117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5996
 HT FLOW CONVERGENCE VALUE= .2493E-01 CRITERION= .1130E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9665E-02
 HT FLOW CONVERGENCE VALUE= .3157E-03 CRITERION= .1130E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 973
 *** TIME = .269817E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 111.0 CRITERION= .1116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6020
 HT FLOW CONVERGENCE VALUE= .2436E-01 CRITERION= .1107E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9451E-02
 HT FLOW CONVERGENCE VALUE= .3007E-03 CRITERION= .1106E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 975

*** TIME = .277707E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 88.87 CRITERION= .8954E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4806
 HT FLOW CONVERGENCE VALUE= .1917E-01 CRITERION= .1078E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7461E-02
 HT FLOW CONVERGENCE VALUE= .2333E-03 CRITERION= .1078E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 977
 *** TIME = .284018E+11 TIME INC = .631152E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 17:51:35 APR 02, 1995 CP= 82402.400
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 77.24 CRITERION= .7801E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4105
 HT FLOW CONVERGENCE VALUE= .1627E-01 CRITERION= .1065E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6378E-02
 HT FLOW CONVERGENCE VALUE= .1973E-03 CRITERION= .1065E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 979
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.33 CRITERION= .7804E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090
 HT FLOW CONVERGENCE VALUE= .1596E-01 CRITERION= .1041E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6281E-02
 HT FLOW CONVERGENCE VALUE= .1914E-03 CRITERION= .1040E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 981
 *** TIME = .296641E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 96.56 CRITERION= .9714E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5136
 HT FLOW CONVERGENCE VALUE= .1947E-01 CRITERION= .1023E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7666E-02
 HT FLOW CONVERGENCE VALUE= .2278E-03 CRITERION= .1022E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 983
 *** TIME = .304531E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 96.65 CRITERION= .9717E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5123
 HT FLOW CONVERGENCE VALUE= .1902E-01 CRITERION= .9940E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7513E-02
 HT FLOW CONVERGENCE VALUE= .2186E-03 CRITERION= .9936E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 985
 *** TIME = .312420E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 38.60 CRITERION= .3988E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2064
 HT FLOW CONVERGENCE VALUE= .7668E-02 CRITERION= .9898E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 986
 *** TIME = .315576E+11 TIME INC = .315576E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 83038.940

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40b1.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 *****
900-38303 VERSION=HP 9000/7XX 18:02:34 APR 02, 1995 CP= 83047.850
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 854 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	854 TEMP	peakclad	143.1	.3156E+11	284.0	.6312E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 63115231.6

***** ROUTINE COMPLETED ***** CP = 83048.170

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
900-38303 VERSION=HP 9000/7XX 18:02:36 APR 02, 1995 CP= 83048.210
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****
Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

5832 ELEMENTS (OF 6864 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= 197
TIME/FREQUENCY= .63115E+08

TITLE=
40 BWR MPC/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=
40 BWR MPC/WP at Time of Peak Temp. (2.000001 years)

*** WARNING *** CP= 83090.370 TIME= 18:03:26
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= 517
TIME/FREQUENCY= .31558E+09

TITLE=
40 BWR MPC/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 127.55 BY 1.2318 TO 283.99

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 10 years

*** WARNING *** CP= 83144.460 TIME= 18:04:25
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= 689
TIME/FREQUENCY= .15779E+10

TITLE=
40 BWR MPC/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 127.55 BY 1.2318 TO 283.99

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.

DISPLAY TITLE=

40 BWR MPC/WP at 50 years

*** WARNING ***

CP= 83198.370 TIME= 18:05:23

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= 889

TIME/FREQUENCY= .31558E+10

TITLE=

40 BWR MPC/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 127.55 BY 1.2318 TO 283.99

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.

DISPLAY TITLE=

40 BWR MPC/WP at 100 years

*** WARNING ***

CP= 83251.580 TIME= 18:06:16

The selected element set contains mixed materials.

This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 83263.200

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

a = aluminum-born tube layer

t = stainless tube cladding

g = tube guide

m = mpc shell

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 *****
900-38303 VERSION=HP 9000/7XX 18:06:28 APR 02, 1995 CP= 83263.210
FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 41

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	924	ITEM= TEMP COMP=	NAME= t02i000
VARIABLE 3	IS AT NODE	914	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NODE	850	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NODE	856	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NODE	854	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NODE	852	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NODE	849	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NODE	895	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	894	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	1027	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	963	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	969	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	967	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	965	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	962	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	1008	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	1150	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	1140	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	1076	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NODE	1082	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NODE	1080	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NODE	1078	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NODE	1075	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NODE	1121	ITEM= TEMP COMP=	NAME= a18o000

VARIABLE 26 IS AT NODE 1120 ITEM= TEMP COMP= NAME= t24i000
 VARIABLE 27 IS AT NODE 4124 ITEM= TEMP COMP= NAME= a24i000
 VARIABLE 28 IS AT NODE 4072 ITEM= TEMP COMP= NAME= s24i000
 VARIABLE 29 IS AT NODE 4075 ITEM= TEMP COMP= NAME= h24i000
 VARIABLE 30 IS AT NODE 4077 ITEM= TEMP COMP= NAME= c24i000
 VARIABLE 31 IS AT NODE 4079 ITEM= TEMP COMP= NAME= h24o000
 VARIABLE 32 IS AT NODE 4073 ITEM= TEMP COMP= NAME= s24o000
 VARIABLE 33 IS AT NODE 4137 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4865 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4860 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5019 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4946 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5435 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5508 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6022 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	142.5	.3156E+11	275.3 .6312E+08
3	NSOL	914 TEMP	a02i000	142.5	.3156E+11	275.3 .6312E+08
4	NSOL	850 TEMP	s02i000	142.5	.3156E+11	275.4 .6312E+08
5	NSOL	856 TEMP	h02i000	143.0	.3156E+11	282.4 .6312E+08
6	NSOL	854 TEMP	c02i000	143.1	.3156E+11	284.0 .6312E+08
7	NSOL	852 TEMP	h02o000	142.9	.3156E+11	281.3 .6312E+08
8	NSOL	849 TEMP	s02o000	142.4	.3156E+11	273.2 .6312E+08
9	NSOL	895 TEMP	a02o000	142.4	.3156E+11	273.1 .6312E+08
10	NSOL	894 TEMP	t08i000	142.4	.3156E+11	273.0 .6312E+08
11	NSOL	1027 TEMP	a08i000	142.4	.3156E+11	273.0 .6312E+08
12	NSOL	963 TEMP	s08i000	142.4	.3156E+11	273.1 .6312E+08
13	NSOL	969 TEMP	h08i000	142.8	.3156E+11	279.0 .6312E+08
14	NSOL	967 TEMP	c08i000	142.9	.3156E+11	279.5 .6312E+08
15	NSOL	965 TEMP	h08o000	142.7	.3156E+11	275.7 .6312E+08
16	NSOL	962 TEMP	s08o000	142.2	.3156E+11	266.2 .6312E+08
17	NSOL	1008 TEMP	a08o000	142.1	.3156E+11	266.1 .6312E+08
18	NSOL	1150 TEMP	t18i000	142.1	.3156E+11	266.0 .6312E+08
19	NSOL	1140 TEMP	a18i000	142.1	.3156E+11	266.0 .6312E+08
20	NSOL	1076 TEMP	s18i000	142.2	.3156E+11	266.1 .6312E+08
21	NSOL	1082 TEMP	h18i000	142.5	.3156E+11	270.9 .6312E+08
22	NSOL	1080 TEMP	c18i000	142.5	.3156E+11	270.3 .6312E+08
23	NSOL	1078 TEMP	h18o000	142.2	.3156E+11	265.0 .6312E+08
24	NSOL	1075 TEMP	s18o000	141.6	.3156E+11	254.0 .9467E+08
25	NSOL	1121 TEMP	a18o000	141.6	.3156E+11	253.9 .9467E+08
26	NSOL	1120 TEMP	t24i000	141.6	.3156E+11	253.8 .9467E+08
27	NSOL	4124 TEMP	a24i000	141.6	.3156E+11	253.8 .9467E+08
28	NSOL	4072 TEMP	s24i000	141.6	.3156E+11	253.9 .9467E+08
29	NSOL	4075 TEMP	h24i000	141.8	.3156E+11	256.0 .9467E+08
30	NSOL	4077 TEMP	c24i000	141.6	.3156E+11	252.3 .9467E+08
31	NSOL	4079 TEMP	h24o000	141.1	.3156E+11	243.3 .1578E+09
32	NSOL	4073 TEMP	s24o000	140.1	.3156E+11	226.5 .2525E+09
33	NSOL	4137 TEMP	t24o000	140.1	.3156E+11	226.3 .2525E+09
34	NSOL	4865 TEMP	g24i000	139.4	.3156E+11	215.9 .2525E+09
35	NSOL	4860 TEMP	g24o000	139.4	.3156E+11	215.7 .2525E+09
36	NSOL	5019 TEMP	m24i000	138.9	.3156E+11	207.4 .3156E+09

37 NSOL	4946 TEMP	m24o000	138.8	.3156E+11	206.3	.3156E+09
38 NSOL	5435 TEMP	i24i000	30.66	.1000E-05	167.9	.1262E+10
39 NSOL	5508 TEMP	i24o000	28.93	.1000E-05	167.3	.1262E+10
40 NSOL	6022 TEMP	o24o000	26.14	.1000E-05	166.1	.1262E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83270.990
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	914 TEMP a02i000	850 TEMP s02i000	856 TEMP h02i000	854 TEMP c02i000	852 TEMP h02o000
.10000E-05	243.502	243.505	243.616	251.939	253.870	250.715
.20000E-05	258.106	258.109	258.219	266.140	267.962	264.924
31.558	258.106	258.109	258.219	266.140	267.962	264.924
.31558E+07	268.990	268.993	269.101	276.721	278.476	275.548
.63116E+07	271.254	271.258	271.365	278.895	280.627	277.728
.94673E+07	272.446	272.449	272.555	280.028	281.746	278.867
.12623E+08	273.222	273.225	273.331	280.756	282.463	279.600
.15779E+08	273.793	273.796	273.901	281.286	282.983	280.135
.18935E+08	274.217	274.220	274.325	281.670	283.358	280.524
.22090E+08	274.483	274.486	274.591	281.899	283.579	280.759
.25246E+08	274.711	274.714	274.818	282.093	283.765	280.957
.28402E+08	274.869	274.873	274.976	282.219	283.883	281.088
.31558E+08	274.992	274.995	275.098	282.311	283.968	281.184
.63115E+08	275.325	275.328	275.428	282.388	283.988	281.301
.94673E+08	274.918	274.921	275.018	281.773	283.328	280.721
.12623E+09	274.220	274.223	274.317	280.898	282.414	279.876
.15779E+09	273.518	273.521	273.612	280.044	281.528	279.048
.18935E+09	272.436	272.439	272.528	278.813	280.264	277.843
.22090E+09	271.510	271.513	271.600	277.756	279.179	276.810
.25246E+09	270.636	270.639	270.724	276.760	278.157	275.835
.28402E+09	269.328	269.331	269.414	275.345	276.719	274.440
.31558E+09	268.331	268.333	268.415	274.256	275.610	273.367
.63115E+09	255.429	255.431	255.500	260.525	261.701	259.790
.94673E+09	244.384	244.385	244.444	248.830	249.865	248.209
.12623E+10	234.576	234.578	234.628	238.499	239.419	237.968
.15779E+10	225.660	225.661	225.705	229.142	229.964	228.683
.18935E+10	218.031	218.032	218.071	221.159	221.900	220.756
.22090E+10	211.500	211.501	211.536	214.333	215.007	213.975
.25246E+10	205.430	205.431	205.462	208.019	208.639	207.699
.28402E+10	200.555	200.556	200.585	202.949	203.524	202.658
.31558E+10	196.148	196.149	196.175	198.359	198.891	198.093
.63115E+10	174.652	174.652	174.668	176.010	176.341	175.857
.94673E+10	165.413	165.414	165.425	166.470	166.730	166.355
.12623E+11	160.079	160.079	160.089	160.960	161.176	160.865
.15779E+11	156.205	156.206	156.214	156.970	157.159	156.890
.18935E+11	152.551	152.551	152.558	153.225	153.392	153.155
.22090E+11	149.487	149.487	149.493	150.092	150.242	150.030
.25246E+11	146.816	146.816	146.822	147.361	147.496	147.305
.28402E+11	144.513	144.513	144.518	145.009	145.132	144.958
.31558E+11	142.539	142.539	142.544	142.995	143.108	142.949

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.010
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	849 TEMP s02o000	895 TEMP a02o000	894 TEMP t08i000	1027 TEMP a08i000	963 TEMP s08i000	969 TEMP h08i000
.10000E-05	241.052	240.928	240.924	240.915	241.014	248.146
.20000E-05	255.670	255.547	255.543	255.533	255.630	262.373
31.558	255.670	255.547	255.543	255.533	255.630	262.373
.31558E+07	266.648	266.527	266.522	266.513	266.608	273.053
.63116E+07	268.925	268.805	268.800	268.791	268.885	275.244
.94673E+07	270.128	270.009	270.004	269.995	270.089	276.393
.12623E+08	270.916	270.797	270.793	270.784	270.877	277.139
.15779E+08	271.498	271.380	271.375	271.366	271.459	277.685
.18935E+08	271.932	271.814	271.809	271.800	271.893	278.083
.22090E+08	272.208	272.091	272.087	272.078	272.170	278.328
.25246E+08	272.446	272.329	272.324	272.316	272.407	278.536
.28402E+08	272.614	272.498	272.493	272.485	272.576	278.677
.31558E+08	272.746	272.631	272.626	272.617	272.708	278.782
.63115E+08	273.162	273.050	273.046	273.037	273.125	278.983
.94673E+08	272.825	272.717	272.712	272.704	272.789	278.474
.12623E+09	272.188	272.083	272.079	272.071	272.153	277.692
.15779E+09	271.538	271.435	271.431	271.423	271.504	276.919
.18935E+09	270.510	270.410	270.406	270.398	270.477	275.770
.22090E+09	269.630	269.532	269.528	269.521	269.598	274.784
.25246E+09	268.799	268.704	268.700	268.693	268.768	273.855
.28402E+09	267.531	267.437	267.434	267.427	267.501	272.501
.31558E+09	266.567	266.475	266.471	266.464	266.537	271.464
.63115E+09	253.974	253.898	253.895	253.889	253.950	258.215
.94673E+09	243.162	243.097	243.095	243.090	243.142	246.878
.12623E+10	233.530	233.474	233.472	233.468	233.513	236.825
.15779E+10	224.757	224.709	224.707	224.704	224.743	227.695
.18935E+10	217.240	217.198	217.196	217.193	217.228	219.888
.22090E+10	210.800	210.762	210.761	210.758	210.789	213.206
.25246E+10	204.803	204.769	204.767	204.765	204.793	207.009
.28402E+10	199.985	199.954	199.953	199.951	199.977	202.029
.31558E+10	195.630	195.601	195.600	195.598	195.622	197.520
.63115E+10	174.355	174.338	174.338	174.337	174.350	175.527
.94673E+10	165.190	165.177	165.176	165.176	165.186	166.105
.12623E+11	159.896	159.886	159.885	159.885	159.893	160.661
.15779E+11	156.049	156.040	156.040	156.039	156.047	156.714
.18935E+11	152.414	152.406	152.406	152.406	152.412	153.002
.22090E+11	149.366	149.359	149.359	149.358	149.364	149.894
.25246E+11	146.707	146.701	146.701	146.701	146.706	147.183
.28402E+11	144.415	144.409	144.409	144.408	144.413	144.848
.31558E+11	142.449	142.444	142.444	142.444	142.448	142.848

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.020
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	967 TEMP c08i000	965 TEMP h08o000	962 TEMP s08o000	1008 TEMP a08o000	1150 TEMP t18i000	1140 TEMP a18i000
.10000E-05	248.900	244.483	233.335	233.198	233.170	233.171
.20000E-05	263.024	258.734	247.996	247.860	247.831	247.832
31.558	263.024	258.734	247.996	247.860	247.831	247.832
.31558E+07	273.645	269.480	259.128	258.993	258.965	258.965
.63116E+07	275.816	271.685	261.438	261.305	261.276	261.277
.94673E+07	276.957	272.850	262.677	262.544	262.515	262.516
.12623E+08	277.695	273.612	263.501	263.368	263.340	263.341
.15779E+08	278.236	274.173	264.116	263.984	263.956	263.956
.18935E+08	278.630	274.585	264.580	264.449	264.421	264.421
.22090E+08	278.870	274.845	264.889	264.758	264.730	264.731
.25246E+08	279.075	275.067	265.156	265.026	264.998	264.999

.28402E+08	279.213	275.221	265.355	265.225	265.198	265.198
.31558E+08	279.316	275.341	265.516	265.387	265.360	265.360
.63115E+08	279.497	275.661	266.189	266.064	266.038	266.038
.94673E+08	278.974	275.254	266.071	265.950	265.924	265.925
.12623E+09	278.182	274.562	265.626	265.509	265.484	265.485
.15779E+09	277.400	273.866	265.142	265.027	265.003	265.003
.18935E+09	276.244	272.797	264.284	264.172	264.149	264.149
.22090E+09	275.253	271.880	263.551	263.442	263.419	263.419
.25246E+09	274.317	271.015	262.857	262.751	262.729	262.729
.28402E+09	272.960	269.722	261.716	261.612	261.590	261.590
.31558E+09	271.919	268.734	260.858	260.756	260.735	260.735
.63115E+09	258.645	255.955	249.259	249.174	249.157	249.157
.94673E+09	247.280	244.969	239.193	239.122	239.107	239.107
.12623E+10	237.200	235.187	230.128	230.067	230.055	230.055
.15779E+10	228.044	226.278	221.819	221.766	221.755	221.755
.18935E+10	220.215	218.644	214.663	214.616	214.607	214.607
.22090E+10	213.512	212.102	208.515	208.473	208.465	208.465
.25246E+10	207.297	206.018	202.753	202.716	202.709	202.709
.28402E+10	202.302	201.127	198.121	198.087	198.080	198.081
.31558E+10	197.776	196.697	193.931	193.900	193.894	193.895
.63115E+10	175.698	175.052	173.377	173.359	173.356	173.356
.94673E+10	166.243	165.746	164.451	164.437	164.435	164.435
.12623E+11	160.778	160.367	159.291	159.280	159.278	159.278
.15779E+11	156.818	156.462	155.530	155.521	155.519	155.519
.18935E+11	153.094	152.782	151.962	151.954	151.952	151.952
.22090E+11	149.977	149.698	148.964	148.957	148.956	148.956
.25246E+11	147.259	147.009	146.349	146.342	146.341	146.341
.28402E+11	144.918	144.690	144.090	144.084	144.083	144.083
.31558E+11	142.912	142.704	142.153	142.147	142.146	142.146

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.030
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1076 TEMP s18i000	1082 TEMP h18i000	1080 TEMP c18i000	1078 TEMP h18o000	1075 TEMP s18o000	1121 TEMP a18o000
.10000E-05	233.258	239.256	238.727	232.739	219.485	219.330
.20000E-05	247.917	253.538	252.917	247.064	234.268	234.114
.31558E+07	247.917	253.538	252.917	247.064	234.268	234.114
.63116E+07	259.049	264.378	263.718	258.032	245.661	245.508
.94673E+07	261.359	266.602	265.927	260.284	248.035	247.883
.12623E+08	262.598	267.790	267.110	261.501	249.339	249.188
.15779E+08	263.422	268.575	267.894	262.314	250.227	250.077
.18935E+08	264.037	269.157	268.476	262.925	250.903	250.753
.22090E+08	264.502	269.590	268.908	263.382	251.424	251.274
.25246E+08	264.811	269.870	269.189	263.688	251.790	251.641
.28402E+08	265.079	270.112	269.432	263.955	252.112	251.964
.31558E+08	265.278	270.286	269.608	264.154	252.366	252.218
.63115E+08	265.439	270.425	269.748	264.317	252.580	252.433
.94673E+08	265.614	270.914	270.258	265.019	253.715	253.573
.12623E+09	265.999	270.653	270.017	264.939	253.991	253.854
.15779E+09	265.556	270.089	269.473	264.535	253.891	253.758
.18935E+09	265.074	269.503	268.905	264.086	253.703	253.573
.22090E+09	264.217	268.548	267.969	263.271	253.149	253.022
.25246E+09	263.486	267.729	267.168	262.576	252.679	252.555
.28402E+09	262.794	266.956	266.411	261.917	252.231	252.110
.31558E+09	261.655	265.748	265.219	260.814	251.316	251.198
.63115E+09	260.798	264.832	264.317	259.988	250.649	250.533
.94673E+09	249.210	252.720	252.338	248.697	240.818	240.722
.12623E+10	239.153	242.235	241.945	238.837	232.079	231.999
.15779E+10	230.094	232.839	232.616	229.918	224.022	223.953
	221.790	224.246	224.075	221.716	216.537	216.478

.18935E+10	214.638	216.859	216.728	214.636	210.025	209.972
.22090E+10	208.493	210.517	210.414	208.542	204.398	204.351
.25246E+10	202.734	204.595	204.516	202.821	199.059	199.017
.28402E+10	198.103	199.831	199.767	198.213	194.757	194.719
.31558E+10	193.915	195.515	195.463	194.039	190.865	190.830
.63115E+10	173.368	174.368	174.360	173.514	171.605	171.585
.94673E+10	164.444	165.229	165.230	164.582	163.110	163.095
.12623E+11	159.286	159.943	159.948	159.412	158.192	158.180
.15779E+11	155.526	156.098	156.105	155.643	154.587	154.577
.18935E+11	151.958	152.465	152.473	152.067	151.140	151.131
.22090E+11	148.961	149.416	149.425	149.063	148.233	148.225
.25246E+11	146.346	146.756	146.765	146.440	145.695	145.687
.28402E+11	144.087	144.462	144.470	144.176	143.498	143.491
.31558E+11	142.150	142.495	142.503	142.233	141.611	141.605

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.050
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1120 TEMP t24i000	4124 TEMP a24i000	4072 TEMP s24i000	4075 TEMP h24i000	4077 TEMP c24i000	4079 TEMP h24o000
.10000E-05	219.321	219.274	219.333	222.237	218.029	206.589
.20000E-05	234.106	234.059	234.115	236.739	232.590	221.577
.31558E-05	234.106	234.059	234.115	236.739	232.590	221.577
.31558E+07	245.500	245.454	245.508	247.969	243.933	233.342
.63116E+07	247.875	247.829	247.882	250.286	246.270	235.779
.94673E+07	249.179	249.133	249.187	251.560	247.566	237.152
.12623E+08	250.068	250.023	250.076	252.428	248.456	238.108
.15779E+08	250.745	250.699	250.752	253.087	249.136	238.846
.18935E+08	251.266	251.221	251.273	253.589	249.655	239.419
.22090E+08	251.633	251.588	251.640	253.941	250.025	239.842
.25246E+08	251.956	251.911	251.963	254.250	250.351	240.218
.28402E+08	252.210	252.165	252.217	254.491	250.610	240.524
.31558E+08	252.425	252.381	252.432	254.694	250.829	240.789
.63115E+08	253.565	253.522	253.572	255.741	252.018	242.361
.94673E+08	253.846	253.804	253.853	255.951	252.347	243.004
.12623E+09	253.750	253.710	253.757	255.799	252.297	243.223
.15779E+09	253.566	253.527	253.572	255.567	252.153	243.309
.18935E+09	253.015	252.977	253.021	254.972	251.648	243.032
.22090E+09	252.548	252.511	252.555	254.466	251.220	242.804
.25246E+09	252.103	252.067	252.110	253.985	250.811	242.581
.28402E+09	251.192	251.156	251.198	253.045	249.937	241.871
.31558E+09	250.527	250.492	250.533	252.355	249.302	241.377
.63115E+09	240.717	240.688	240.723	242.326	239.790	233.134
.94673E+09	231.995	231.971	232.000	233.431	231.286	225.591
.12623E+10	223.950	223.929	223.955	225.248	223.400	218.443
.15779E+10	216.474	216.457	216.480	217.653	216.051	211.705
.18935E+10	209.970	209.954	209.975	211.050	209.640	205.778
.22090E+10	204.349	204.335	204.353	205.343	204.090	200.624
.25246E+10	199.015	199.002	199.019	199.937	198.808	195.665
.28402E+10	194.717	194.706	194.721	195.576	194.546	191.663
.31558E+10	190.828	190.818	190.832	191.629	190.688	188.041
.63115E+10	171.584	171.578	171.587	172.100	171.555	169.971
.94673E+10	163.094	163.089	163.096	163.505	163.092	161.873
.12623E+11	158.179	158.176	158.181	158.527	158.188	157.180
.15779E+11	154.576	154.573	154.578	154.881	154.590	153.719
.18935E+11	151.130	151.127	151.132	151.401	151.148	150.383
.22090E+11	148.225	148.222	148.226	148.469	148.243	147.560
.25246E+11	145.687	145.685	145.688	145.908	145.706	145.092
.28402E+11	143.491	143.489	143.492	143.693	143.510	142.952
.31558E+11	141.605	141.603	141.606	141.791	141.624	141.112

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.060
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4073 TEMP s24o000	4137 TEMP t24o000	4865 TEMP g24i000	4860 TEMP g24o000	5019 TEMP m24i000	4946 TEMP m24o000
.10000E-05	183.521	183.191	167.361	167.090	154.439	152.930
.20000E-05	199.576	199.256	184.471	184.206	172.234	170.746
31.558	199.576	199.256	184.471	184.206	172.234	170.746
.31558E+07	212.342	212.033	198.177	197.920	186.608	185.162
.63116E+07	215.021	214.714	201.063	200.807	189.639	188.203
.94673E+07	216.565	216.260	202.752	202.498	191.436	190.008
.12623E+08	217.668	217.365	203.975	203.722	192.749	191.330
.15779E+08	218.533	218.231	204.943	204.692	193.797	192.385
.18935E+08	219.226	218.926	205.729	205.479	194.654	193.250
.22090E+08	219.762	219.464	206.353	206.104	195.347	193.950
.25246E+08	220.243	219.946	206.914	206.667	195.973	194.582
.28402E+08	220.650	220.355	207.398	207.152	196.518	195.133
.31558E+08	221.012	220.718	207.832	207.587	197.010	195.632
.63115E+08	223.383	223.100	210.792	210.556	200.445	199.120
.94673E+08	224.674	224.401	212.548	212.320	202.582	201.302
.12623E+09	225.442	225.177	213.704	213.483	204.058	202.816
.15779E+09	225.995	225.737	214.584	214.369	205.209	204.000
.18935E+09	226.182	225.930	215.088	214.879	205.979	204.803
.22090E+09	226.354	226.109	215.535	215.331	206.655	205.508
.25246E+09	226.504	226.264	215.941	215.741	207.274	206.153
.28402E+09	226.122	225.888	215.776	215.581	207.294	206.198
.31558E+09	225.907	225.677	215.747	215.555	207.422	206.346
.63115E+09	220.152	219.961	211.613	211.454	204.669	203.779
.94673E+09	214.487	214.324	207.166	207.031	201.255	200.504
.12623E+10	208.771	208.631	202.376	202.260	197.246	196.600
.15779E+10	203.220	203.098	197.592	197.491	193.104	192.545
.18935E+10	198.230	198.122	193.209	193.120	189.227	188.734
.22090E+10	193.850	193.754	189.329	189.250	185.761	185.324
.25246E+10	189.523	189.437	185.408	185.337	182.175	181.781
.28402E+10	186.024	185.945	182.234	182.169	179.267	178.908
.31558E+10	182.862	182.789	179.371	179.311	176.647	176.320
.63115E+10	166.860	166.818	164.731	164.697	163.102	162.912
.94673E+10	159.475	159.443	157.821	157.795	156.566	156.422
.12623E+11	155.193	155.167	153.817	153.795	152.778	152.660
.15779E+11	152.000	151.977	150.805	150.787	149.907	149.806
.18935E+11	148.873	148.852	147.819	147.803	147.030	146.941
.22090E+11	146.209	146.191	145.263	145.249	144.557	144.479
.25246E+11	143.878	143.862	143.026	143.013	142.391	142.320
.28402E+11	141.847	141.832	141.070	141.058	140.492	140.428
.31558E+11	140.098	140.085	139.383	139.373	138.853	138.795

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:36 APR 02, 1995 CP= 83271.070
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5435 TEMP i24i000	5508 TEMP i24o000	6022 TEMP o24o000
.10000E-05	30.6558	28.9345	26.1377
.20000E-05	73.4434	71.7253	68.9920

31.558	73.4434	71.7253	68.9920
.31558E+07	103.391	101.719	99.1974
.63116E+07	109.168	107.510	104.997
.94673E+07	112.773	111.127	108.626
.12623E+08	115.481	113.848	111.356
.15779E+08	117.674	116.051	113.571
.18935E+08	119.513	117.900	115.429
.22090E+08	121.119	119.514	117.054
.25246E+08	122.548	120.953	118.502
.28402E+08	123.842	122.257	119.816
.31558E+08	125.032	123.455	121.025
.63115E+08	133.687	132.184	129.838
.94673E+08	139.621	138.178	135.905
.12623E+09	144.065	142.672	140.464
.15779E+09	147.621	146.271	144.119
.18935E+09	150.602	149.293	147.198
.22090E+09	153.153	151.880	149.835
.25246E+09	155.476	154.236	152.237
.28402E+09	156.843	155.633	153.676
.31558E+09	158.128	156.942	155.020
.63115E+09	164.451	163.481	161.895
.94673E+09	167.403	166.592	165.260
.12623E+10	167.949	167.255	166.116
.15779E+10	167.455	166.857	165.877
.18935E+10	166.399	165.874	165.017
.22090E+10	165.235	164.770	164.013
.25246E+10	163.468	163.050	162.373
.28402E+10	162.021	161.640	161.027
.31558E+10	160.749	160.402	159.845
.63115E+10	153.335	153.134	152.818
.94673E+10	148.919	148.767	148.530
.12623E+11	146.388	146.263	146.070
.15779E+11	144.337	144.230	144.065
.18935E+11	142.093	141.999	141.856
.22090E+11	140.107	140.024	139.896
.25246E+11	138.362	138.288	138.174
.28402E+11	136.804	136.737	136.634
.31558E+11	135.451	135.390	135.296

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 854 ITEM= TEMP COMP= NAME= c02i045

*** WARNING *** CP= 83271.280 TIME= 18:06:36
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 881 ITEM= TEMP COMP= NAME= h02o045

VARIABLE 4 IS AT NODE 862 ITEM= TEMP COMP= NAME= s02o045

VARIABLE 5 IS AT NODE 897 ITEM= TEMP COMP= NAME= a02o045

VARIABLE 6 IS AT NODE 901 ITEM= TEMP COMP= NAME= t02o045

VARIABLE 7 IS AT NODE 1952 ITEM= TEMP COMP= NAME= t07i045

VARIABLE 8 IS AT NODE 1934 ITEM= TEMP COMP= NAME= a07i045

VARIABLE 9 IS AT NODE 1832 ITEM= TEMP COMP= NAME= s07i045

VARIABLE 10 IS AT NODE 1859 ITEM= TEMP COMP= NAME= h07i045

VARIABLE 11 IS AT NODE 1871 ITEM= TEMP COMP= NAME= c07i045

VARIABLE 12 IS AT NODE 1883 ITEM= TEMP COMP= NAME= h07o045

VARIABLE 13 IS AT NODE 1816 ITEM= TEMP COMP= NAME= s07o045

VARIABLE 14 IS AT NODE 1907 ITEM= TEMP COMP= NAME= a07o045
 VARIABLE 15 IS AT NODE 1896 ITEM= TEMP COMP= NAME= t07o045
 VARIABLE 16 IS AT NODE 3415 ITEM= TEMP COMP= NAME= t16i045
 VARIABLE 17 IS AT NODE 3397 ITEM= TEMP COMP= NAME= a16i045
 VARIABLE 18 IS AT NODE 3295 ITEM= TEMP COMP= NAME= s16i045
 VARIABLE 19 IS AT NODE 3322 ITEM= TEMP COMP= NAME= h16i045
 VARIABLE 20 IS AT NODE 3334 ITEM= TEMP COMP= NAME= c16i045
 VARIABLE 21 IS AT NODE 3346 ITEM= TEMP COMP= NAME= h16o045
 VARIABLE 22 IS AT NODE 3279 ITEM= TEMP COMP= NAME= s16o045
 VARIABLE 23 IS AT NODE 3370 ITEM= TEMP COMP= NAME= a16o045
 VARIABLE 24 IS AT NODE 3359 ITEM= TEMP COMP= NAME= t16o045
 VARIABLE 25 IS AT NODE 4698 ITEM= TEMP COMP= NAME= g16i045
 VARIABLE 26 IS AT NODE 5050 ITEM= TEMP COMP= NAME= m16i045
 VARIABLE 27 IS AT NODE 4983 ITEM= TEMP COMP= NAME= m16o045
 VARIABLE 28 IS AT NODE 5472 ITEM= TEMP COMP= NAME= i16i045
 VARIABLE 29 IS AT NODE 5547 ITEM= TEMP COMP= NAME= i16o045
 VARIABLE 30 IS AT NODE 6060 ITEM= TEMP COMP= NAME= o16o045
 Add centers of assemblies 6, 14, 15, 17, 22, 23
 VARIABLE 31 IS AT NODE 1662 ITEM= TEMP COMP= NAME= c06i045
 VARIABLE 32 IS AT NODE 2916 ITEM= TEMP COMP= NAME= c14i045
 VARIABLE 33 IS AT NODE 3125 ITEM= TEMP COMP= NAME= c15i045
 VARIABLE 34 IS AT NODE 2080 ITEM= TEMP COMP= NAME= c17i045
 VARIABLE 35 IS AT NODE 3738 ITEM= TEMP COMP= NAME= c22i045
 VARIABLE 36 IS AT NODE 3933 ITEM= TEMP COMP= NAME= c23i045

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	854 TEMP	c02i045	143.1	.3156E+11	284.0 .6312E+08
3	NSOL	881 TEMP	h02o045	142.8	.3156E+11	279.7 .6312E+08
4	NSOL	862 TEMP	s02o045	142.4	.3156E+11	272.8 .6312E+08
5	NSOL	897 TEMP	a02o045	142.4	.3156E+11	272.7 .6312E+08
6	NSOL	901 TEMP	t02o045	142.4	.3156E+11	272.7 .6312E+08
7	NSOL	1952 TEMP	t07i045	142.4	.3156E+11	272.1 .6312E+08
8	NSOL	1934 TEMP	a07i045	142.4	.3156E+11	272.0 .6312E+08
9	NSOL	1832 TEMP	s07i045	142.4	.3156E+11	272.0 .6312E+08
10	NSOL	1859 TEMP	h07i045	142.7	.3156E+11	276.4 .6312E+08
11	NSOL	1871 TEMP	c07i045	142.8	.3156E+11	277.8 .6312E+08
12	NSOL	1883 TEMP	h07o045	142.5	.3156E+11	271.5 .6312E+08
13	NSOL	1816 TEMP	s07o045	142.0	.3156E+11	262.8 .6312E+08
14	NSOL	1907 TEMP	a07o045	142.0	.3156E+11	262.6 .6312E+08
15	NSOL	1896 TEMP	t07o045	142.0	.3156E+11	262.4 .6312E+08
16	NSOL	3415 TEMP	t16i045	141.9	.3156E+11	261.2 .9467E+08
17	NSOL	3397 TEMP	a16i045	141.9	.3156E+11	261.1 .9467E+08
18	NSOL	3295 TEMP	s16i045	141.9	.3156E+11	260.9 .9467E+08

19 NSOL	3322 TEMP	h16i045	142.2	.3156E+11	263.7	.6312E+08
20 NSOL	3334 TEMP	c16i045	142.2	.3156E+11	262.9	.6312E+08
21 NSOL	3346 TEMP	h16o045	141.7	.3156E+11	254.2	.9467E+08
22 NSOL	3279 TEMP	s16o045	141.2	.3156E+11	244.5	.1578E+09
23 NSOL	3370 TEMP	a16o045	141.2	.3156E+11	244.4	.1578E+09
24 NSOL	3359 TEMP	t16o045	141.2	.3156E+11	244.2	.1578E+09
25 NSOL	4698 TEMP	g16i045	139.4	.3156E+11	218.0	.2525E+09
26 NSOL	5050 TEMP	m16i045	138.5	.3156E+11	204.1	.3156E+09
27 NSOL	4983 TEMP	m16o045	138.4	.3156E+11	202.8	.3156E+09
28 NSOL	5472 TEMP	i16i045	30.91	.1000E-05	167.5	.1262E+10
29 NSOL	5547 TEMP	i16o045	28.92	.1000E-05	166.7	.1262E+10
30 NSOL	6060 TEMP	o16o045	26.14	.1000E-05	165.5	.1262E+10
31 NSOL	1662 TEMP	c06i045	143.0	.3156E+11	282.3	.6312E+08
32 NSOL	2916 TEMP	c14i045	142.8	.3156E+11	277.2	.6312E+08
33 NSOL	3125 TEMP	c15i045	142.6	.3156E+11	272.2	.6312E+08
34 NSOL	2080 TEMP	c17i045	142.5	.3156E+11	268.9	.6312E+08
35 NSOL	3738 TEMP	c22i045	142.4	.3156E+11	267.0	.6312E+08
36 NSOL	3933 TEMP	c23i045	142.0	.3156E+11	259.6	.9467E+08
37 NSOL	4946 TEMP	m24o000	138.8	.3156E+11	206.3	.3156E+09
38 NSOL	5435 TEMP	i24i000	30.66	.1000E-05	167.9	.1262E+10
39 NSOL	5508 TEMP	i24o000	28.93	.1000E-05	167.3	.1262E+10
40 NSOL	6022 TEMP	o24o000	26.14	.1000E-05	166.1	.1262E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.080
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	854 TEMP c02i045	881 TEMP h02o045	862 TEMP s02o045	897 TEMP a02o045	901 TEMP t02o045	1952 TEMP t07i045
.10000E-05	253.870	248.827	240.694	240.591	240.501	239.904
.20000E-05	267.962	263.121	255.313	255.209	255.120	254.529
31.558	267.962	263.121	255.313	255.209	255.120	254.529
.31558E+07	278.476	273.811	266.288	266.187	266.099	265.523
.63116E+07	280.627	276.010	268.566	268.465	268.377	267.805
.94673E+07	281.746	277.161	269.771	269.670	269.583	269.014
.12623E+08	282.463	277.905	270.560	270.460	270.373	269.807
.15779E+08	282.983	278.449	271.144	271.044	270.957	270.394
.18935E+08	283.358	278.847	271.579	271.479	271.393	270.833
.22090E+08	283.579	279.090	271.857	271.758	271.672	271.114
.25246E+08	283.765	279.296	272.096	271.997	271.912	271.356
.28402E+08	283.883	279.434	272.266	272.167	272.082	271.529
.31558E+08	283.968	279.537	272.399	272.301	272.216	271.665
.63115E+08	283.988	279.712	272.826	272.732	272.650	272.119
.94673E+08	283.328	279.178	272.499	272.408	272.329	271.814
.12623E+09	282.414	278.373	271.872	271.783	271.706	271.205
.15779E+09	281.528	277.579	271.229	271.142	271.068	270.580
.18935E+09	280.264	276.409	270.209	270.125	270.052	269.577
.22090E+09	279.179	275.404	269.336	269.254	269.183	268.718
.25246E+09	278.157	274.458	268.512	268.432	268.362	267.908
.28402E+09	276.719	273.087	267.250	267.171	267.103	266.659
.31558E+09	275.610	272.035	266.291	266.214	266.147	265.710
.63115E+09	261.701	258.648	253.747	253.683	253.628	253.265
.94673E+09	249.865	247.215	242.970	242.917	242.871	242.563
.12623E+10	239.419	237.092	233.366	233.320	233.281	233.016
.15779E+10	229.964	227.907	224.616	224.577	224.543	224.313
.18935E+10	221.900	220.060	217.116	217.082	217.052	216.850
.22090E+10	215.007	213.346	210.690	210.660	210.634	210.453
.25246E+10	208.639	207.124	204.705	204.677	204.654	204.491
.28402E+10	203.524	202.127	199.896	199.871	199.850	199.702
.31558E+10	198.891	197.603	195.548	195.526	195.506	195.371
.63115E+10	176.341	175.557	174.308	174.295	174.284	174.205
.94673E+10	166.730	166.122	165.154	165.144	165.136	165.076

.12623E+11	161.176	160.671	159.867	159.859	159.852	159.803
.15779E+11	157.159	156.721	156.024	156.017	156.011	155.969
.18935E+11	153.392	153.006	152.392	152.386	152.381	152.345
.22090E+11	150.242	149.897	149.346	149.341	149.337	149.304
.25246E+11	147.496	147.185	146.690	146.685	146.681	146.652
.28402E+11	145.132	144.849	144.399	144.395	144.391	144.365
.31558E+11	143.108	142.849	142.435	142.431	142.428	142.404

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.100
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1934 TEMP a07i045	1832 TEMP s07i045	1859 TEMP h07i045	1871 TEMP c07i045	1883 TEMP h07o045	1816 TEMP s07o045
.10000E-05	239.813	239.732	245.173	247.044	239.831	229.731
.20000E-05	254.439	254.358	259.487	261.173	254.166	244.388
.31558E+07	254.439	254.358	259.487	261.173	254.166	244.388
.63116E+07	265.435	265.355	270.242	271.799	264.991	255.525
.94673E+07	267.717	267.637	272.454	273.975	267.222	257.845
.12623E+08	268.926	268.847	273.621	275.122	268.411	259.098
.15779E+08	269.720	269.641	274.382	275.868	269.194	259.936
.18935E+08	270.307	270.228	274.941	276.416	269.775	260.566
.22090E+08	270.746	270.667	275.352	276.816	270.207	261.043
.25246E+08	271.027	270.949	275.610	277.064	270.485	261.366
.28402E+08	271.270	271.192	275.829	277.275	270.725	261.647
.31558E+08	271.443	271.366	275.981	277.420	270.897	261.860
.63115E+08	271.580	271.503	276.098	277.529	271.034	262.034
.94673E+08	271.734	271.662	276.392	277.770	271.501	262.825
.12623E+09	271.036	271.962	275.960	277.299	271.220	262.810
.15779E+09	271.734	271.662	275.246	276.552	270.637	262.457
.18935E+09	271.128	271.058	274.530	275.810	270.035	262.051
.22090E+09	270.504	270.436	273.439	274.695	269.061	261.275
.25246E+09	269.503	269.437	272.504	273.738	268.228	260.612
.28402E+09	268.647	268.582	271.621	272.836	267.441	259.985
.31558E+09	267.838	267.775	270.311	271.510	266.219	258.905
.63115E+09	266.590	266.528	269.309	270.495	265.292	258.100
.94673E+09	265.643	265.582	256.393	257.467	253.071	246.986
.12623E+10	253.209	253.159	245.311	246.285	242.509	237.284
.15779E+10	242.517	242.475	235.459	236.347	233.056	228.497
.18935E+10	232.977	232.941	226.495	227.307	224.419	220.413
.22090E+10	224.279	224.248	218.821	219.568	217.000	213.432
.25246E+10	216.820	216.793	212.247	212.938	210.632	207.425
.28402E+10	210.427	210.403	206.139	206.782	204.691	201.779
.31558E+10	204.468	204.447	201.230	201.834	199.912	197.235
.63115E+10	199.680	199.661	196.786	197.349	195.584	193.126
.94673E+10	195.351	195.334	175.086	175.452	174.394	172.916
.12623E+11	174.194	174.184	165.766	166.058	165.244	164.103
.15779E+11	165.068	165.060	160.380	160.626	159.952	159.007
.18935E+11	159.796	159.790	156.471	156.687	156.105	155.287
.22090E+11	155.963	155.958	152.789	152.980	152.469	151.750
.25246E+11	152.339	152.335	149.703	149.876	149.419	148.776
.28402E+11	149.299	149.295	147.012	147.169	146.758	146.181
.31558E+11	146.648	146.645	144.693	144.836	144.463	143.938
	144.361	144.358	142.705	142.838	142.496	142.014

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.110
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1907 TEMP a07o045	1896 TEMP t07o045	3415 TEMP t16i045	3397 TEMP a16i045	3295 TEMP s16i045	3322 TEMP h16i045
.10000E-05	229.511	229.308	227.946	227.742	227.545	231.371
.20000E-05	244.168	243.965	242.618	242.414	242.216	245.722
31.558	244.168	243.965	242.618	242.414	242.216	245.722
.31558E+07	255.307	255.106	253.782	253.580	253.384	256.657
.63116E+07	257.628	257.428	256.110	255.909	255.713	258.917
.94673E+07	258.881	258.682	257.370	257.170	256.975	260.140
.12623E+08	259.721	259.522	258.217	258.017	257.824	260.959
.15779E+08	260.351	260.153	258.854	258.655	258.462	261.575
.18935E+08	260.830	260.633	259.339	259.141	258.949	262.038
.22090E+08	261.153	260.957	259.669	259.472	259.280	262.349
.25246E+08	261.435	261.240	259.957	259.761	259.570	262.621
.28402E+08	261.648	261.454	260.177	259.981	259.791	262.825
.31558E+08	261.824	261.630	260.358	260.163	259.974	262.993
.63115E+08	262.622	262.435	261.208	261.020	260.837	263.735
.94673E+08	262.614	262.432	261.244	261.062	260.885	263.690
.12623E+09	262.266	262.090	260.935	260.757	260.585	263.316
.15779E+09	261.865	261.693	260.567	260.394	260.227	262.894
.18935E+09	261.093	260.926	259.829	259.661	259.498	262.107
.22090E+09	260.435	260.272	259.200	259.036	258.877	261.434
.25246E+09	259.812	259.652	258.604	258.444	258.288	260.797
.28402E+09	258.736	258.580	257.554	257.397	257.245	259.716
.31558E+09	257.934	257.780	256.773	256.619	256.470	258.907
.63115E+09	246.849	246.723	245.888	245.761	245.639	247.782
.94673E+09	237.170	237.064	236.358	236.252	236.149	238.052
.12623E+10	228.399	228.308	227.701	227.610	227.522	229.234
.15779E+10	220.328	220.250	219.723	219.645	219.569	221.115
.18935E+10	213.358	213.290	212.826	212.757	212.691	214.101
.22090E+10	207.360	207.300	206.886	206.826	206.767	208.060
.25246E+10	201.720	201.666	201.294	201.240	201.188	202.385
.28402E+10	197.182	197.133	196.794	196.745	196.698	197.812
.31558E+10	193.077	193.033	192.723	192.678	192.635	193.671
.63115E+10	172.888	172.863	172.683	172.657	172.633	173.292
.94673E+10	164.082	164.063	163.927	163.907	163.889	164.411
.12623E+11	158.990	158.974	158.862	158.847	158.832	159.270
.15779E+11	155.272	155.259	155.163	155.149	155.136	155.520
.18935E+11	151.738	151.726	151.642	151.630	151.619	151.960
.22090E+11	148.765	148.755	148.680	148.670	148.660	148.966
.25246E+11	146.171	146.161	146.095	146.085	146.076	146.354
.28402E+11	143.929	143.920	143.860	143.852	143.843	144.097
.31558E+11	142.006	141.998	141.943	141.935	141.928	142.161

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.120
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3334 TEMP c16i045	3346 TEMP h16o045	3279 TEMP s16o045	3370 TEMP a16o045	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	230.871	220.725	208.768	208.570	208.394	169.820
.20000E-05	245.035	235.111	223.543	223.348	223.174	187.143
31.558	245.035	235.111	223.543	223.348	223.174	187.143
.31558E+07	255.863	246.173	234.953	234.762	234.592	200.710
.63116E+07	258.092	248.476	237.356	237.165	236.996	203.601
.94673E+07	259.304	249.745	238.699	238.510	238.342	205.287
.12623E+08	260.118	250.612	239.630	239.441	239.274	206.502
.15779E+08	260.731	251.272	240.348	240.160	239.994	207.462

.18935E+08	261.190	251.776	240.909	240.722	240.556	208.242
.22090E+08	261.501	252.130	241.317	241.131	240.966	208.857
.25246E+08	261.772	252.443	241.679	241.494	241.330	209.410
.28402E+08	261.977	252.688	241.974	241.789	241.626	209.885
.31558E+08	262.145	252.896	242.228	242.044	241.881	210.310
.63115E+08	262.904	253.986	243.715	243.538	243.381	213.183
.94673E+08	262.882	254.240	244.299	244.128	243.976	214.863
.12623E+09	262.532	254.129	244.471	244.305	244.157	215.949
.15779E+09	262.131	253.935	244.518	244.356	244.213	216.770
.18935E+09	261.369	253.380	244.206	244.049	243.909	217.209
.22090E+09	260.718	252.910	243.947	243.793	243.657	217.601
.25246E+09	260.102	252.461	243.695	243.544	243.411	217.954
.28402E+09	259.043	251.556	242.966	242.819	242.689	217.742
.31558E+09	258.253	250.894	242.455	242.310	242.182	217.672
.63115E+09	247.311	241.146	234.071	233.951	233.845	213.150
.94673E+09	237.712	232.459	226.416	226.315	226.225	208.418
.12623E+10	228.988	224.435	219.182	219.095	219.018	203.417
.15779E+10	220.943	216.967	212.368	212.293	212.226	198.462
.18935E+10	213.981	210.460	206.377	206.311	206.253	193.948
.22090E+10	207.980	204.831	201.170	201.111	201.059	189.964
.25246E+10	202.334	199.487	196.171	196.119	196.072	185.960
.28402E+10	197.780	195.173	192.134	192.086	192.044	182.722
.31558E+10	193.655	191.267	188.479	188.435	188.396	179.803
.63115E+10	173.321	171.907	170.243	170.218	170.195	164.941
.94673E+10	164.447	163.364	162.084	162.065	162.048	157.964
.12623E+11	159.307	158.413	157.354	157.339	157.325	153.926
.15779E+11	155.556	154.784	153.870	153.856	153.844	150.894
.18935E+11	151.995	151.319	150.516	150.504	150.494	147.893
.22090E+11	149.000	148.397	147.680	147.669	147.660	145.326
.25246E+11	146.386	145.845	145.200	145.191	145.183	143.079
.28402E+11	144.127	143.636	143.051	143.042	143.035	141.116
.31558E+11	142.190	141.740	141.203	141.195	141.188	139.424

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.140
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5050 TEMP m16i045	4983 TEMP m16o045	5472 TEMP i16i045	5547 TEMP i16o045	6060 TEMP o16o045	1662 TEMP c06i045
.10000E-05	147.636	145.971	30.9085	28.9248	26.1377	252.034
.20000E-05	166.536	164.862	73.7055	71.7200	68.9901	266.131
31.558	166.536	164.862	73.7056	71.7200	68.9901	266.131
.31558E+07	181.417	179.757	102.523	100.605	97.8800	276.652
.63116E+07	184.609	182.955	108.291	106.388	103.668	278.809
.94673E+07	186.508	184.860	111.899	110.010	107.301	279.934
.12623E+08	187.899	186.259	114.614	112.738	110.040	280.658
.15779E+08	189.010	187.377	116.810	114.946	112.259	281.186
.18935E+08	189.923	188.297	118.655	116.801	114.124	281.567
.22090E+08	190.665	189.046	120.264	118.421	115.755	281.795
.25246E+08	191.335	189.722	121.699	119.865	117.210	281.988
.28402E+08	191.919	190.314	122.997	121.174	118.529	282.113
.31558E+08	192.449	190.850	124.191	122.378	119.744	282.205
.63115E+08	196.160	194.619	132.872	131.143	128.599	282.284
.94673E+08	198.498	197.006	138.836	137.176	134.711	281.674
.12623E+09	200.131	198.682	143.305	141.703	139.308	280.806
.15779E+09	201.410	199.999	146.883	145.329	142.995	279.958
.18935E+09	202.292	200.920	149.881	148.375	146.103	278.735
.22090E+09	203.067	201.728	152.447	150.982	148.764	277.685
.25246E+09	203.774	202.466	154.781	153.355	151.185	276.695
.28402E+09	203.863	202.584	156.169	154.777	152.654	275.288
.31558E+09	204.052	202.797	157.470	156.106	154.023	274.205
.63115E+09	201.744	200.713	163.898	162.786	161.069	260.539

.94673E+09	198.666	197.802	166.928	165.999	164.559	248.882
.12623E+10	194.913	194.176	167.538	166.746	165.515	238.577
.15779E+10	190.987	190.353	167.089	166.407	165.348	229.235
.18935E+10	187.285	186.731	166.067	165.471	164.544	221.261
.22090E+10	183.970	183.480	164.930	164.402	163.582	214.440
.25246E+10	180.508	180.069	163.189	162.716	161.983	208.130
.28402E+10	177.703	177.305	161.759	161.329	160.663	203.061
.31558E+10	175.181	174.820	160.503	160.111	159.505	198.469
.63115E+10	162.136	161.932	153.176	152.951	152.606	176.098
.94673E+10	155.789	155.635	148.791	148.620	148.360	166.546
.12623E+11	152.119	151.994	146.278	146.139	145.926	161.026
.15779E+11	149.326	149.219	144.241	144.121	143.939	157.030
.18935E+11	146.511	146.418	142.009	141.904	141.746	153.279
.22090E+11	144.087	144.005	140.031	139.938	139.797	150.142
.25246E+11	141.963	141.889	138.294	138.210	138.085	147.406
.28402E+11	140.098	140.032	136.741	136.665	136.552	145.051
.31558E+11	138.488	138.428	135.392	135.323	135.219	143.034

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:43 APR 02, 1995 CP= 83278.160
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2916 TEMP	3125 TEMP	2080 TEMP	3738 TEMP	3933 TEMP
	c14i045	c15i045	c17i045	c22i045	c23i045
.10000E-05	246.566	241.037	237.391	235.422	226.893
.20000E-05	260.682	255.192	251.543	249.597	241.226
.31.558	260.682	255.192	251.543	249.598	241.226
.31558E+07	271.229	265.862	262.317	260.250	252.131
.63116E+07	273.399	268.054	264.524	262.458	254.394
.94673E+07	274.546	269.224	265.709	263.648	255.633
.12623E+08	275.292	269.995	266.496	264.442	256.471
.15779E+08	275.841	270.567	267.083	265.035	257.104
.18935E+08	276.242	270.989	267.518	265.477	257.582
.22090E+08	276.491	271.260	267.803	265.768	257.911
.25246E+08	276.704	271.494	268.050	266.022	258.199
.28402E+08	276.849	271.660	268.231	266.209	258.420
.31558E+08	276.960	271.792	268.375	266.361	258.604
.63115E+08	277.214	272.224	268.926	266.968	259.492
.94673E+08	276.756	271.920	268.723	266.816	259.574
.12623E+09	276.023	271.321	268.213	266.352	259.314
.15779E+09	275.291	270.705	267.675	265.854	258.990
.18935E+09	274.188	269.722	266.771	264.990	258.304
.22090E+09	273.242	268.879	265.997	264.253	257.720
.25246E+09	272.350	268.083	265.265	263.554	257.165
.28402E+09	271.035	266.857	264.099	262.421	256.162
.31558E+09	270.028	265.926	263.218	261.568	255.418
.63115E+09	257.081	253.678	251.436	250.043	244.902
.94673E+09	245.961	243.082	241.193	240.001	235.635
.12623E+10	236.071	233.598	231.978	230.944	227.170
.15779E+10	227.070	224.928	223.530	222.625	219.340
.18935E+10	219.361	217.479	216.253	215.451	212.549
.22090E+10	212.754	211.083	209.997	209.278	206.690
.25246E+10	206.619	205.118	204.145	203.494	201.159
.28402E+10	201.685	200.317	199.431	198.834	196.698
.31558E+10	197.213	195.966	195.159	194.611	192.657
.63115E+10	175.374	174.653	174.190	173.864	172.717
.94673E+10	165.998	165.453	165.104	164.853	163.979
.12623E+11	160.577	160.130	159.845	159.638	158.919
.15779E+11	156.645	156.262	156.017	155.839	155.220
.18935E+11	152.944	152.610	152.397	152.241	151.699
.22090E+11	149.844	149.547	149.358	149.219	148.736
.25246E+11	147.140	146.874	146.705	146.580	146.148
.28402E+11	144.810	144.570	144.417	144.303	143.911

.31558E+11 142.814 142.594 142.454 142.350 141.991

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 83278.370 TIME= 18:06:43
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 928 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 453 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 930 ITEM= TEMP COMP= NAME= a01o090

VARIABLE 6 IS AT NODE 926 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 7 IS AT NODE 484 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 8 IS AT NODE 492 ITEM= TEMP COMP= NAME= a05i090

VARIABLE 9 IS AT NODE 491 ITEM= TEMP COMP= NAME= s05i090

VARIABLE 10 IS AT NODE 490 ITEM= TEMP COMP= NAME= h05i090

VARIABLE 11 IS AT NODE 488 ITEM= TEMP COMP= NAME= c05i090

VARIABLE 12 IS AT NODE 1749 ITEM= TEMP COMP= NAME= h05o090

VARIABLE 13 IS AT NODE 485 ITEM= TEMP COMP= NAME= s05o090

VARIABLE 14 IS AT NODE 493 ITEM= TEMP COMP= NAME= a05o090

VARIABLE 15 IS AT NODE 483 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 16 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 17 IS AT NODE 2324 ITEM= TEMP COMP= NAME= a13i090

VARIABLE 18 IS AT NODE 2322 ITEM= TEMP COMP= NAME= s13i090

VARIABLE 19 IS AT NODE 2321 ITEM= TEMP COMP= NAME= h13i090

VARIABLE 20 IS AT NODE 2319 ITEM= TEMP COMP= NAME= c13i090

VARIABLE 21 IS AT NODE 3003 ITEM= TEMP COMP= NAME= h13o090

VARIABLE 22 IS AT NODE 2316 ITEM= TEMP COMP= NAME= s13o090

VARIABLE 23 IS AT NODE 2333 ITEM= TEMP COMP= NAME= a13o090

VARIABLE 26 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 27 IS AT NODE 574 ITEM= TEMP COMP= NAME= t21i090

VARIABLE 28 IS AT NODE 582 ITEM= TEMP COMP= NAME= a21i090

VARIABLE 29 IS AT NODE 581 ITEM= TEMP COMP= NAME= s21i090

VARIABLE 30 IS AT NODE 3829 ITEM= TEMP COMP= NAME= h21i090

VARIABLE 31 IS AT NODE 578 ITEM= TEMP COMP= NAME= c21i090

VARIABLE 32 IS AT NODE 576 ITEM= TEMP COMP= NAME= h21o090

VARIABLE 33 IS AT NODE 573 ITEM= TEMP COMP= NAME= s21o090

VARIABLE 34 IS AT NODE 573 ITEM= TEMP COMP= NAME= t21o090
 VARIABLE 35 IS AT NODE 4555 ITEM= TEMP COMP= NAME= g04i090
 VARIABLE 36 IS AT NODE 4516 ITEM= TEMP COMP= NAME= g04o090
 VARIABLE 37 IS AT NODE 4625 ITEM= TEMP COMP= NAME= m04i090
 VARIABLE 38 IS AT NODE 4873 ITEM= TEMP COMP= NAME= m04o090
 VARIABLE 39 IS AT NODE 5432 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 40 IS AT NODE 5431 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 41 IS AT NODE 6019 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	924 TEMP	c01i090	142.5	.3156E+11	275.3	.6312E+08
3 NSOL	928 TEMP	h01o090	142.5	.3156E+11	275.1	.6312E+08
4 NSOL	453 TEMP	s01o090	142.5	.3156E+11	274.9	.6312E+08
5 NSOL	930 TEMP	a01o090	142.5	.3156E+11	274.8	.6312E+08
6 NSOL	926 TEMP	t01o090	142.5	.3156E+11	274.7	.6312E+08
7 NSOL	484 TEMP	t05i090	142.5	.3156E+11	274.6	.6312E+08
8 NSOL	492 TEMP	a05i090	142.5	.3156E+11	274.6	.6312E+08
9 NSOL	491 TEMP	s05i090	142.5	.3156E+11	274.5	.6312E+08
10 NSOL	490 TEMP	h05i090	142.5	.3156E+11	274.2	.6312E+08
11 NSOL	488 TEMP	c05i090	142.5	.3156E+11	273.6	.6312E+08
12 NSOL	1749 TEMP	h05o090	142.4	.3156E+11	272.5	.6312E+08
13 NSOL	485 TEMP	s05o090	142.4	.3156E+11	271.9	.6312E+08
14 NSOL	493 TEMP	a05o090	142.4	.3156E+11	271.4	.6312E+08
15 NSOL	483 TEMP	t05i090	142.4	.3156E+11	271.4	.6312E+08
16 NSOL	2315 TEMP	t13i090	142.4	.3156E+11	271.0	.6312E+08
17 NSOL	2324 TEMP	a13i090	142.4	.3156E+11	270.9	.6312E+08
18 NSOL	2322 TEMP	s13i090	142.3	.3156E+11	270.5	.6312E+08
19 NSOL	2321 TEMP	h13i090	142.3	.3156E+11	269.9	.6312E+08
20 NSOL	2319 TEMP	c13i090	142.3	.3156E+11	268.5	.6312E+08
21 NSOL	3003 TEMP	h13o090	142.2	.3156E+11	266.6	.6312E+08
22 NSOL	2316 TEMP	s13o090	142.1	.3156E+11	265.6	.6312E+08
23 NSOL	2333 TEMP	a13o090	142.1	.3156E+11	264.8	.6312E+08
24 NSOL	3359 TEMP	t16o045	141.2	.3156E+11	244.2	.1578E+09
25 NSOL	4698 TEMP	g16i045	139.4	.3156E+11	218.0	.2525E+09
26 NSOL	2315 TEMP	t13i090	142.4	.3156E+11	271.0	.6312E+08
27 NSOL	574 TEMP	t21i090	142.1	.3156E+11	264.1	.6312E+08
28 NSOL	582 TEMP	a21i090	142.1	.3156E+11	264.1	.6312E+08
29 NSOL	581 TEMP	s21i090	142.0	.3156E+11	263.5	.6312E+08
30 NSOL	3829 TEMP	h21i090	142.0	.3156E+11	262.5	.6312E+08
31 NSOL	578 TEMP	c21i090	141.9	.3156E+11	260.7	.9467E+08
32 NSOL	576 TEMP	h21o090	141.8	.3156E+11	258.6	.9467E+08
33 NSOL	573 TEMP	s21o090	141.8	.3156E+11	256.6	.9467E+08
34 NSOL	573 TEMP	t21o090	141.8	.3156E+11	256.6	.9467E+08
35 NSOL	4555 TEMP	g04i090	140.1	.3156E+11	228.9	.2525E+09
36 NSOL	4516 TEMP	g04o090	140.0	.3156E+11	227.7	.2525E+09
37 NSOL	4625 TEMP	m04i090	138.3	.3156E+11	201.6	.3156E+09
38 NSOL	4873 TEMP	m04o090	138.1	.3156E+11	199.2	.3156E+09
39 NSOL	5432 TEMP	i04i090	30.53	.1000E-05	166.8	.1262E+10
40 NSOL	5431 TEMP	i04o090	28.69	.1000E-05	166.1	.1262E+10
41 NSOL	6019 TEMP	o04o090	26.14	.1000E-05	164.9	.1262E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.740
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP c01i090	928 TEMP h01o090	453 TEMP s01o090	930 TEMP a01o090	926 TEMP t01o090	484 TEMP t05i090
.10000E-05	243.502	243.295	243.061	242.884	242.871	242.711
.20000E-05	258.106	257.900	257.666	257.490	257.477	257.318
31.558	258.106	257.900	257.666	257.490	257.477	257.318
.31558E+07	268.990	268.786	268.553	268.383	268.369	268.207
.63116E+07	271.254	271.051	270.819	270.650	270.636	270.475
.94673E+07	272.446	272.243	272.012	271.844	271.830	271.669
.12623E+08	273.222	273.020	272.790	272.623	272.609	272.449
.15779E+08	273.793	273.592	273.363	273.196	273.183	273.023
.18935E+08	274.217	274.017	273.788	273.623	273.609	273.450
.22090E+08	274.483	274.284	274.056	273.891	273.878	273.720
.25246E+08	274.711	274.513	274.286	274.121	274.108	273.950
.28402E+08	274.869	274.672	274.446	274.283	274.269	274.112
.31558E+08	274.992	274.795	274.570	274.407	274.394	274.238
.63115E+08	275.325	275.135	274.918	274.761	274.748	274.597
.94673E+08	274.918	274.734	274.524	274.372	274.359	274.212
.12623E+09	274.220	274.042	273.837	273.689	273.677	273.534
.15779E+09	273.518	273.344	273.144	273.000	272.988	272.848
.18935E+09	272.436	272.267	272.072	271.932	271.921	271.784
.22090E+09	271.510	271.344	271.154	271.018	271.007	270.873
.25246E+09	270.636	270.474	270.288	270.155	270.144	270.013
.28402E+09	269.328	269.170	268.988	268.857	268.847	268.719
.31558E+09	268.331	268.175	267.997	267.869	267.858	267.732
.63115E+09	255.429	255.300	255.153	255.047	255.038	254.933
.94673E+09	244.384	244.276	244.151	244.063	244.055	243.966
.12623E+10	234.576	234.484	234.377	234.301	234.295	234.218
.15779E+10	225.660	225.580	225.488	225.423	225.417	225.351
.18935E+10	218.031	217.961	217.880	217.823	217.818	217.759
.22090E+10	211.500	211.438	211.366	211.316	211.312	211.259
.25246E+10	205.430	205.374	205.310	205.265	205.261	205.214
.28402E+10	200.555	200.505	200.446	200.405	200.402	200.358
.31558E+10	196.148	196.102	196.049	196.011	196.008	195.969
.63115E+10	174.652	174.625	174.595	174.573	174.571	174.548
.94673E+10	165.413	165.393	165.370	165.354	165.353	165.335
.12623E+11	160.079	160.063	160.043	160.030	160.029	160.015
.15779E+11	156.205	156.191	156.175	156.164	156.163	156.150
.18935E+11	152.551	152.538	152.524	152.514	152.514	152.503
.22090E+11	149.487	149.476	149.463	149.455	149.454	149.444
.25246E+11	146.816	146.806	146.795	146.787	146.786	146.778
.28402E+11	144.513	144.504	144.494	144.487	144.486	144.478
.31558E+11	142.539	142.531	142.521	142.515	142.515	142.507

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.750
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	492 TEMP a05i090	491 TEMP s05i090	490 TEMP h05i090	488 TEMP c05i090	1749 TEMP h05o090	485 TEMP s05o090
.10000E-05	242.697	242.561	242.332	241.620	240.494	239.796
.20000E-05	257.305	257.168	256.940	256.228	255.104	254.408
31.558	257.305	257.168	256.940	256.228	255.104	254.408
.31558E+07	268.193	268.059	267.832	267.125	266.009	265.316
.63116E+07	270.461	270.327	270.101	269.395	268.283	267.592
.94673E+07	271.655	271.522	271.297	270.594	269.486	268.798
.12623E+08	272.435	272.302	272.078	271.378	270.275	269.591
.15779E+08	273.009	272.877	272.654	271.957	270.858	270.177
.18935E+08	273.436	273.305	273.082	272.388	271.294	270.615

.22090E+08	273.706	273.575	273.353	272.662	271.572	270.896
.25246E+08	273.937	273.806	273.585	272.896	271.811	271.137
.28402E+08	274.098	273.968	273.749	273.062	271.981	271.310
.31558E+08	274.224	274.094	273.875	273.192	272.115	271.447
.63115E+08	274.584	274.458	274.247	273.587	272.547	271.902
.94673E+08	274.199	274.078	273.873	273.234	272.226	271.600
.12623E+09	273.522	273.404	273.205	272.583	271.604	270.996
.15779E+09	272.836	272.722	272.528	271.921	270.967	270.374
.18935E+09	271.773	271.661	271.472	270.882	269.952	269.375
.22090E+09	270.862	270.753	270.568	269.992	269.084	268.520
.25246E+09	270.002	269.895	269.715	269.152	268.264	267.713
.28402E+09	268.707	268.603	268.427	267.876	267.007	266.468
.31558E+09	267.721	267.619	267.446	266.905	266.053	265.523
.63115E+09	254.925	254.840	254.698	254.252	253.549	253.111
.94673E+09	243.959	243.888	243.769	243.394	242.803	242.435
.12623E+10	234.212	234.152	234.050	233.729	233.223	232.908
.15779E+10	225.345	225.293	225.205	224.929	224.493	224.221
.18935E+10	217.754	217.709	217.632	217.390	217.008	216.770
.22090E+10	211.255	211.215	211.147	210.933	210.594	210.383
.25246E+10	205.210	205.174	205.113	204.922	204.618	204.429
.28402E+10	200.355	200.322	200.267	200.093	199.817	199.645
.31558E+10	195.965	195.936	195.886	195.727	195.476	195.320
.63115E+10	174.546	174.530	174.501	174.410	174.266	174.176
.94673E+10	165.334	165.321	165.299	165.231	165.122	165.054
.12623E+11	160.014	160.003	159.986	159.930	159.841	159.785
.15779E+11	156.149	156.141	156.125	156.077	156.001	155.953
.18935E+11	152.502	152.494	152.481	152.439	152.373	152.331
.22090E+11	149.443	149.437	149.425	149.388	149.329	149.292
.25246E+11	146.777	146.771	146.760	146.727	146.675	146.642
.28402E+11	144.477	144.472	144.463	144.432	144.385	144.355
.31558E+11	142.507	142.502	142.493	142.466	142.422	142.395

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.770
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST25 VARIABLE LISTING *****

TIME	493 TEMP a05i090	483 TEMP t05i090	2315 TEMP t13i090	2324 TEMP a13i090	2322 TEMP s13i090	2321 TEMP h13i090
.10000E-05	239.304	239.265	238.798	238.759	238.324	237.660
.20000E-05	253.917	253.878	253.415	253.375	252.941	252.276
31.558	253.917	253.878	253.415	253.375	252.941	252.276
.31558E+07	264.826	264.788	264.331	264.291	263.860	263.200
.63116E+07	267.104	267.066	266.611	266.571	266.142	265.483
.94673E+07	268.312	268.274	267.822	267.782	267.354	266.698
.12623E+08	269.107	269.069	268.618	268.579	268.153	267.499
.15779E+08	269.695	269.657	269.208	269.169	268.745	268.094
.18935E+08	270.134	270.097	269.650	269.611	269.189	268.540
.22090E+08	270.417	270.380	269.935	269.896	269.475	268.830
.25246E+08	270.661	270.624	270.181	270.142	269.723	269.080
.28402E+08	270.836	270.799	270.358	270.319	269.901	269.261
.31558E+08	270.974	270.937	270.498	270.460	270.043	269.405
.63115E+08	271.445	271.410	270.986	270.949	270.547	269.931
.94673E+08	271.158	271.124	270.712	270.676	270.287	269.690
.12623E+09	270.566	270.532	270.133	270.098	269.719	269.139
.15779E+09	269.954	269.922	269.532	269.498	269.129	268.563
.18935E+09	268.966	268.935	268.555	268.522	268.162	267.612
.22090E+09	268.121	268.090	267.719	267.687	267.336	266.798
.25246E+09	267.323	267.293	266.930	266.898	266.555	266.029
.28402E+09	266.086	266.057	265.701	265.670	265.335	264.820
.31558E+09	265.149	265.120	264.770	264.740	264.411	263.906
.63115E+09	252.802	252.778	252.488	252.463	252.192	251.776
.94673E+09	242.175	242.155	241.910	241.889	241.661	241.312

.12623E+10	232.686	232.669	232.458	232.440	232.246	231.947
.15779E+10	224.029	224.014	223.831	223.816	223.649	223.391
.18935E+10	216.602	216.589	216.428	216.414	216.268	216.043
.22090E+10	210.234	210.223	210.079	210.067	209.938	209.738
.25246E+10	204.296	204.286	204.157	204.146	204.030	203.852
.28402E+10	199.524	199.515	199.397	199.387	199.282	199.120
.31558E+10	195.209	195.201	195.093	195.084	194.988	194.841
.63115E+10	174.112	174.108	174.045	174.040	173.985	173.901
.94673E+10	165.006	165.002	164.955	164.951	164.910	164.846
.12623E+11	159.746	159.743	159.704	159.701	159.667	159.615
.15779E+11	155.920	155.917	155.884	155.881	155.852	155.808
.18935E+11	152.302	152.300	152.270	152.268	152.243	152.204
.22090E+11	149.266	149.264	149.238	149.236	149.214	149.179
.25246E+11	146.618	146.617	146.593	146.592	146.572	146.541
.28402E+11	144.334	144.332	144.311	144.310	144.292	144.264
.31558E+11	142.376	142.374	142.355	142.353	142.337	142.312

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.780
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2319 TEMP c13i090	3003 TEMP h13o090	2316 TEMP s13o090	2333 TEMP a13o090	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	236.083	234.093	232.959	232.177	208.394	169.820
.20000E-05	250.699	248.711	247.579	246.797	223.174	187.143
31.558	250.699	248.711	247.579	246.797	223.174	187.143
.31558E+07	261.631	259.654	258.528	257.750	234.592	200.710
.63116E+07	263.918	261.948	260.826	260.049	236.996	203.601
.94673E+07	265.140	263.177	262.059	261.286	238.342	205.287
.12623E+08	265.948	263.994	262.880	262.110	239.274	206.502
.15779E+08	266.549	264.603	263.494	262.728	239.994	207.462
.18935E+08	267.001	265.063	263.958	263.194	240.556	208.242
.22090E+08	267.297	265.366	264.266	263.505	240.966	208.857
.25246E+08	267.553	265.630	264.534	263.776	241.330	209.410
.28402E+08	267.740	265.825	264.733	263.978	241.626	209.885
.31558E+08	267.890	265.982	264.895	264.143	241.881	210.310
.63115E+08	268.467	266.625	265.575	264.849	243.381	213.183
.94673E+08	268.272	266.487	265.469	264.765	243.976	214.863
.12623E+09	267.761	266.026	265.037	264.353	244.157	215.949
.15779E+09	267.219	265.527	264.563	263.896	244.213	216.770
.18935E+09	266.303	264.656	263.717	263.068	243.909	217.209
.22090E+09	265.520	263.912	262.995	262.361	243.657	217.601
.25246E+09	264.780	263.208	262.312	261.692	243.411	217.954
.28402E+09	263.598	262.060	261.183	260.577	242.689	217.742
.31558E+09	262.707	261.197	260.336	259.740	242.182	217.672
.63115E+09	250.788	249.543	248.833	248.342	233.845	213.150
.94673E+09	240.482	239.436	238.840	238.427	226.225	208.418
.12623E+10	231.238	230.343	229.833	229.480	219.018	203.417
.15779E+10	222.780	222.009	221.568	221.264	212.226	198.462
.18935E+10	215.507	214.832	214.446	214.179	206.253	193.948
.22090E+10	209.264	208.666	208.324	208.088	201.059	189.964
.25246E+10	203.427	202.892	202.586	202.374	196.072	185.960
.28402E+10	198.735	198.248	197.970	197.777	192.044	182.722
.31558E+10	194.490	194.047	193.794	193.619	188.396	179.803
.63115E+10	173.700	173.446	173.301	173.200	170.195	164.941
.94673E+10	164.695	164.503	164.393	164.318	162.048	157.964
.12623E+11	159.491	159.334	159.244	159.182	157.325	153.926
.15779E+11	155.701	155.567	155.490	155.437	153.844	150.894
.18935E+11	152.112	151.995	151.928	151.882	150.494	147.893
.22090E+11	149.097	148.994	148.934	148.893	147.660	145.326
.25246E+11	146.468	146.375	146.322	146.285	145.183	143.079
.28402E+11	144.197	144.114	144.065	144.032	143.035	141.116

.31558E+11 142.251 142.174 142.130 142.100 141.188 139.424

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.790
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2315 TEMP t13i090	574 TEMP t21i090	582 TEMP a21i090	581 TEMP s21i090	3829 TEMP h21i090	578 TEMP c21i090
.10000E-05	238.798	231.393	231.334	230.715	229.681	227.727
.20000E-05	253.415	246.017	245.957	245.335	244.295	242.332
31.558	253.415	246.017	245.957	245.335	244.295	242.332
.31558E+07	264.331	256.976	256.916	256.296	255.259	253.298
.63116E+07	266.611	259.279	259.219	258.600	257.565	255.608
.94673E+07	267.822	260.519	260.459	259.842	258.811	256.861
.12623E+08	268.618	261.347	261.287	260.673	259.645	257.704
.15779E+08	269.208	261.967	261.908	261.296	260.272	258.338
.18935E+08	269.650	262.437	262.378	261.768	260.748	258.821
.22090E+08	269.935	262.751	262.693	262.085	261.069	259.150
.25246E+08	270.181	263.025	262.967	262.362	261.350	259.437
.28402E+08	270.358	263.230	263.172	262.569	261.561	259.656
.31558E+08	270.498	263.398	263.340	262.740	261.735	259.838
.63115E+08	270.986	264.130	264.074	263.494	262.523	260.690
.94673E+08	270.712	264.068	264.014	263.451	262.511	260.733
.12623E+09	270.133	263.675	263.622	263.075	262.161	260.434
.15779E+09	269.532	263.235	263.184	262.651	261.759	260.075
.18935E+09	268.555	262.424	262.374	261.855	260.987	259.348
.22090E+09	267.719	261.732	261.683	261.177	260.329	258.728
.25246E+09	266.930	261.077	261.029	260.534	259.705	258.140
.28402E+09	265.701	259.974	259.927	259.443	258.633	257.102
.31558E+09	264.770	259.149	259.103	258.628	257.833	256.331
.63115E+09	252.488	247.853	247.815	247.425	246.772	245.537
.94673E+09	241.910	238.015	237.983	237.656	237.109	236.074
.12623E+10	232.458	229.126	229.099	228.820	228.353	227.470
.15779E+10	223.831	220.957	220.934	220.694	220.293	219.533
.18935E+10	216.428	213.910	213.890	213.680	213.330	212.666
.22090E+10	210.079	207.849	207.831	207.646	207.336	206.749
.25246E+10	204.157	202.159	202.143	201.978	201.701	201.177
.28402E+10	199.397	197.582	197.567	197.417	197.166	196.690
.31558E+10	195.093	193.440	193.427	193.291	193.063	192.630
.63115E+10	174.045	173.097	173.089	173.012	172.882	172.635
.94673E+10	164.955	164.239	164.234	164.176	164.078	163.892
.12623E+11	159.704	159.118	159.114	159.066	158.986	158.835
.15779E+11	155.884	155.382	155.378	155.337	155.269	155.139
.18935E+11	152.270	151.834	151.830	151.795	151.736	151.623
.22090E+11	149.238	148.850	148.847	148.816	148.763	148.663
.25246E+11	146.593	146.247	146.244	146.216	146.169	146.080
.28402E+11	144.311	143.998	143.995	143.970	143.928	143.847
.31558E+11	142.355	142.068	142.066	142.043	142.004	141.930

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.810
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	576 TEMP h21o090	573 TEMP s21o090	573 TEMP t21o090	4555 TEMP g04i090	4516 TEMP g04o090	4625 TEMP m04i090
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.10000E-05	225.356	223.161	223.161	186.619	185.027	143.973
.20000E-05	239.955	237.756	237.756	203.010	201.470	163.308
31.558	239.955	237.756	237.756	203.010	201.469	163.308
.31558E+07	250.927	248.737	248.737	215.430	213.933	178.038
.63116E+07	253.243	251.059	251.059	218.122	216.637	181.281
.94673E+07	254.504	252.329	252.329	219.664	218.189	183.218
.12623E+08	255.356	253.189	253.189	220.757	219.290	184.643
.15779E+08	256.000	253.841	253.841	221.612	220.154	185.779
.18935E+08	256.492	254.341	254.341	222.298	220.847	186.716
.22090E+08	256.829	254.688	254.688	222.821	221.378	187.480
.25246E+08	257.126	254.992	254.992	223.289	221.853	188.171
.28402E+08	257.354	255.229	255.229	223.685	222.255	188.774
.31558E+08	257.544	255.427	255.427	224.033	222.610	189.323
.63115E+08	258.474	256.430	256.430	226.278	224.911	193.172
.94673E+08	258.586	256.604	256.604	227.459	226.137	195.621
.12623E+09	258.346	256.421	256.421	228.127	226.846	197.346
.15779E+09	258.040	256.162	256.162	228.594	227.346	198.702
.18935E+09	257.366	255.538	255.538	228.686	227.473	199.656
.22090E+09	256.794	255.009	255.009	228.778	227.594	200.493
.25246E+09	256.249	254.505	254.505	228.853	227.696	201.257
.28402E+09	255.252	253.546	253.546	228.402	227.270	201.399
.31558E+09	254.515	252.841	252.841	228.130	227.020	201.632
.63115E+09	244.043	242.664	242.664	221.822	220.901	199.687
.94673E+09	234.821	233.664	233.664	215.766	214.986	196.883
.12623E+10	226.400	225.411	225.411	209.772	209.100	193.343
.15779E+10	218.612	217.760	217.760	204.001	203.418	189.590
.18935E+10	211.860	211.115	211.115	198.849	198.334	186.025
.22090E+10	206.037	205.377	205.377	194.344	193.885	182.824
.25246E+10	200.540	199.949	199.949	189.922	189.508	179.457
.28402E+10	196.111	195.575	195.575	186.351	185.973	176.727
.31558E+10	192.104	191.616	191.616	183.128	182.783	174.275
.63115E+10	172.335	172.056	172.056	166.917	166.715	161.567
.94673E+10	163.666	163.456	163.456	159.480	159.326	155.339
.12623E+11	158.650	158.478	158.478	155.179	155.052	151.741
.15779E+11	154.981	154.834	154.834	151.976	151.867	148.996
.18935E+11	151.485	151.357	151.357	148.843	148.747	146.220
.22090E+11	148.541	148.427	148.427	146.176	146.091	143.824
.25246E+11	145.971	145.869	145.869	143.843	143.767	141.725
.28402E+11	143.748	143.656	143.656	141.811	141.742	139.880
.31558E+11	141.840	141.756	141.756	140.062	139.998	138.287

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:50 APR 02, 1995 CP= 83285.820
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4873 TEMP	5432 TEMP	5431 TEMP	6019 TEMP
	m04o090	i04i090	i04o090	o04o090
.10000E-05	140.377	30.5253	28.6865	26.1377
.20000E-05	159.876	73.3182	71.4793	68.9882
31.558	159.876	73.3182	71.4793	68.9882
.31558E+07	174.731	100.923	99.1035	96.5982
.63116E+07	178.008	106.681	104.876	102.374
.94673E+07	179.974	110.296	108.504	106.013
.12623E+08	181.422	113.021	111.240	108.759
.15779E+08	182.580	115.223	113.454	110.983
.18935E+08	183.537	117.077	115.317	112.855
.22090E+08	184.320	118.692	116.943	114.491
.25246E+08	185.028	120.135	118.395	115.952
.28402E+08	185.648	121.441	119.710	117.277
.31558E+08	186.213	122.643	120.921	118.498
.63115E+08	190.196	131.376	129.734	127.393
.94673E+08	192.755	137.393	135.816	133.549

.12623E+09	194.571	141.908	140.385	138.183
.15779E+09	196.006	145.525	144.049	141.902
.18935E+09	197.038	148.557	147.126	145.037
.22090E+09	197.942	151.153	149.762	147.721
.25246E+09	198.767	153.512	152.157	150.162
.28402E+09	198.964	154.935	153.612	151.661
.31558E+09	199.244	156.265	154.969	153.054
.63115E+09	197.710	162.900	161.843	160.265
.94673E+09	195.212	166.082	165.200	163.876
.12623E+10	191.902	166.813	166.061	164.930
.15779E+10	188.336	166.455	165.807	164.833
.18935E+10	184.918	165.502	164.935	164.083
.22090E+10	181.836	164.419	163.916	163.162
.25246E+10	178.565	162.727	162.276	161.602
.28402E+10	175.911	161.331	160.922	160.310
.31558E+10	173.529	160.105	159.732	159.175
.63115E+10	161.127	152.932	152.717	152.398
.94673E+10	155.003	148.597	148.434	148.194
.12623E+11	151.463	146.115	145.982	145.785
.15779E+11	148.757	144.098	143.984	143.815
.18935E+11	146.010	141.885	141.784	141.638
.22090E+11	143.637	139.919	139.830	139.700
.25246E+11	141.557	138.193	138.113	137.997
.28402E+11	139.727	136.649	136.576	136.472
.31558E+11	138.146	135.306	135.240	135.144

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 6 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 83286.030 TIME= 18:06:51
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 37 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 10 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 265 ITEM= TEMP COMP= NAME= a01o135

VARIABLE 6 IS AT NODE 461 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 7 IS AT NODE 1270 ITEM= TEMP COMP= NAME= t04i135

VARIABLE 8 IS AT NODE 1278 ITEM= TEMP COMP= NAME= a04i135

VARIABLE 9 IS AT NODE 1188 ITEM= TEMP COMP= NAME= s04i135

VARIABLE 10 IS AT NODE 1228 ITEM= TEMP COMP= NAME= h04i135

VARIABLE 11 IS AT NODE 1244 ITEM= TEMP COMP= NAME= c04i135

VARIABLE 12 IS AT NODE 1260 ITEM= TEMP COMP= NAME= h04o135

VARIABLE 13 IS AT NODE 1197 ITEM= TEMP COMP= NAME= s04o135

VARIABLE 14 IS AT NODE 1305 ITEM= TEMP COMP= NAME= a04o135

VARIABLE 15 IS AT NODE 1323 ITEM= TEMP COMP= NAME= t04o135

VARIABLE 16 IS AT NODE 2733 ITEM= TEMP COMP= NAME= t11i135

VARIABLE 17 IS AT NODE 2741 ITEM= TEMP COMP= NAME= a11i135

VARIABLE 18 IS AT NODE 2651 ITEM= TEMP COMP= NAME= s11i135

VARIABLE 19 IS AT NODE 2691 ITEM= TEMP COMP= NAME= h11i135

VARIABLE 20 IS AT NODE 2707 ITEM= TEMP COMP= NAME= c11i135
 VARIABLE 21 IS AT NODE 2723 ITEM= TEMP COMP= NAME= h11o135
 VARIABLE 22 IS AT NODE 2660 ITEM= TEMP COMP= NAME= s11o135
 VARIABLE 23 IS AT NODE 2768 ITEM= TEMP COMP= NAME= a11o135
 VARIABLE 24 IS AT NODE 2786 ITEM= TEMP COMP= NAME= t11o135
 VARIABLE 25 IS AT NODE 4344 ITEM= TEMP COMP= NAME= g11i135
 VARIABLE 26 IS AT NODE 5109 ITEM= TEMP COMP= NAME= m11i135
 VARIABLE 27 IS AT NODE 4910 ITEM= TEMP COMP= NAME= m11o135
 VARIABLE 28 IS AT NODE 5767 ITEM= TEMP COMP= NAME= i11i135
 VARIABLE 29 IS AT NODE 5839 ITEM= TEMP COMP= NAME= i11o135
 VARIABLE 30 IS AT NODE 6279 ITEM= TEMP COMP= NAME= o11o135
 Add centers of assemblies 5, 10, 12, 13, 20, 21
 VARIABLE 31 IS AT NODE 102 ITEM= TEMP COMP= NAME= c06i135
 VARIABLE 32 IS AT NODE 102 ITEM= TEMP COMP= NAME= c14i135
 VARIABLE 33 IS AT NODE 2289 ITEM= TEMP COMP= NAME= c15i135
 VARIABLE 34 IS AT NODE 2498 ITEM= TEMP COMP= NAME= c17i135
 VARIABLE 35 IS AT NODE 228 ITEM= TEMP COMP= NAME= c22i135
 VARIABLE 36 IS AT NODE 3543 ITEM= TEMP COMP= NAME= c23i135

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	6 TEMP	c01i135	143.1	.3156E+11	283.9 .6312E+08
3	NSOL	37 TEMP	h01o135	142.8	.3156E+11	279.6 .6312E+08
4	NSOL	10 TEMP	s01o135	142.4	.3156E+11	272.6 .6312E+08
5	NSOL	265 TEMP	a01o135	142.4	.3156E+11	272.6 .6312E+08
6	NSOL	461 TEMP	t01o135	142.4	.3156E+11	272.5 .6312E+08
7	NSOL	1270 TEMP	t04i135	142.4	.3156E+11	271.9 .6312E+08
8	NSOL	1278 TEMP	a04i135	142.4	.3156E+11	271.8 .6312E+08
9	NSOL	1188 TEMP	s04i135	142.4	.3156E+11	271.8 .6312E+08
10	NSOL	1228 TEMP	h04i135	142.7	.3156E+11	276.2 .6312E+08
11	NSOL	1244 TEMP	c04i135	142.8	.3156E+11	277.5 .6312E+08
12	NSOL	1260 TEMP	h04o135	142.5	.3156E+11	271.2 .6312E+08
13	NSOL	1197 TEMP	s04o135	142.0	.3156E+11	262.5 .6312E+08
14	NSOL	1305 TEMP	a04o135	142.0	.3156E+11	262.3 .6312E+08
15	NSOL	1323 TEMP	t04o135	142.0	.3156E+11	262.1 .6312E+08
16	NSOL	2733 TEMP	t11i135	141.9	.3156E+11	260.9 .9467E+08
17	NSOL	2741 TEMP	a11i135	141.9	.3156E+11	260.7 .9467E+08
18	NSOL	2651 TEMP	s11i135	141.9	.3156E+11	260.5 .9467E+08
19	NSOL	2691 TEMP	h11i135	142.1	.3156E+11	263.4 .6312E+08
20	NSOL	2707 TEMP	c11i135	142.2	.3156E+11	262.5 .6312E+08
21	NSOL	2723 TEMP	h11o135	141.7	.3156E+11	253.8 .9467E+08
22	NSOL	2660 TEMP	s11o135	141.2	.3156E+11	244.0 .1578E+09
23	NSOL	2768 TEMP	a11o135	141.2	.3156E+11	243.9 .1578E+09
24	NSOL	2786 TEMP	t11o135	141.1	.3156E+11	243.7 .1578E+09
25	NSOL	4344 TEMP	g11i135	139.4	.3156E+11	217.3 .2525E+09
26	NSOL	5109 TEMP	m11i135	138.4	.3156E+11	203.3 .3156E+09
27	NSOL	4910 TEMP	m11o135	138.3	.3156E+11	201.8 .3156E+09
28	NSOL	5767 TEMP	i11i135	30.93	.1000E-05	166.7 .1262E+10
29	NSOL	5839 TEMP	i11o135	28.92	.1000E-05	165.9 .1262E+10
30	NSOL	6279 TEMP	o11o135	26.14	.1000E-05	164.7 .1262E+10
31	NSOL	102 TEMP	c06i135	143.0	.3156E+11	282.2 .6312E+08

32	NSOL	102	TEMP	c14i135	143.0	.3156E+11	282.2	.6312E+08
33	NSOL	2289	TEMP	c15i135	142.8	.3156E+11	277.1	.6312E+08
34	NSOL	2498	TEMP	c17i135	142.6	.3156E+11	272.0	.6312E+08
35	NSOL	228	TEMP	c22i135	142.3	.3156E+11	266.9	.6312E+08
36	NSOL	3543	TEMP	c23i135	142.0	.3156E+11	259.3	.9467E+08
37	NSOL	4625	TEMP	m04i090	138.3	.3156E+11	201.6	.3156E+09
38	NSOL	4873	TEMP	m04o090	138.1	.3156E+11	199.2	.3156E+09
39	NSOL	5432	TEMP	i04i090	30.53	.1000E-05	166.8	.1262E+10
40	NSOL	5431	TEMP	i04o090	28.69	.1000E-05	166.1	.1262E+10
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	164.9	.1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:57 APR 02, 1995 CP= 83292.830
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	6 TEMP c01i135	37 TEMP h01o135	10 TEMP s01o135	265 TEMP a01o135	461 TEMP t01o135	1270 TEMP t04i135
.10000E-05	253.850	248.797	240.656	240.551	240.461	239.860
.20000E-05	267.942	263.090	255.273	255.169	255.079	254.485
31.558	267.942	263.090	255.273	255.169	255.079	254.485
.31558E+07	278.391	273.684	266.124	266.020	265.930	265.340
.63116E+07	280.539	275.879	268.396	268.293	268.203	267.616
.94673E+07	281.657	277.028	269.599	269.495	269.406	268.821
.12623E+08	282.373	277.771	270.387	270.284	270.194	269.613
.15779E+08	282.893	278.314	270.969	270.866	270.778	270.199
.18935E+08	283.267	278.711	271.404	271.302	271.213	270.637
.22090E+08	283.488	278.953	271.681	271.579	271.491	270.917
.25246E+08	283.674	279.159	271.919	271.818	271.730	271.159
.28402E+08	283.792	279.297	272.089	271.988	271.901	271.332
.31558E+08	283.877	279.400	272.222	272.122	272.035	271.468
.63115E+08	283.895	279.573	272.648	272.550	272.466	271.919
.94673E+08	283.235	279.040	272.321	272.227	272.145	271.615
.12623E+09	282.322	278.236	271.695	271.603	271.524	271.008
.15779E+09	281.436	277.443	271.054	270.964	270.887	270.384
.18935E+09	280.174	276.274	270.035	269.949	269.873	269.382
.22090E+09	279.089	275.271	269.164	269.079	269.006	268.526
.25246E+09	278.067	274.325	268.341	268.258	268.186	267.717
.28402E+09	276.631	272.956	267.082	267.001	266.930	266.471
.31558E+09	275.524	271.907	266.125	266.046	265.977	265.525
.63115E+09	261.626	258.535	253.602	253.536	253.479	253.103
.94673E+09	249.798	247.115	242.842	242.787	242.739	242.420
.12623E+10	239.360	237.004	233.254	233.206	233.165	232.891
.15779E+10	229.911	227.828	224.516	224.475	224.440	224.201
.18935E+10	221.853	219.989	217.026	216.990	216.959	216.749
.22090E+10	214.964	213.281	210.608	210.576	210.549	210.361
.25246E+10	208.599	207.065	204.629	204.601	204.576	204.407
.28402E+10	203.487	202.072	199.826	199.800	199.778	199.623
.31558E+10	198.856	197.552	195.483	195.459	195.439	195.298
.63115E+10	176.319	175.525	174.267	174.253	174.242	174.159
.94673E+10	166.712	166.097	165.122	165.111	165.103	165.040
.12623E+11	161.162	160.650	159.840	159.831	159.824	159.772
.15779E+11	157.146	156.702	156.000	155.993	155.987	155.942
.18935E+11	153.381	152.990	152.372	152.365	152.360	152.321
.22090E+11	150.232	149.882	149.328	149.322	149.317	149.283
.25246E+11	147.487	147.172	146.673	146.668	146.664	146.633
.28402E+11	145.124	144.837	144.384	144.379	144.375	144.347
.31558E+11	143.100	142.837	142.421	142.417	142.413	142.388

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:57 APR 02, 1995 CP= 83292.840
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1278 TEMP a04i135	1188 TEMP s04i135	1228 TEMP h04i135	1244 TEMP c04i135	1260 TEMP h04o135	1197 TEMP s04o135
.10000E-05	239.769	239.688	245.123	246.989	239.772	229.672
.20000E-05	254.394	254.312	259.436	261.117	254.106	244.327
31.558	254.394	254.312	259.436	261.117	254.106	244.327
.31558E+07	265.249	265.167	270.026	271.552	264.707	255.211
.63116E+07	267.525	267.443	272.231	273.718	266.928	257.519
.94673E+07	268.731	268.649	273.394	274.861	268.112	258.767
.12623E+08	269.523	269.442	274.153	275.605	268.893	259.602
.15779E+08	270.109	270.028	274.711	276.151	269.472	260.230
.18935E+08	270.547	270.467	275.122	276.550	269.903	260.706
.22090E+08	270.828	270.748	275.378	276.797	270.180	261.027
.25246E+08	271.070	270.990	275.597	277.008	270.419	261.308
.28402E+08	271.243	271.163	275.749	277.152	270.591	261.520
.31558E+08	271.380	271.300	275.865	277.261	270.727	261.694
.63115E+08	271.834	271.757	276.156	277.498	271.190	262.480
.94673E+08	271.532	271.458	275.725	277.027	270.909	262.466
.12623E+09	270.928	270.855	275.012	276.283	270.328	262.115
.15779E+09	270.305	270.235	274.298	275.542	269.728	261.712
.18935E+09	269.306	269.238	273.209	274.429	268.757	260.938
.22090E+09	268.452	268.384	272.276	273.475	267.926	260.278
.25246E+09	267.644	267.579	271.395	272.574	267.141	259.652
.28402E+09	266.399	266.335	270.088	271.253	265.924	258.579
.31558E+09	265.455	265.392	269.090	270.242	265.002	257.779
.63115E+09	253.045	252.994	256.201	257.244	252.816	246.705
.94673E+09	242.372	242.328	245.141	246.087	242.283	237.035
.12623E+10	232.849	232.812	235.309	236.173	232.858	228.278
.15779E+10	224.165	224.133	226.362	227.152	224.242	220.218
.18935E+10	216.717	216.689	218.701	219.428	216.839	213.256
.22090E+10	210.333	210.308	212.137	212.809	210.485	207.264
.25246E+10	204.382	204.360	206.038	206.665	204.557	201.632
.28402E+10	199.601	199.581	201.137	201.725	199.788	197.099
.31558E+10	195.277	195.259	196.698	197.247	195.468	192.998
.63115E+10	174.147	174.137	175.031	175.387	174.321	172.836
.94673E+10	165.031	165.023	165.722	166.006	165.185	164.040
.12623E+11	159.765	159.759	160.343	160.583	159.903	158.953
.15779E+11	155.936	155.930	156.439	156.649	156.062	155.240
.18935E+11	152.316	152.311	152.760	152.948	152.432	151.709
.22090E+11	149.278	149.274	149.678	149.847	149.385	148.740
.25246E+11	146.629	146.625	146.989	147.142	146.728	146.148
.28402E+11	144.343	144.340	144.672	144.812	144.435	143.908
.31558E+11	142.384	142.381	142.686	142.815	142.470	141.986

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:57 APR 02, 1995 CP= 83292.850
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1305 TEMP a04o135	1323 TEMP t04o135	2733 TEMP t11i135	2741 TEMP a11i135	2651 TEMP s11i135	2691 TEMP h11i135
.10000E-05	229.452	229.249	227.888	227.684	227.487	231.318
.20000E-05	244.107	243.904	242.558	242.354	242.156	245.667
31.558	244.107	243.904	242.558	242.354	242.156	245.667
.31558E+07	254.992	254.789	253.456	253.252	253.055	256.314
.63116E+07	257.300	257.099	255.771	255.568	255.371	258.560

.94673E+07	258.549	258.348	257.026	256.824	256.628	259.777
.12623E+08	259.385	259.185	257.870	257.668	257.473	260.593
.15779E+08	260.013	259.814	258.504	258.304	258.110	261.206
.18935E+08	260.491	260.292	258.988	258.789	258.595	261.668
.22090E+08	260.813	260.615	259.317	259.118	258.925	261.978
.25246E+08	261.094	260.897	259.604	259.406	259.214	262.248
.28402E+08	261.307	261.110	259.823	259.626	259.434	262.452
.31558E+08	261.482	261.286	260.004	259.807	259.616	262.619
.63115E+08	262.275	262.086	260.849	260.659	260.475	263.354
.94673E+08	262.267	262.084	260.885	260.701	260.522	263.310
.12623E+09	261.922	261.744	260.578	260.399	260.225	262.938
.15779E+09	261.523	261.350	260.213	260.038	259.869	262.519
.18935E+09	260.754	260.586	259.478	259.308	259.143	261.734
.22090E+09	260.099	259.934	258.852	258.686	258.525	261.064
.25246E+09	259.478	259.316	258.258	258.096	257.938	260.429
.28402E+09	258.408	258.250	257.214	257.055	256.902	259.354
.31558E+09	257.611	257.456	256.438	256.283	256.132	258.551
.63115E+09	246.567	246.439	245.595	245.467	245.342	247.469
.94673E+09	236.919	236.812	236.098	235.991	235.887	237.774
.12623E+10	228.179	228.087	227.473	227.381	227.292	228.989
.15779E+10	220.132	220.053	219.520	219.441	219.364	220.897
.18935E+10	213.181	213.112	212.642	212.572	212.505	213.903
.22090E+10	207.198	207.137	206.718	206.656	206.597	207.879
.25246E+10	201.573	201.518	201.141	201.086	201.033	202.220
.28402E+10	197.045	196.995	196.651	196.602	196.554	197.658
.31558E+10	192.949	192.904	192.589	192.544	192.500	193.527
.63115E+10	172.808	172.782	172.599	172.573	172.548	173.201
.94673E+10	164.018	163.999	163.860	163.840	163.822	164.338
.12623E+11	158.936	158.920	158.806	158.790	158.775	159.209
.15779E+11	155.225	155.211	155.113	155.100	155.086	155.466
.18935E+11	151.697	151.685	151.599	151.587	151.576	151.913
.22090E+11	148.728	148.718	148.642	148.631	148.621	148.925
.25246E+11	146.137	146.128	146.060	146.051	146.041	146.316
.28402E+11	143.898	143.890	143.828	143.820	143.811	144.062
.31558E+11	141.977	141.969	141.913	141.905	141.898	142.129

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:58 APR 02, 1995 CP= 83292.870
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/MP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2707 TEMP c11i135	2723 TEMP h11o135	2660 TEMP s11o135	2768 TEMP a11o135	2786 TEMP t11o135	4344 TEMP g11i135
.10000E-05	230.826	220.689	208.738	208.540	208.364	169.839
.20000E-05	244.987	235.071	223.508	223.313	223.140	187.148
31.558	244.987	235.071	223.508	223.313	223.140	187.148
.31558E+07	255.499	245.777	234.530	234.338	234.167	200.060
.63116E+07	257.713	248.063	236.914	236.722	236.552	202.924
.94673E+07	258.918	249.326	238.250	238.059	237.890	204.599
.12623E+08	259.728	250.187	239.175	238.986	238.818	205.807
.15779E+08	260.339	250.844	239.890	239.702	239.534	206.763
.18935E+08	260.796	251.347	240.449	240.261	240.095	207.541
.22090E+08	261.105	251.699	240.855	240.668	240.502	208.152
.25246E+08	261.375	252.011	241.216	241.030	240.865	208.703
.28402E+08	261.579	252.254	241.509	241.324	241.159	209.177
.31558E+08	261.747	252.461	241.762	241.577	241.414	209.600
.63115E+08	262.498	253.543	243.240	243.062	242.904	212.462
.94673E+08	262.476	253.796	243.823	243.651	243.498	214.143
.12623E+09	262.127	253.688	243.998	243.830	243.682	215.235
.15779E+09	261.729	253.495	244.048	243.885	243.740	216.061
.18935E+09	260.969	252.943	243.739	243.580	243.439	216.506
.22090E+09	260.321	252.476	243.483	243.328	243.190	216.904
.25246E+09	259.706	252.029	243.233	243.081	242.947	217.261

.28402E+09	258.655	251.131	242.512	242.364	242.233	217.061
.31558E+09	257.870	250.476	242.008	241.862	241.733	217.004
.63115E+09	246.973	240.778	233.678	233.558	233.451	212.566
.94673E+09	237.411	232.132	226.067	225.966	225.876	207.901
.12623E+10	228.724	224.147	218.875	218.788	218.711	202.963
.15779E+10	220.706	216.710	212.094	212.019	211.952	198.056
.18935E+10	213.767	210.227	206.129	206.063	206.004	193.580
.22090E+10	207.784	204.617	200.943	200.884	200.832	189.626
.25246E+10	202.155	199.292	195.964	195.912	195.865	185.652
.28402E+10	197.613	194.992	191.942	191.894	191.851	182.435
.31558E+10	193.498	191.097	188.298	188.255	188.215	179.532
.63115E+10	173.222	171.800	170.129	170.104	170.081	164.768
.94673E+10	164.368	163.278	161.993	161.974	161.957	157.825
.12623E+11	159.240	158.340	157.278	157.262	157.248	153.809
.15779E+11	155.497	154.721	153.803	153.789	153.777	150.791
.18935E+11	151.944	151.264	150.458	150.446	150.435	147.803
.22090E+11	148.955	148.348	147.627	147.617	147.607	145.245
.25246E+11	146.345	145.800	145.153	145.144	145.135	143.006
.28402E+11	144.090	143.595	143.007	142.999	142.991	141.049
.31558E+11	142.155	141.702	141.162	141.155	141.148	139.361

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:58 APR 02, 1995 CP= 83292.890
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5109 TEMP m11i135	4910 TEMP m11o135	5767 TEMP i11i135	5839 TEMP i11o135	6279 TEMP o11o135	102 TEMP c06i135
.10000E-05	147.683	145.462	30.9281	28.9239	26.1377	252.015
.20000E-05	166.562	164.394	73.6932	71.6877	68.9579	266.112
.31558E+07	180.697	178.581	100.700	98.7288	96.0116	276.570
.63116E+07	183.859	181.759	106.454	104.497	101.785	278.723
.94673E+07	185.747	183.660	110.071	108.129	105.427	279.847
.12623E+08	187.131	185.058	112.799	110.869	108.178	280.571
.15779E+08	188.237	186.175	115.004	113.086	110.406	281.098
.18935E+08	189.148	187.097	116.860	114.953	112.283	281.479
.22090E+08	189.886	187.846	118.478	116.581	113.922	281.706
.25246E+08	190.554	188.524	119.922	118.036	115.387	281.899
.28402E+08	191.137	189.117	121.229	119.353	116.714	282.024
.31558E+08	191.666	189.655	122.433	120.566	117.938	282.116
.63115E+08	195.366	193.435	131.170	129.389	126.850	282.193
.94673E+08	197.707	195.843	137.194	135.484	133.023	281.584
.12623E+09	199.347	197.539	141.715	140.064	137.673	280.716
.15779E+09	200.633	198.874	145.338	143.737	141.406	279.869
.18935E+09	201.523	199.813	148.375	146.823	144.554	278.647
.22090E+09	202.305	200.637	150.976	149.467	147.251	277.597
.25246E+09	203.017	201.389	153.339	151.868	149.702	276.608
.28402E+09	203.121	201.528	154.767	153.332	151.212	275.202
.31558E+09	203.323	201.760	156.104	154.698	152.618	274.121
.63115E+09	201.111	199.818	162.769	161.622	159.906	260.464
.94673E+09	198.107	197.016	165.963	165.005	163.565	248.817
.12623E+10	194.423	193.486	166.709	165.892	164.661	238.519
.15779E+10	190.550	189.737	166.361	165.657	164.597	229.183
.18935E+10	186.889	186.174	165.414	164.798	163.870	221.214
.22090E+10	183.607	182.970	164.335	163.789	162.969	214.397
.25246E+10	180.176	179.604	162.649	162.160	161.426	208.091
.28402E+10	177.393	176.871	161.257	160.812	160.145	203.025
.31558E+10	174.891	174.414	160.033	159.627	159.021	198.435
.63115E+10	161.951	161.673	152.879	152.646	152.300	176.076
.94673E+10	155.640	155.429	148.553	148.376	148.115	166.528
.12623E+11	151.992	151.819	146.076	145.931	145.718	161.011
.15779E+11	149.215	149.066	144.063	143.939	143.756	157.017

.18935E+11	146.415	146.284	141.853	141.745	141.586	153.268
.22090E+11	144.000	143.884	139.891	139.794	139.653	150.132
.25246E+11	141.884	141.780	138.167	138.080	137.954	147.397
.28402E+11	140.026	139.932	136.624	136.546	136.432	145.043
.31558E+11	138.420	138.334	135.282	135.211	135.107	143.027

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:06:58 APR 02, 1995 CP= 83292.900
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	102 TEMP	2289 TEMP	2498 TEMP	228 TEMP	3543 TEMP
	c14i135	c15i135	c17i135	c22i135	c23i135
.10000E-05	252.015	246.550	240.989	235.407	226.818
.20000E-05	266.112	260.666	255.143	249.583	241.152
.31558E+07	276.570	271.148	265.623	260.167	251.850
.63116E+07	278.723	273.316	267.807	262.371	254.105
.94673E+07	279.847	274.461	268.973	263.561	255.340
.12623E+08	280.571	275.206	269.742	264.353	256.175
.15779E+08	281.098	275.755	270.312	264.946	256.808
.18935E+08	281.479	276.155	270.733	265.387	257.285
.22090E+08	281.706	276.404	271.003	265.679	257.612
.25246E+08	281.899	276.616	271.236	265.933	257.900
.28402E+08	282.024	276.762	271.402	266.119	258.121
.31558E+08	282.116	276.873	271.533	266.271	258.305
.63115E+08	282.193	277.125	271.962	266.876	259.189
.94673E+08	281.584	276.668	271.658	266.724	259.273
.12623E+09	280.716	275.935	271.060	266.261	259.015
.15779E+09	279.869	275.204	270.447	265.763	258.694
.18935E+09	278.647	274.102	269.465	264.901	258.010
.22090E+09	277.597	273.156	268.624	264.163	257.428
.25246E+09	276.608	272.264	267.829	263.465	256.875
.28402E+09	275.202	270.950	266.608	262.334	255.877
.31558E+09	274.121	269.945	265.681	261.482	255.138
.63115E+09	260.464	257.008	253.462	249.967	244.655
.94673E+09	248.817	245.896	242.890	239.934	235.416
.12623E+10	238.519	236.014	233.429	230.885	226.977
.15779E+10	229.183	227.018	224.777	222.572	219.167
.18935E+10	221.214	219.315	217.342	215.403	212.393
.22090E+10	214.397	212.712	210.958	209.233	206.546
.25246E+10	208.091	206.580	205.004	203.454	201.027
.28402E+10	203.025	201.649	200.211	198.796	196.575
.31558E+10	198.435	197.180	195.866	194.575	192.543
.63115E+10	176.076	175.352	174.590	173.841	172.644
.94673E+10	166.528	165.981	165.403	164.835	163.921
.12623E+11	161.011	160.563	160.088	159.623	158.870
.15779E+11	157.017	156.633	156.225	155.825	155.177
.18935E+11	153.268	152.933	152.578	152.229	151.662
.22090E+11	150.132	149.835	149.518	149.208	148.702
.25246E+11	147.397	147.131	146.848	146.571	146.118
.28402E+11	145.043	144.802	144.546	144.295	143.883
.31558E+11	143.027	142.806	142.572	142.342	141.965

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= t02i000

*** WARNING *** CP= 83293.110 TIME= 18:06:58
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3	IS AT NODE	253	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NODE	1	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NODE	4	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NODE	6	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NODE	8	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NODE	2	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NODE	263	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	459	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	669	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	623	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	626	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	628	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	630	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	624	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	688	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	698	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	782	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	736	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NODE	739	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NODE	741	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NODE	743	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NODE	737	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NODE	801	ITEM= TEMP COMP=	NAME= a18o000
VARIABLE 26	IS AT NODE	811	ITEM= TEMP COMP=	NAME= t24i000
VARIABLE 27	IS AT NODE	351	ITEM= TEMP COMP=	NAME= a24i000
VARIABLE 28	IS AT NODE	127	ITEM= TEMP COMP=	NAME= s24i000
VARIABLE 29	IS AT NODE	130	ITEM= TEMP COMP=	NAME= h24i000
VARIABLE 30	IS AT NODE	132	ITEM= TEMP COMP=	NAME= c24i000
VARIABLE 31	IS AT NODE	134	ITEM= TEMP COMP=	NAME= h24o000
VARIABLE 32	IS AT NODE	128	ITEM= TEMP COMP=	NAME= s24o000
VARIABLE 33	IS AT NODE	361	ITEM= TEMP COMP=	NAME= t24o000
VARIABLE 34	IS AT NODE	4271	ITEM= TEMP COMP=	NAME= g24i000
VARIABLE 35	IS AT NODE	4269	ITEM= TEMP COMP=	NAME= g24o000
VARIABLE 36	IS AT NODE	5135	ITEM= TEMP COMP=	NAME= m24i000
VARIABLE 37	IS AT NODE	4872	ITEM= TEMP COMP=	NAME= m24o000

VARIABLE 38 IS AT NODE 5728 ITEM= TEMP COMP= NAME= i24i000

VARIABLE 39 IS AT NODE 5727 ITEM= TEMP COMP= NAME= i24o000

VARIABLE 40 IS AT NODE 6241 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	142.5	.3156E+11	275.3 .6312E+08
3	NSOL	253 TEMP	a02i000	142.5	.3156E+11	275.3 .6312E+08
4	NSOL	1 TEMP	s02i000	142.5	.3156E+11	275.4 .6312E+08
5	NSOL	4 TEMP	h02i000	143.0	.3156E+11	282.3 .6312E+08
6	NSOL	6 TEMP	c02i000	143.1	.3156E+11	283.9 .6312E+08
7	NSOL	8 TEMP	h02o000	142.9	.3156E+11	281.2 .6312E+08
8	NSOL	2 TEMP	s02o000	142.4	.3156E+11	273.0 .6312E+08
9	NSOL	263 TEMP	a02o000	142.4	.3156E+11	272.9 .6312E+08
10	NSOL	459 TEMP	t08i000	142.4	.3156E+11	272.9 .6312E+08
11	NSOL	669 TEMP	a08i000	142.4	.3156E+11	272.8 .6312E+08
12	NSOL	623 TEMP	s08i000	142.4	.3156E+11	272.9 .6312E+08
13	NSOL	626 TEMP	h08i000	142.8	.3156E+11	278.7 .6312E+08
14	NSOL	628 TEMP	c08i000	142.9	.3156E+11	279.2 .6312E+08
15	NSOL	630 TEMP	h08o000	142.7	.3156E+11	275.3 .6312E+08
16	NSOL	624 TEMP	s08o000	142.1	.3156E+11	265.8 .6312E+08
17	NSOL	688 TEMP	a08o000	142.1	.3156E+11	265.7 .6312E+08
18	NSOL	698 TEMP	t18i000	142.1	.3156E+11	265.7 .6312E+08
19	NSOL	782 TEMP	a18i000	142.1	.3156E+11	265.6 .6312E+08
20	NSOL	736 TEMP	s18i000	142.1	.3156E+11	265.7 .6312E+08
21	NSOL	739 TEMP	h18i000	142.5	.3156E+11	270.5 .6312E+08
22	NSOL	741 TEMP	c18i000	142.5	.3156E+11	269.8 .6312E+08
23	NSOL	743 TEMP	h18o000	142.2	.3156E+11	264.5 .6312E+08
24	NSOL	737 TEMP	s18o000	141.6	.3156E+11	253.4 .9467E+08
25	NSOL	801 TEMP	a18o000	141.6	.3156E+11	253.2 .9467E+08
26	NSOL	811 TEMP	t24i000	141.6	.3156E+11	253.2 .9467E+08
27	NSOL	351 TEMP	a24i000	141.6	.3156E+11	253.2 .9467E+08
28	NSOL	127 TEMP	s24i000	141.6	.3156E+11	253.2 .9467E+08
29	NSOL	130 TEMP	h24i000	141.7	.3156E+11	255.3 .9467E+08
30	NSOL	132 TEMP	c24i000	141.6	.3156E+11	251.7 .9467E+08
31	NSOL	134 TEMP	h24o000	141.0	.3156E+11	242.6 .1578E+09
32	NSOL	128 TEMP	s24o000	140.0	.3156E+11	225.6 .2525E+09
33	NSOL	361 TEMP	t24o000	140.0	.3156E+11	225.4 .2525E+09
34	NSOL	4271 TEMP	g24i000	139.3	.3156E+11	214.9 .2525E+09
35	NSOL	4269 TEMP	g24o000	139.3	.3156E+11	214.7 .2525E+09
36	NSOL	5135 TEMP	m24i000	138.7	.3156E+11	206.3 .3156E+09
37	NSOL	4872 TEMP	m24o000	138.7	.3156E+11	205.2 .3156E+09
38	NSOL	5728 TEMP	i24i000	30.66	.1000E-05	166.4 .1262E+10
39	NSOL	5727 TEMP	i24o000	28.94	.1000E-05	165.7 .1262E+10
40	NSOL	6241 TEMP	o24o000	26.14	.1000E-05	164.4 .1262E+10
41	NSOL	6019 TEMP	o04o090	26.14	.1000E-05	164.9 .1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.680
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	253 TEMP a02i000	1 TEMP s02i000	4 TEMP h02i000	6 TEMP c02i000	8 TEMP h02o000
.10000E-05	243.502	243.505	243.616	251.929	253.850	250.685
.20000E-05	258.106	258.109	258.219	266.130	267.942	264.893
31.558	258.106	258.109	258.219	266.130	267.942	264.893
.31558E+07	268.990	268.993	269.100	276.677	278.391	275.421

.63116E+07	271.254	271.257	271.364	278.850	280.539	277.596
.94673E+07	272.446	272.449	272.554	279.982	281.657	278.733
.12623E+08	273.222	273.225	273.330	280.709	282.373	279.465
.15779E+08	273.793	273.796	273.900	281.239	282.893	280.000
.18935E+08	274.217	274.220	274.324	281.623	283.267	280.388
.22090E+08	274.483	274.486	274.590	281.852	283.488	280.622
.25246E+08	274.711	274.714	274.817	282.046	283.674	280.820
.28402E+08	274.869	274.872	274.975	282.172	283.792	280.950
.31558E+08	274.992	274.995	275.097	282.264	283.877	281.047
.63115E+08	275.325	275.328	275.427	282.340	283.895	281.162
.94673E+08	274.918	274.921	275.017	281.725	283.235	280.582
.12623E+09	274.220	274.223	274.316	280.851	282.322	279.738
.15779E+09	273.518	273.520	273.611	279.997	281.436	278.911
.18935E+09	272.436	272.439	272.528	278.767	280.174	277.708
.22090E+09	271.510	271.512	271.599	277.710	279.089	276.675
.25246E+09	270.636	270.638	270.723	276.714	278.067	275.701
.28402E+09	269.328	269.330	269.414	275.300	276.631	274.308
.31558E+09	268.331	268.333	268.415	274.212	275.524	273.238
.63115E+09	255.429	255.431	255.499	260.486	261.626	259.677
.94673E+09	244.384	244.385	244.443	248.795	249.798	248.109
.12623E+10	234.576	234.578	234.628	238.469	239.360	237.879
.15779E+10	225.660	225.661	225.705	229.115	229.911	228.604
.18935E+10	218.031	218.032	218.070	221.134	221.853	220.684
.22090E+10	211.500	211.501	211.536	214.310	214.964	213.910
.25246E+10	205.430	205.431	205.462	207.999	208.599	207.640
.28402E+10	200.555	200.556	200.584	202.930	203.487	202.602
.31558E+10	196.148	196.149	196.175	198.341	198.856	198.041
.63115E+10	174.652	174.652	174.667	175.998	176.319	175.824
.94673E+10	165.413	165.414	165.425	166.461	166.712	166.329
.12623E+11	160.079	160.079	160.089	160.952	161.162	160.843
.15779E+11	156.205	156.206	156.214	156.964	157.146	156.871
.18935E+11	152.551	152.551	152.558	153.219	153.381	153.138
.22090E+11	149.487	149.487	149.493	150.087	150.232	150.015
.25246E+11	146.816	146.816	146.822	147.356	147.487	147.291
.28402E+11	144.513	144.513	144.518	145.005	145.124	144.946
.31558E+11	142.539	142.539	142.544	142.991	143.100	142.937

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.700
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP s02o000	263 TEMP a02o000	459 TEMP t08i000	669 TEMP a08i000	623 TEMP s08i000	626 TEMP h08i000
.10000E-05	241.010	240.886	240.882	240.873	240.971	248.093
.20000E-05	255.627	255.505	255.500	255.491	255.588	262.319
.31.558	255.627	255.505	255.500	255.491	255.588	262.319
.31558E+07	266.472	266.351	266.346	266.337	266.431	272.836
.63116E+07	268.743	268.622	268.618	268.608	268.702	275.018
.94673E+07	269.943	269.824	269.819	269.809	269.903	276.165
.12623E+08	270.730	270.611	270.606	270.596	270.689	276.908
.15779E+08	271.311	271.192	271.187	271.178	271.270	277.452
.18935E+08	271.744	271.626	271.621	271.612	271.704	277.850
.22090E+08	272.020	271.902	271.898	271.888	271.980	278.094
.25246E+08	272.257	272.140	272.135	272.126	272.217	278.302
.28402E+08	272.425	272.309	272.304	272.295	272.385	278.442
.31558E+08	272.557	272.441	272.436	272.427	272.517	278.548
.63115E+08	272.971	272.859	272.854	272.845	272.932	278.745
.94673E+08	272.634	272.525	272.521	272.512	272.597	278.237
.12623E+09	271.999	271.893	271.889	271.880	271.963	277.457
.15779E+09	271.350	271.247	271.243	271.235	271.315	276.685
.18935E+09	270.324	270.223	270.219	270.211	270.290	275.538
.22090E+09	269.445	269.347	269.343	269.336	269.412	274.554

.25246E+09	268.616	268.520	268.516	268.509	268.584	273.626
.28402E+09	267.351	267.257	267.253	267.246	267.319	272.277
.31558E+09	266.390	266.297	266.294	266.286	266.358	271.243
.63115E+09	253.819	253.743	253.740	253.734	253.794	258.021
.94673E+09	243.025	242.960	242.957	242.952	243.004	246.707
.12623E+10	233.410	233.354	233.352	233.347	233.392	236.674
.15779E+10	224.650	224.602	224.600	224.596	224.635	227.560
.18935E+10	217.143	217.101	217.099	217.096	217.130	219.767
.22090E+10	210.712	210.674	210.672	210.670	210.700	213.095
.25246E+10	204.722	204.688	204.687	204.684	204.712	206.907
.28402E+10	199.910	199.879	199.878	199.876	199.901	201.935
.31558E+10	195.560	195.531	195.530	195.528	195.551	197.432
.63115E+10	174.311	174.294	174.293	174.292	174.306	175.471
.94673E+10	165.155	165.142	165.142	165.141	165.151	166.061
.12623E+11	159.867	159.856	159.856	159.855	159.864	160.624
.15779E+11	156.023	156.014	156.014	156.013	156.021	156.682
.18935E+11	152.392	152.384	152.384	152.383	152.390	152.974
.22090E+11	149.346	149.339	149.338	149.338	149.344	149.868
.25246E+11	146.689	146.683	146.683	146.682	146.688	147.160
.28402E+11	144.398	144.392	144.392	144.392	144.397	144.828
.31558E+11	142.434	142.429	142.429	142.428	142.433	142.829

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.710
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	628 TEMP c08i000	630 TEMP h08o000	624 TEMP s08o000	688 TEMP a08o000	698 TEMP t18i000	782 TEMP a18i000
.10000E-05	248.835	244.406	233.242	233.105	233.099	233.077
.20000E-05	262.959	258.655	247.901	247.765	247.758	247.737
31.558	262.959	258.655	247.901	247.765	247.758	247.737
.31558E+07	273.385	269.173	258.763	258.628	258.622	258.599
.63116E+07	275.547	271.367	261.061	260.926	260.920	260.898
.94673E+07	276.683	272.528	262.294	262.161	262.154	262.132
.12623E+08	277.419	273.286	263.115	262.982	262.976	262.954
.15779E+08	277.959	273.846	263.728	263.595	263.589	263.567
.18935E+08	278.352	274.257	264.191	264.059	264.053	264.031
.22090E+08	278.591	274.515	264.498	264.367	264.361	264.339
.25246E+08	278.796	274.737	264.765	264.635	264.629	264.607
.28402E+08	278.932	274.891	264.963	264.833	264.827	264.806
.31558E+08	279.035	275.010	265.124	264.995	264.989	264.967
.63115E+08	279.213	275.326	265.793	265.668	265.662	265.641
.94673E+08	278.691	274.920	265.676	265.555	265.550	265.529
.12623E+09	277.901	274.231	265.235	265.117	265.112	265.092
.15779E+09	277.121	273.537	264.754	264.639	264.633	264.614
.18935E+09	275.968	272.471	263.899	263.787	263.782	263.763
.22090E+09	274.978	271.557	263.170	263.060	263.055	263.037
.25246E+09	274.044	270.694	262.479	262.372	262.367	262.350
.28402E+09	272.692	269.406	261.344	261.240	261.235	261.218
.31558E+09	271.655	268.424	260.493	260.390	260.385	260.368
.63115E+09	258.414	255.683	248.940	248.855	248.851	248.837
.94673E+09	247.075	244.728	238.911	238.839	238.836	238.825
.12623E+10	237.020	234.975	229.881	229.819	229.816	229.807
.15779E+10	227.883	226.089	221.598	221.545	221.543	221.534
.18935E+10	220.069	218.473	214.464	214.417	214.415	214.407
.22090E+10	213.378	211.945	208.333	208.291	208.289	208.283
.25246E+10	207.175	205.876	202.588	202.551	202.549	202.543
.28402E+10	202.189	200.995	197.967	197.933	197.932	197.926
.31558E+10	197.671	196.574	193.788	193.757	193.755	193.751
.63115E+10	175.631	174.974	173.287	173.269	173.268	173.265
.94673E+10	166.190	165.685	164.380	164.366	164.365	164.363
.12623E+11	160.733	160.315	159.231	159.220	159.220	159.218

.15779E+11	156.779	156.417	155.478	155.468	155.468	155.466
.18935E+11	153.060	152.742	151.917	151.908	151.908	151.907
.22090E+11	149.947	149.663	148.923	148.916	148.916	148.915
.25246E+11	147.232	146.976	146.312	146.305	146.305	146.304
.28402E+11	144.893	144.661	144.056	144.050	144.050	144.049
.31558E+11	142.889	142.676	142.121	142.116	142.115	142.115

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.720
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	736 TEMP s18i000	739 TEMP h18i000	741 TEMP c18i000	743 TEMP h18o000	737 TEMP s18o000	801 TEMP a18o000
.10000E-05	233.164	239.147	238.603	232.603	219.337	219.181
.20000E-05	247.821	253.427	252.791	246.925	234.117	233.962
31.558	247.821	253.427	252.791	246.925	234.116	233.962
.31558E+07	258.682	263.967	263.258	257.518	245.078	244.925
.63116E+07	260.980	266.177	265.452	259.753	247.432	247.280
.94673E+07	262.214	267.359	266.629	260.962	248.728	248.577
.12623E+08	263.034	268.140	267.408	261.771	249.612	249.461
.15779E+08	263.648	268.721	267.988	262.378	250.285	250.134
.18935E+08	264.111	269.152	268.418	262.834	250.804	250.654
.22090E+08	264.419	269.430	268.698	263.139	251.168	251.018
.25246E+08	264.686	269.672	268.940	263.405	251.489	251.341
.28402E+08	264.884	269.845	269.115	263.603	251.741	251.594
.31558E+08	265.046	269.983	269.255	263.765	251.955	251.808
.63115E+08	265.717	270.468	269.758	264.461	253.084	252.941
.94673E+08	265.603	270.208	269.519	264.383	253.362	253.225
.12623E+09	265.163	269.648	268.979	263.982	253.268	253.134
.15779E+09	264.684	269.065	268.415	263.539	253.085	252.955
.18935E+09	263.831	268.114	267.483	262.729	252.536	252.409
.22090E+09	263.104	267.299	266.686	262.038	252.072	251.948
.25246E+09	262.415	266.529	265.933	261.382	251.629	251.507
.28402E+09	261.281	265.328	264.749	260.289	250.725	250.606
.31558E+09	260.431	264.419	263.855	259.471	250.067	249.951
.63115E+09	248.890	252.358	251.932	248.244	240.310	240.214
.94673E+09	238.869	241.915	241.586	238.437	231.631	231.551
.12623E+10	229.846	232.557	232.301	229.566	223.629	223.560
.15779E+10	221.569	223.995	223.794	221.403	216.188	216.128
.18935E+10	214.438	216.632	216.473	214.353	209.709	209.657
.22090E+10	208.310	210.309	210.182	208.283	204.110	204.063
.25246E+10	202.568	204.407	204.304	202.586	198.797	198.755
.28402E+10	197.949	199.655	199.569	197.994	194.513	194.475
.31558E+10	193.771	195.351	195.279	193.834	190.637	190.602
.63115E+10	173.278	174.265	174.244	173.385	171.462	171.442
.94673E+10	164.373	165.147	165.138	164.480	162.997	162.981
.12623E+11	159.226	159.874	159.870	159.326	158.097	158.085
.15779E+11	155.473	156.038	156.037	155.567	154.504	154.493
.18935E+11	151.912	152.412	152.414	152.002	151.067	151.058
.22090E+11	148.920	149.369	149.372	149.004	148.168	148.160
.25246E+11	146.308	146.714	146.717	146.387	145.636	145.629
.28402E+11	144.053	144.423	144.427	144.127	143.444	143.437
.31558E+11	142.119	142.459	142.463	142.188	141.561	141.555

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.740
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	811 TEMP t24i000	351 TEMP a24i000	127 TEMP s24i000	130 TEMP h24i000	132 TEMP c24i000	134 TEMP h24o000
.10000E-05	219.173	219.126	219.185	222.161	218.010	206.613
.20000E-05	233.954	233.908	233.964	236.656	232.560	221.587
31.558	233.954	233.908	233.964	236.656	232.560	221.587
.31558E+07	244.917	244.871	244.925	247.394	243.339	232.684
.63116E+07	247.272	247.225	247.279	249.688	245.649	235.090
.94673E+07	248.568	248.522	248.576	250.953	246.934	236.449
.12623E+08	249.453	249.407	249.460	251.814	247.816	237.396
.15779E+08	250.126	250.080	250.133	252.469	248.491	238.128
.18935E+08	250.645	250.600	250.653	252.969	249.007	238.699
.22090E+08	251.010	250.965	251.017	253.317	249.373	239.117
.25246E+08	251.332	251.287	251.339	253.625	249.698	239.490
.28402E+08	251.585	251.540	251.592	253.864	249.954	239.794
.31558E+08	251.800	251.755	251.806	254.066	250.172	240.057
.63115E+08	252.933	252.890	252.940	255.103	251.347	241.611
.94673E+08	253.217	253.175	253.223	255.313	251.674	242.253
.12623E+09	253.126	253.085	253.132	255.164	251.627	242.474
.15779E+09	252.947	252.908	252.953	254.936	251.486	242.563
.18935E+09	252.402	252.364	252.408	254.346	250.985	242.291
.22090E+09	251.941	251.903	251.947	253.845	250.561	242.067
.25246E+09	251.501	251.464	251.506	253.367	250.155	241.846
.28402E+09	250.600	250.564	250.605	252.438	249.291	241.150
.31558E+09	249.944	249.909	249.950	251.757	248.667	240.667
.63115E+09	240.209	240.180	240.214	241.801	239.231	232.508
.94673E+09	231.546	231.522	231.552	232.965	230.788	225.034
.12623E+10	223.556	223.536	223.561	224.838	222.962	217.952
.15779E+10	216.124	216.106	216.129	217.287	215.659	211.266
.18935E+10	209.654	209.638	209.658	210.719	209.285	205.380
.22090E+10	204.060	204.046	204.065	205.040	203.764	200.257
.25246E+10	198.752	198.740	198.756	199.660	198.510	195.331
.28402E+10	194.473	194.462	194.477	195.319	194.269	191.351
.31558E+10	190.600	190.590	190.604	191.387	190.428	187.749
.63115E+10	171.441	171.435	171.444	171.948	171.389	169.784
.94673E+10	162.981	162.976	162.983	163.384	162.960	161.724
.12623E+11	158.084	158.080	158.086	158.424	158.076	157.054
.15779E+11	154.493	154.489	154.494	154.791	154.492	153.608
.18935E+11	151.058	151.055	151.059	151.323	151.063	150.287
.22090E+11	148.160	148.157	148.161	148.399	148.167	147.473
.25246E+11	145.628	145.626	145.630	145.845	145.637	145.014
.28402E+11	143.437	143.435	143.438	143.635	143.447	142.880
.31558E+11	141.555	141.553	141.556	141.737	141.565	141.045

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.750
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	128 TEMP s24o000	361 TEMP t24o000	4271 TEMP g24i000	4269 TEMP g24o000	5135 TEMP m24i000	4872 TEMP m24o000
.10000E-05	183.579	183.250	167.424	167.153	154.504	152.994
.20000E-05	199.615	199.295	184.512	184.246	172.274	170.785
31.558	199.615	199.295	184.512	184.246	172.274	170.785
.31558E+07	211.539	211.227	197.212	196.952	185.498	184.034
.63116E+07	214.180	213.870	200.054	199.796	188.481	187.026
.94673E+07	215.709	215.401	201.726	201.470	190.259	188.813
.12623E+08	216.801	216.495	202.938	202.683	191.560	190.122
.15779E+08	217.659	217.355	203.898	203.645	192.599	191.169
.18935E+08	218.348	218.046	204.680	204.428	193.453	192.029

.22090E+08	218.879	218.578	205.299	205.048	194.140	192.723
.25246E+08	219.357	219.057	205.857	205.607	194.762	193.352
.28402E+08	219.762	219.463	206.338	206.089	195.304	193.900
.31558E+08	220.121	219.824	206.771	206.523	195.794	194.397
.63115E+08	222.472	222.187	209.710	209.471	199.208	197.864
.94673E+08	223.762	223.486	211.467	211.236	201.348	200.048
.12623E+09	224.534	224.266	212.629	212.405	202.832	201.571
.15779E+09	225.092	224.831	213.516	213.298	203.992	202.764
.18935E+09	225.284	225.030	214.028	213.816	204.772	203.577
.22090E+09	225.462	225.214	214.483	214.276	205.459	204.293
.25246E+09	225.616	225.374	214.894	214.692	206.084	204.945
.28402E+09	225.250	225.013	214.750	214.552	206.127	205.013
.31558E+09	225.049	224.817	214.738	214.544	206.276	205.182
.63115E+09	219.399	219.205	210.730	210.568	203.669	202.763
.94673E+09	213.818	213.653	206.383	206.246	200.370	199.605
.12623E+10	208.183	208.041	201.689	201.571	196.469	195.812
.15779E+10	202.695	202.571	196.978	196.875	192.411	191.841
.18935E+10	197.754	197.644	192.652	192.562	188.599	188.097
.22090E+10	193.413	193.315	188.819	188.738	185.185	184.739
.25246E+10	189.125	189.037	184.942	184.870	181.650	181.248
.28402E+10	185.652	185.572	181.799	181.733	178.777	178.411
.31558E+10	182.513	182.439	178.962	178.902	176.187	175.853
.63115E+10	166.638	166.595	164.471	164.436	162.808	162.614
.94673E+10	159.298	159.265	157.612	157.586	156.331	156.184
.12623E+11	155.043	155.016	153.640	153.618	152.579	152.458
.15779E+11	151.868	151.845	150.650	150.631	149.732	149.628
.18935E+11	148.758	148.737	147.684	147.667	146.877	146.787
.22090E+11	146.106	146.087	145.142	145.127	144.420	144.340
.25246E+11	143.785	143.768	142.916	142.902	142.267	142.195
.28402E+11	141.761	141.746	140.969	140.957	140.378	140.313
.31558E+11	140.018	140.004	139.289	139.278	138.747	138.687

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 900-38303 VERSION=HP 9000/7XX 18:07:05 APR 02, 1995 CP= 83300.760
 FOR SUPPORT CALL SUPPORT PERSON PHONE SUPPORT PHONE FAX SUPPORT FAX

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5728 TEMP	5727 TEMP	6241 TEMP
	124.000	124.000	024.000
.10000E-05	30.6600	28.9372	26.1377
.20000E-05	73.3885	71.6687	68.9285
.31558E-07	99.9226	98.2177	95.4409
.63116E+07	105.673	103.982	101.211
.94673E+07	109.295	107.617	104.857
.12623E+08	112.028	110.361	107.613
.15779E+08	114.238	112.581	109.845
.18935E+08	116.099	114.452	111.726
.22090E+08	117.721	116.083	113.369
.25246E+08	119.169	117.540	114.836
.28402E+08	120.479	118.859	116.166
.31558E+08	121.687	120.075	117.392
.63115E+08	130.450	128.912	126.321
.94673E+08	136.499	135.022	132.511
.12623E+09	141.043	139.617	137.177
.15779E+09	144.684	143.302	140.923
.18935E+09	147.741	146.400	144.084
.22090E+09	150.358	149.054	146.792
.25246E+09	152.736	151.465	149.254
.28402E+09	154.179	152.939	150.775
.31558E+09	155.532	154.317	152.194
.63115E+09	162.305	161.311	159.557
.94673E+09	165.571	164.739	163.262
.12623E+10	166.375	165.664	164.400

.15779E+10	166.072	165.458	164.367
.18935E+10	165.158	164.619	163.664
.22090E+10	164.105	163.627	162.780
.25246E+10	162.442	162.013	161.254
.28402E+10	161.066	160.675	159.985
.31558E+10	159.856	159.499	158.871
.63115E+10	152.771	152.565	152.204
.94673E+10	148.467	148.311	148.038
.12623E+11	146.004	145.876	145.652
.15779E+11	144.001	143.890	143.698
.18935E+11	141.798	141.702	141.535
.22090E+11	139.841	139.755	139.607
.25246E+11	138.122	138.045	137.912
.28402E+11	136.583	136.513	136.393
.31558E+11	135.244	135.180	135.070

***** ROUTINE COMPLETED ***** CP = 83300.770

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40b1.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 20
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

*****
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|               REV. 5.0 A               |               HP 9000/7XX               |
| CP TIME      (sec) =      83307.220      | TIME = 18:07:12      |
| ELAPSED TIME (sec) =      88948.000      | DATE  = 04/02/95      |
|-----|
|                                     |
*****
  
```


Waste Package Development
Civilian Radioactive Waste Management System
Management & Operating Contractor

MGDS
WBS: 1.2.2.3
QA: ☒ 11/9/95

DESIGN ANALYSIS

Volume II

Title: Thermal Evaluation of the Conceptual 40 BWR Multi-Purpose
Canister (MPC) with ACD Disposal Container (SCPB: N/A)

Document Identifier: BBABB0000-01717-0200-00003 REV 00

Originator: Thomas L. Lotz

Checker: Robert H. Bahney III

Lead Discipline Engineer: Thomas W. Doering

Department Manager: Hugh A. Benton

Date: November 8, 1995

```

*****
|-----|
| WELCOME TO THE ANSYS PROGRAM |
|-----|
*****

```

```

***** ANSYS COMMAND LINE ARGUMENTS *****
JOB NAME           = ma40w1
MEMORY REQUESTED (MB) = 64.0
BATCH MODE REQUESTED
start.ans FILE

```

```

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
WORK SPACE REQUESTED      = 16777216      64.000 MB  COMMAND LINE
MINIMUM WORK SPACE REQUIRED = 4718592       18.000 MB
MINIMUM WORK SPACE RECOMMENDED = 6702496   25.568 MB
WORK SPACE OBTAINED       = 16777214      64.000 MB
BYTES PER WORD            = 4

```

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
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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                                03/07/1995
3 /COM, 2-D Model of 125 ton burnup credit MPC-DC          Thomas L Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ma40w1.inp                             *
7 /COM, * 40 BWR MPC 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 (check for Changes) *
13 /COM, * GE-7 8x8 SNF Assembly                            *
14 /COM, *
15 /COM, * SNF Heat Loads file: bwr1049.dat                *
16 /COM, * SNF Type: 10 years old, 49 Gwd/MTU              *
17 /COM, *
18 /COM, * Surface Temp. file: c21w5a.parm                 *

```

```

19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 45.0 m *
22 /COM, *      WP c/c spacing = 32.331 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Define Transient time parameters
33 /COM, TM_START = start time (sec)
34 /COM, TMI* = time increment for solution (sec)
35 /COM, TME* = start and stop for time do-loops (sec)
36 /COM, Note: 1 year = 3.15576e7 seconds
37 /COM, TMTMAX = time of maximum cladding temperature
38 TM_START=(1.0E-6)*(3.15576E7)
39 TMI0=0.1*3.15576E7
40 TMI1=1.0*3.15576E7
41 TMI10=10.0*3.15576E7
42 TMI100=100.0*3.15576E7
43 TMI1000=1000.0*3.15576E7
44 TME0=0.9*3.15576E7+TM_START
45 TME1=TMI1+TM_START
46 TME9=9.0*3.15576E7+TM_START
47 TME10=TMI10+TM_START
48 TME50=50.0*3.15576E7+TM_START
49 TME90=90.0*3.15576E7+TM_START
50 TME100=TMI100+TM_START
51 TME1000=TMI1000+TM_START
52 /COM,
53 /COM, *****
54 /COM, Read in average effective conductivities from SNF model
55 PARRES,CHANGE,pwr15e,param,
56 /COM, Read in surface temps. from repository model
57 PARRES,CHANGE,c21w5a,param,
58 /COM, *****
59 /COM, Define MPC/waste package parameters
60 /COM, (MPC dimensions converted from inches to meters)
61 /COM, Required Constants:
62 /COM,
63 PI=3.141592654
64 /COM,
65 /COM, Required container wall parameters:
66 /COM, MIRAD = inner radius of MPC shell (m)
67 /COM, MWALL = MPC shell thickness (m)
68 /COM, DCRAD = disposal container outer radius (m)
69 /COM, OWALL = outer barrier thickness (m)
70 /COM, IWALL = inner barrier thickness (m)
71 MIRAD=58.300*2.54/100.0/2.0
72 MWALL=1.0000*2.54/100.0
73 DCRAD=1.7016/2.0
74 OWALL=0.0500
75 IWALL=0.0200
76 /COM,
77 /COM, Required outer guide hardware parameters:
78 /COM, Set 1: TPGPL = top/bottom guide plate length (m)
79 /COM, TPGPT = top/bottom guide plate thickness (m)
80 TPGPL=6.3240*2.54/100.0
81 TPGPT=0.2500*2.54/100.0
82 /COM,
83 /COM, Set 2: SGCCW = Width; corner guide to far corner side guide (m)
84 /COM, SGCMW = Width; Side guide corner to Middle side guide (m)
85 /COM, SGCD1 = Vert. Dist. Down to Corner of Guide (m)
86 SGCCW=21.132*2.54/100.0
87 SGCMW=6.7810*2.54/100.0
88 SGCD1=6.9790*2.54/100.0

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89 /COM,
90 /COM,      SET 3:      GCORV = corner guide Vertical width (m)
91 /COM,      GCORH = corner guide Horizontal width (m)
92 /COM,      GX32 = X coord. of upper contact from drawing. (m)
93 /COM,      GY32 = Y coord. of upper contact from drawing. (m)
94 GCORV=7.7600*2.54/100.0
95 GCORH=6.7160*2.54/100.0
96 GX32=18.66137525*2.54/100.0
97 GY32=22.39365030*2.54/100.0
98 /COM,
99 /COM,      SET 4:      GLEN1 = side guide Low width (m)
100 /COM,      GLEN2 = side guide High width (m)
101 /COM,      GLENT = side guide total width (m)
102 /COM,      GWALL = guide thickness (m)
103 GLEN1=6.7290*2.54/100.0
104 GLEN2=13.937*2.54/100.0
105 GLENT=28.866*2.54/100.0
106 GWALL=0.3750*2.54/100.0
107 /COM,
108 /COM,      Required Tube/Fuel parameters:
109 /COM,      HCELL = 1/2 of basket cell opening (m)
110 /COM,      SWALL = stainless tube thickness (m)
111 /COM,      AWALL = Al/boron tube thickness (m)
112 /COM,      TWALL = stainless tube cladding thickness (m)
113 /COM,      ACTVL = active fuel length
114 /COM,      PEAKF = assembly heat axial peaking factor
115 HCELL=6.0000*2.54/100.0/2.0
116 SWALL=0.2500*2.54/100.0
117 AWALL=0.2500*2.54/100.0
118 TWALL=0.0940*2.54/100.0
119 ACTVL=150.00*2.54/100.0
120 PEAKF=1.40
121 /COM,
122 /COM,      *****
123 /COM,      Define calculated parameters
124 /COM,      ASSY = assembly heat production (W) f(yrs)
125 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
126 /COM,      FVOLUME=assy_volume=cell_width^2*active_length
127 /COM,      PITCH = basket cell outer width (m)
128 /COM,      QCELL = 1/4 of basket cell opening (m)
129 /COM,      SCELL = 1/2 of basket cell opening+SS wall(m)
130 /COM,      ACELL = 1/2 of basket cell opening+SS+AL (m)
131 /COM,      ATWCL = Dist. to edge of B-AL plate (m)
132 /COM,      STWCL = Dist. to edge of Steel Bask. Plate (m)
133 /COM,      TQPCL = Top quarter of cell dist. (m)
134 *SET,ASSY,
135 *DIM,ASSY, TABLE,101,1,
136 *DIM,FUEL, TABLE,101,1
137 FVOLUME=4*HCELL*HCELL*ACTVL
138 PITCH=(HCELL+SWALL+AWALL+TWALL)*2.0
139 QCELL=HCELL/2.0
140 SCELL=HCELL+SWALL
141 ACELL=HCELL+SWALL+AWALL
142 ATWCL=TWALL+AWALL
143 STWCL=TWALL+AWALL+SWALL
144 TQPCL=STWCL+QCELL
145 /COM,
146 /COM,      *****
147 /COM,      Determine the required contact points for the outer guide hardware
148 /COM,      GX## = x coord. of guide/shell contact
149 /COM,      GY## = y coord. of guide/shell contact
150 /COM,      Set 1:
151 GX11=TPGPL/2.0
152 GY11=SQRT(MIRAD*MIRAD - GX11*GX11)
153 /COM,
154 /COM,      Set 3:
155 GX31=GX32+GCORH-GWALL
156 GY31=GY32-GCORV+GWALL
157 /COM,
158 /COM,      Set 2:

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159 GX24=GX31-SGCCW
160 GY24=SQRT(MIRAD*MIRAD-GX24*GX24)
161 GX23=GX24+GWALL
162 GY23=SQRT(MIRAD*MIRAD-GX23*GX23)
163 GX22=GX24+SGCMW
164 GY22=SQRT(MIRAD*MIRAD-GX22*GX22)
165 GX21=GX22+GWALL
166 GY21=SQRT(MIRAD*MIRAD-GX21*GX21)
167 /COM,
168 /COM,      Set 4:
169 GY41=GWALL/2.0
170 GX41=SQRT(MIRAD*MIRAD - GY41*GY41)
171 GY44=GY41+GLEN2
172 GX44=SQRT(MIRAD*MIRAD - GY44*GY44)
173 GY43=GY44-GLEN1
174 GX43=SQRT(MIRAD*MIRAD - GY43*GY43)
175 GY42=GY43-GWALL
176 GX42=SQRT(MIRAD*MIRAD - GY42*GY42)
177 /COM,
178 /COM,      Define 45 degree point of reference:
179 /COM,      MI45 = x coord. MIRAD at 45 deg.
180 /COM,      MO45 = x coord. MIRAD+MWALL at 45 deg.
181 /COM,      DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
182 /COM,      DM45 = x coord. DCRAD-OWALL at 45 deg.
183 /COM,      DO45 = x coord. DCRAD at 45 deg.
184 /COM,      OFFS = 45 degree Y off set to go through centers
185 MI45=MIRAD/SQRT(2.0)
186 MO45=(MIRAD+MWALL)/SQRT(2.0)
187 DI45=(DCRAD-OWALL-IWALL)/SQRT(2.0)
188 DM45=(DCRAD-OWALL)/SQRT(2.0)
189 DO45=DCRAD/SQRT(2.0)
190 OFFS=0.5*PITCH
191 /COM,
192 /COM,      *****
193 /COM,      Define different element types
194 /PREP7
195 ETYPE
196 ET, 1,55,
197 ET, 2,70,
198 ET, 7,32,
199 ET, 16,57,
200 ET, 17,32,
201 ET, 18,50,1,
202 ET, 19,31,
203 ET, 27,32,
204 /COM,      *****
205 /COM,      File props01.dat describes material properties
206 /COM,      and thier reference numbers
207 MPREAD,props01.dat,
208 /COM,      Read in single assembly heat loads
209 /COM,      Calculate the volumetric heat generation
210 /COM,      (Assembly time is in years, FUEL is in seconds)
211 /INPUT,bwr1049.dat
212 *VFACT,3.15576E7,
213 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
214 *VFACT,(PEAKF/FVOLUME),
215 *VFUN,FUEL(1),COPY,ASSY(1),
216 FUEL(0,1)=1.0
217 /COM,      *****
218 /COM,      Define new material 14 for SNF effective conductivity
219 /COM,      Density:      DENS      (kg/m^3)
220 /COM,      Conductivity: KXX      (W/m/K)
221 /COM,      Specific Heat: C      (J/kg/K)
222 MPTMP
223 MPTMP, 1, .00000E+00,
224 MPDATA,DENS,14, 1, .388242E+04,
225 MPDATA, C,14, 1, .28401E+03,
226 /COM,      Store average effective conductivities
227 IINC=1
228 TBSKT=25.0

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```

229 MPTEMP
230 MPTEMP,IINC,TBSKT,
231 IINC=IINC+1
232 *DO,TBSKT,50.0,400.0,50.0,
233     MPTEMP,IINC,TBSKT,
234     IINC=IINC+1
235 *ENDDO
236 IINC=1
237 TBSKT=25.0
238 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
239 IINC=IINC+1
240 *DO,TBSKT,50.0,400.0,50.0,
241     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
242     IINC=IINC+1
243 *ENDDO
244 /COM, *****
245 /COM,          Define new material 15 for low thermal loading
246 /COM,          outer barrier of 70/30 Copper Nickel (C71500)
247 /COM,          Density:      DENS      (kg/m^3)
248 /COM,          Conductivity: KXX      (W/m/K)
249 /COM,          Specific Heat: C      (J/kg/K)
250 MPTEMP
251 MPTEMP, 1, .00000E+00,
252 /COM,          Density (lb/in^3 converted to kg/m^3)
253 MPDATA,DENS,15, 1,(0.323*2.768E+04),
254 /COM,          Specific Heat (Btu/lb/F converted to J/kg/K)
255 MPDATA, C,15, 1,(0.09/2.3886E-04),
256 /COM,          Conductivity (Btu/hr/ft/F converted to W/m/K)
257 MPTEMP
258 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
259 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
260 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
261 MPTEMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
262 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
263 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
264 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
265 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
266 /COM, *****
267 /COM,          Construct geometry for Disposal Container
268 /COM,
269 /COM,          Define center and axis keypoints for waste package
270 /COM,          Also, create placeholder keypoints and lines
271 /COM,          (K's 1,2,3,4,5,6,7,8)
272 /COM,          (L's 1,2,3,4)
273 K,1,0.0,0.0,0.0,
274 K,2,0.0,0.0,1.0,
275 K,3,0.0,0.0,1.3,
276 K,4,0.0,0.0,1.4,
277 K,5,0.0,0.0,1.5,
278 K,6,0.0,0.0,1.6,
279 K,7,0.0,0.0,1.7,
280 K,8,0.0,0.0,1.8,
281 L,3,4,
282 L,4,5,
283 L,5,6,
284 L,6,7,
285 /COM,          Define disposal container and MPC outer radius
286 /COM,          (K's 9,10,11,12,13,14,15,16,17,18,19,20)
287 /COM,          (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
288 /COM,          (A's 1,2,3,4,5)
289 K, 9,          0.0,          (0.0-DCRAD),0.0,
290 K,10,          DCRAD,          0.0,0.0,
291 K,11,          0.0,          DCRAD,0.0,
292 K,12,          0.0,          (OWALL-DCRAD),0.0,
293 K,13,          (DCRAD-OWALL),          0.0,0.0,
294 K,14,          0.0,          (DCRAD-OWALL),0.0,
295 K,15,          0.0,(OWALL+IWALL-DCRAD),0.0,
296 K,16,(DCRAD-OWALL-IWALL),          0.0,0.0,
297 K,17,          0.0,(DCRAD-OWALL-IWALL),0.0,
298 K,18,          0.0,          (0.0-MIRAD-MWALL),0.0,

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299 K,19,      (MIRAD+MWALL),      0.0,0.0,
300 K,20,      0.0,      (MIRAD+MWALL),0.0,
301 L,10,13,
302 L,13,16,
303 LARC,10, 9,1,      DCRAD,
304 LARC,11,10,1,      DCRAD,
305 LARC,13,12,1,      (DCRAD-OWALL),
306 LARC,14,13,1,      (DCRAD-OWALL),
307 L,11,14,
308 L, 9,12,
309 LARC,15,16,1,(DCRAD-OWALL-IWALL),
310 LARC,16,17,1,(DCRAD-OWALL-IWALL),
311 L,14,17,
312 L,12,15,
313 LARC,19,18,1,      (MIRAD+MWALL),
314 LARC,20,19,1,      (MIRAD+MWALL),
315 L,17,20,
316 L,15,18,
317 AL, 5, 7,12, 9,
318 AL,11, 8, 5,10,
319 AL, 6, 9,16,13,
320 AL,15,10, 6,14,
321 AL,19,14,13,20,17,18,
322 /COM,      *****
323 /COM,      Define MPC shell inner edge and area
324 /COM,      (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
325 /COM,      ( 38, 39, 40, 41, 42, 43, 44)
326 /COM,      (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
327 /COM,      ( 38,39, 40, 41, 42, 43, 44, 45)
328 /COM,      (A's 6)
329 K,21, 0.0,      MIRAD,0.0,
330 K,22, GX11,      GY11,0.0,
331 K,23, GX24,      GY24,0.0,
332 K,24, GX23,      GY23,0.0,
333 K,25, GX22,      GY22,0.0,
334 K,26, GX21,      GY21,0.0,
335 K,27, GX32,      GY32,0.0,
336 K,28, GX31,      GY31,0.0,
337 K,29, GX44,      GY44,0.0,
338 K,30, GX43,      GY43,0.0,
339 K,31, GX42,      GY42,0.0,
340 K,32, GX41,      GY41,0.0,
341 K,33, GX41, (0.0-GY41),0.0,
342 K,34, GX42, (0.0-GY42),0.0,
343 K,35, GX43, (0.0-GY43),0.0,
344 K,36, GX44, (0.0-GY44),0.0,
345 K,37, GX31, (0.0-GY31),0.0,
346 K,38, GX32, (0.0-GY32),0.0,
347 K,39, GX21, (0.0-GY21),0.0,
348 K,40, GX22, (0.0-GY22),0.0,
349 K,41, GX23, (0.0-GY23),0.0,
350 K,42, GX24, (0.0-GY24),0.0,
351 K,43, GX11, (0.0-GY11),0.0,
352 K,44, 0.0,(0.0-MIRAD),0.0,
353 L,20,21,
354 LARC,22,21,1,MIRAD,
355 LARC,23,22,1,MIRAD,
356 LARC,24,23,1,MIRAD,
357 LARC,25,24,1,MIRAD,
358 LARC,26,25,1,MIRAD,
359 LARC,27,26,1,MIRAD,
360 LARC,28,27,1,MIRAD,
361 LARC,29,28,1,MIRAD,
362 LARC,30,29,1,MIRAD,
363 LARC,31,30,1,MIRAD,
364 LARC,32,31,1,MIRAD,
365 LARC,33,32,1,MIRAD,
366 LARC,34,33,1,MIRAD,
367 LARC,35,34,1,MIRAD,
368 LARC,36,35,1,MIRAD,

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369 LARC,37,36,1,MIRAD,
370 LARC,38,37,1,MIRAD,
371 LARC,39,38,1,MIRAD,
372 LARC,40,39,1,MIRAD,
373 LARC,41,40,1,MIRAD,
374 LARC,42,41,1,MIRAD,
375 LARC,43,42,1,MIRAD,
376 LARC,44,43,1,MIRAD,
377 L,18,44,
378 LSEL,S,LINE,,21,45,
379 LSEL,A,LINE,,17,18,
380 AL,ALL,
381 LSEL,ALL,
382 /COM, *****
383 /COM, Define tube guides
384 /COM, (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
385 /COM, ( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
386 /COM, ( 79,80,81,82)
387 /COM, (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
388 /COM, ( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
389 /COM, ( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
390 /COM, ( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)
391 /COM, ( 111,112,113,114,115)
392 /COM, (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
393 /COM, ( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)
394 /COM,
395 /COM, Set 1: top plate
396 K,45, GX11, (GY11-GWALL),0.0,
397 K,46, 0.0, GY11,0.0,
398 K,47, 0.0, (GY11-GWALL),0.0,
399 /COM,
400 /COM, Set 2: top side guide
401 K,48, GX24, (GY24-SGCD1),0.0,
402 K,49, GX23,(GY24-SGCD1+GWALL),0.0,
403 K,50, GX22,(GY24-SGCD1+GWALL),0.0,
404 K,51, GX21,(GY24-SGCD1+GWALL),0.0,
405 K,52,(GX32-GWALL),(GY24-SGCD1+GWALL),0.0,
406 K,53,(GX32-GWALL), (GY24-SGCD1),0.0,
407 K,54, GX32,(GY24-SGCD1+GWALL),0.0,
408 K,55, GX32, (GY24-SGCD1),0.0,
409 /COM,
410 /COM, Set 3: top corner
411 K,56,(GX32-GWALL), GY32,0.0,
412 K,57,(GX32-GWALL), (GY32-GCORV),0.0,
413 K,58, GX32,(GY32-GCORV+GWALL),0.0,
414 K,59, GX31, (GY31-GWALL),0.0,
415 /COM,
416 /COM, Set 4: side guide
417 K,60,(GX44-GWALL), GY44,0.0,
418 K,61,(GX44-GWALL), (0.0-GY44),0.0,
419 K,62, GX44, GY43,0.0,
420 K,63, GX44, GY42,0.0,
421 K,64, GX44, GY41,0.0,
422 K,65, GX44, (0.0-GY41),0.0,
423 K,66, GX44, (0.0-GY42),0.0,
424 K,67, GX44, (0.0-GY43),0.0,
425 /COM,
426 /COM, Set 3: bottom corner
427 K,68,(GX32-GWALL), (0.0-GY32),0.0,
428 K,69,(GX32-GWALL), (0.0-GY32+GCORV),0.0,
429 K,70, GX32,(0.0-GY32+GCORV-GWALL),0.0,
430 K,71, GX31, (0.0-GY31+GWALL),0.0,
431 /COM,
432 /COM, Set 2: bottom side guide
433 K,72, GX24, (0.0-GY24+SGCD1),0.0,
434 K,73, GX23,(0.0-GY24+SGCD1-GWALL),0.0,
435 K,74, GX22,(0.0-GY24+SGCD1-GWALL),0.0,
436 K,75, GX21,(0.0-GY24+SGCD1-GWALL),0.0,
437 K,76,(GX32-GWALL),(0.0-GY24+SGCD1-GWALL),0.0,
438 K,77,(GX32-GWALL), (0.0-GY24+SGCD1),0.0,

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439 K,78,          GX32,(0.0-GY24+SGCD1-GWALL),0.0,
440 K,79,          GX32,      (0.0-GY24+SGCD1),0.0,
441 /COM,
442 /COM,
443 K,80,          Set 1: bottom plate
                     GX11,      (0.0-GY11+GWALL),0.0,
444 K,81,          0.0,      (0.0-GY11),0.0,
445 K,82,          0.0,      (0.0-GY11+GWALL),0.0,
446 /COM,
447 /COM,          Now Fill in the required lines:
448 /COM,          Set 1: bottom plate
449 L,21,46,
450 L,46,47,
451 L,46,22,
452 L,22,45,
453 L,45,47,
454 /COM,
455 /COM,          Set 2: top side guide
456 L,48,23,
457 L,48,49,
458 L,24,49,
459 L,49,50,
460 L,53,48,
461 L,50,25,
462 L,26,51,
463 L,50,51,
464 L,51,52,
465 L,52,53,
466 /COM,
467 /COM,          Set 3: top corner
468 L,56,27,
469 L,52,56,
470 L,27,54,
471 L,54,55,
472 L,52,54,
473 L,53,55,
474 L,55,58,
475 L,57,53,
476 L,57,58,
477 L,58,28,
478 L,59,57,
479 L,28,59,
480 /COM,
481 /COM,          Set 4: side guide
482 L,60,29,
483 L,61,60,
484 L,29,62,
485 L,62,63,
486 L,62,30,
487 L,31,63,
488 L,63,64,
489 L,64,65,
490 L,64,32,
491 L,33,65,
492 L,65,66,
493 L,66,67,
494 L,66,34,
495 L,35,67,
496 L,67,36,
497 L,36,61,
498 /COM,
499 /COM,          Set 3: bottom corner
500 L,37,71,
501 L,69,71,
502 L,69,70,
503 L,37,70,
504 L,70,79,
505 L,79,78,
506 L,78,38,
507 L,38,68,
508 L,68,76,

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509 L,76,77,
 510 L,77,69,
 511 L,76,78,
 512 L,77,79,
 513 /COM,
 514 /COM, Set 2: bottom side guide
 515 L,72,77,
 516 L,72,73,
 517 L,76,75,
 518 L,75,74,
 519 L,74,73,
 520 L,73,41,
 521 L,42,72,
 522 L,40,74,
 523 L,75,39,
 524 /COM,
 525 /COM, Set 1: bottom plate
 526 L,80,43,
 527 L,82,80,
 528 L,82,81,
 529 L,43,81,
 530 L,81,44,
 531 /COM, Radiation/Back Fill Gas Gaps:
 532 /COM, Set 1: TOP
 533 AL,46,48,22,
 534 /COM, Set 2: TOP
 535 AL,25,53,54,56,
 536 AL,27,57,59,62,61,
 537 /COM, Set 3: TOP
 538 AL,28,63,64,67,70,
 539 /COM, Set 4: SIDE
 540 AL,30,75,77,
 541 AL,32,78,79,81,
 542 AL,34,82,83,85,
 543 AL,36,86,87,
 544 /COM, Set 3: BOTTOM
 545 AL,38,92,93,94,95,
 546 /COM, Set 2: BOTTOM
 547 AL,39,96,97,104,110,
 548 AL,41,109,106,107,
 549 /COM, Set 1: BOTTOM
 550 AL,44,114,115,
 551 /COM, SOLID GUIDES:
 552 /COM, Set 1: TOP
 553 AL,47,48,49,50,
 554 /COM, Set 2: TOP
 555 AL,24,51,52,53,
 556 AL,52,55,60,59,58,54,
 557 AL,26,56,58,57,
 558 /COM, Set 3: TOP
 559 AL,61,62,65,63,
 560 AL,65,60,66,64,
 561 AL,66,68,69,67,
 562 AL,70,69,71,72,
 563 /COM, Set 4: SIDE
 564 AL,73,74,88,87,84,83,80,79,76,75,
 565 AL,31,77,76,78,
 566 AL,33,81,80,82,
 567 AL,35,85,84,86,
 568 /COM, Set 3: BOTTOM
 569 AL,89,90,91,92,
 570 AL,91,93,101,99,
 571 AL,101,94,100,98,
 572 AL,100,95,96,97,
 573 /COM, Set 2: BOTTOM
 574 AL,102,98,104,105,106,103,
 575 AL,40,110,105,109,
 576 AL,42,107,103,108,
 577 /COM, Set 1: BOTTOM
 578 AL,111,112,113,114,

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579 /COM, *****
580 /COM, Define center edge half-tube
581 /COM, (K's 83,84,85,86,87,88,89,90,91,92,93,94)
582 /COM, (L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
583 /COM, ( 129,130,131,132,133)
584 /COM, (A's 39,40,41,42,43,44,45)
585 K,83, 0.0, TWALL,0.0,
586 K,84, 0.0, (AWALL+TWALL),0.0,
587 K,85, 0.0, (AWALL+SWALL+TWALL),0.0,
588 K,86, 0.0, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
589 K,87, 0.0, (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
590 K,88, 0.0, (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
591 K,89, (AWALL+SWALL+HCELL), TWALL,0.0,
592 K,90, (SWALL+HCELL), (AWALL+TWALL),0.0,
593 K,91, HCELL, (SWALL+AWALL+TWALL),0.0,
594 K,92, (AWALL+SWALL+HCELL), (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
595 K,93, (SWALL+HCELL), (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
596 K,94, HCELL, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
597 L,83,84,
598 L,84,85,
599 L,86,87,
600 L,87,88,
601 L,89,83,
602 L,84,90,
603 L,85,91,
604 L,86,94,
605 L,87,93,
606 L,88,92,
607 L,90,89,
608 L,91,90,
609 L,94,93,
610 L,93,92,
611 L,85,86,
612 L,91,94,
613 L,90,93,
614 L,89,92,
615 AL,130,123,131,122,
616 AL,116,121,126,120,
617 AL,117,122,127,121,
618 AL,118,124,128,123,
619 AL,119,125,129,124,
620 AL,131,128,132,127,
621 AL,132,129,133,126,
622 /COM, *****
623 /COM, Define center full-tube
624 /COM, (K's 95,96,97,98,99,100,101,102,103,104,105,106)
625 /COM, (L's 134,135,136,137,138,139,140,141,142,143,144,145)
626 /COM, ( 146,147,148,149,150,151,152,153)
627 /COM, (A's 46,47,48,49,50,51,52,53,54)
628 K,95, (PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
629 K,96, (PITCH+HCELL+SWALL-AWALL), TWALL,0.0,
630 K,97, (PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
631 K,98, (PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
632 K,99, (PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
633 K,100, (PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
634 K,101, (PITCH-HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
635 K,102, (PITCH+HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
636 K,103, (PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
637 K,104, (PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
638 K,105, (PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
639 K,106, (PITCH+HCELL+SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
640 L,95,97,
641 L,97,99,
642 L,101,103,
643 L,103,105,
644 L,96,98,
645 L,98,100,
646 L,102,104,
647 L,104,106,
648 L,96,95,

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649 L,97,98,
650 L,99,100,
651 L,101,102,
652 L,103,104,
653 L,105,106,
654 L,95,105,
655 L,97,103,
656 L,99,101,
657 L,100,102,
658 L,98,104,
659 L,106,96,
660 AL,144,151,145,150,
661 AL,142,138,143,134,
662 AL,143,139,144,135,
663 AL,145,140,146,136,
664 AL,146,141,147,137,
665 AL,148,134,149,137,
666 AL,149,135,150,136,
667 AL,151,139,152,140,
668 AL,152,138,153,141,
669 /COM, *****
670 /COM, Define edge half-tube
671 /COM, (K's 107,108,109,110,111,112,113,114,115,116,117)
672 /COM, (L's 154,155,156,157,158,159,160,161,162,163,164,165)
673 /COM, ( 166,167,168,169)
674 /COM, (A's 55,56,57,58,59,60)
675 K,107, 0.0, (3.5*PITCH+HCELL),0.0,
676 K,108, HCELL, (3.5*PITCH+HCELL),0.0,
677 K,109, 0.0, (3.5*PITCH-HCELL),0.0,
678 K,110, HCELL, (3.5*PITCH-HCELL),0.0,
679 K,111, 0.0, (3.5*PITCH+HCELL+SWALL),0.0,
680 K,112, (HCELL+SWALL), (3.5*PITCH+HCELL+SWALL),0.0,
681 K,113, 0.0, (3.5*PITCH-HCELL-SWALL),0.0,
682 K,114, (HCELL+SWALL), (3.5*PITCH-HCELL-SWALL),0.0,
683 K,115, (HCELL+SWALL+AWALL), (3.5*PITCH+HCELL+SWALL),0.0,
684 K,116, 0.0, (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
685 K,117, (HCELL+SWALL+AWALL), (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
686 L,116,113,
687 L,113,109,
688 L,107,111,
689 L,114,117,
690 L,110,114,
691 L,112,115,
692 L,108,112,
693 L,116,117,
694 L,113,114,
695 L,109,110,
696 L,108,107,
697 L,111,112,
698 L,109,107,
699 L,110,108,
700 L,114,112,
701 L,115,117,
702 AL,166,163,167,164,
703 AL,161,157,162,154,
704 AL,162,158,163,155,
705 AL,164,160,165,156,
706 AL,167,158,168,160,
707 AL,168,157,169,159,
708 /COM, *****
709 /COM, Define edge full-tube
710 /COM, (K's 118,119,120,121,122,123,124,125,126,127,128,129)
711 /COM, (L's 170,171,172,173,174,175,176,177,178,179,180,181)
712 /COM, ( 182,183,184,185,186,187,188)
713 /COM, (A's 61,62,63,64,65,66,67,68)
714 K,118, (3.0*PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
715 K,119, (3.0*PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
716 K,120, (3.0*PITCH-HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
717 K,121, (3.0*PITCH+HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
718 K,122, (3.0*PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,

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719 K,123, (3.0*PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
720 K,124, (3.0*PITCH-HCELL-SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
721 K,125, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
722 K,126,(3.0*PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
723 K,127, (3.0*PITCH+HCELL+SWALL), TWALL,0.0,
724 K,128,(3.0*PITCH-HCELL-SWALL-AWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
725 K,129, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
726 L,122,126,
727 L,118,122,
728 L,120,124,
729 L,124,128,
730 L,123,127,
731 L,119,123,
732 L,121,125,
733 L,129,125,
734 L,127,126,
735 L,122,123,
736 L,118,119,
737 L,120,121,
738 L,124,125,
739 L,128,129,
740 L,126,128,
741 L,122,124,
742 L,118,120,
743 L,119,121,
744 L,125,123,
745 AL,180,187,181,186,
746 AL,178,174,179,170,
747 AL,179,175,180,171,
748 AL,181,176,182,172,
749 AL,182,177,183,173,
750 AL,184,170,185,173,
751 AL,185,171,186,172,
752 AL,187,175,188,176,
753 NUMMRG,KP,
754 /COM, *****
755 /COM, Set element shapes and sizes for tubes
756 /COM, 8x8 mesh in fuel with 2
757 /COM, divisions per tube layer
758 ESHAPE,2,
759 ESIZE,,1,
760 LSEL,S,LINE,,130,133,1,
761 LSEL,A,LINE,,142,153,1,
762 LSEL,A,LINE,,166,169,1,
763 LSEL,A,LINE,,178,188,1,
764 LESIZE,ALL,,, 8,
765 LSEL,S,LINE,,120,125,1,
766 LSEL,A,LINE,,161,165,1,
767 LESIZE,ALL,,, 4,
768 LSEL,S,LINE,,116,119,1,
769 LSEL,A,LINE,,126,129,1,
770 LSEL,A,LINE,,134,141,1,
771 LSEL,A,LINE,,154,160,1,
772 LSEL,A,LINE,,170,177,1,
773 LESIZE,ALL,,, 2,
774 LSEL,ALL,
775 /COM,
776 /COM, Mesh areas
777 /COM, first fuel, then stainless, then aluminum
778 MAT,14,
779 TYPE,1,
780 AMESH,39,
781 AMESH,46,
782 AMESH,55,
783 AMESH,61,
784 MAT, 1,
785 TYPE,1,
786 AMESH,41,42,1,
787 AMESH,44,
788 AMESH,48,49,1,

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789 AMESH,52,53,1,
790 AMESH,57,59,1,
791 AMESH,63,64,1,
792 AMESH,67,68,1,
793 MAT,13,
794 TYPE,1,
795 AMESH,40,43,3,
796 AMESH,45,
797 AMESH,47,50,3,
798 AMESH,51,54,3,
799 AMESH,56,60,4,
800 AMESH,62,65,3,
801 AMESH,66,
802 /COM, *****
803 /COM, Copy tube mesh
804 /COM,
805 /COM, center half tube above and below
806 /COM, (A's 69-75,76-82)
807 AGEN,3,39,45,1,0.0,PITCH,0.0,0,0,
808 /COM, (A's 83-89,90-96,97-103)
809 AGEN,4,39,45,1,0.0,(0.0-PITCH),0.0,0,0,
810 /COM,
811 /COM, center fuel tube above and below
812 /COM, (A's 104-112,113-121)
813 AGEN,3,46,54,1,0.0,PITCH,0.0,0,0,
814 /COM, (A's 122-130,131-139,140-148)
815 AGEN,4,46,54,1,0.0,(0.0-PITCH),0.0,0,0,
816 /COM, (A's 149-157)
817 AGEN,2,46,54,1,PITCH,0.0,0.0,0,0,
818 /COM, (A's 158-166,167-175)
819 AGEN,3,149,157,1,0.0,PITCH,0.0,0,0,
820 /COM, (A's 176-184,185-193,194-202)
821 AGEN,4,149,157,1,0.0,(0.0-PITCH),0.0,0,0,
822 /COM,
823 /COM, side edge fuel tube above and below
824 /COM, (A's 203-210)
825 AGEN,2,61,68,1,0.0,PITCH,0.0,0,0,
826 /COM, (A's 211-218,219-226)
827 AGEN,3,61,68,1,0.0,(0.0-PITCH),0.0,0,0,
828 /COM,
829 /COM, edge half tube bottom (13)
830 /COM, (A's 227-232)
831 ARSYM,Y,55,60,1,0,0,0,
832 /COM, *****
833 /COM, Define thin stainless layers
834 /COM, (K's 380,381,382,383,384,385,286,387,388,389, through 397)
835 /COM, (A's 233 - 301)
836 K,380, (0.5*PITCH), (3.5*PITCH+HCELL+SWALL),0.0,
837 K,381, (0.5*PITCH), (3.0*PITCH),0.0,
838 K,382, (0.5*PITCH), (3.0*PITCH+TWALL),0.0,
839 K,383, (0.5*PITCH+TWALL), (3.0*PITCH),0.0,
840 K,384, (1.5*PITCH-TWALL), (3.0*PITCH),0.0,
841 K,385, (1.5*PITCH+TWALL), (3.0*PITCH),0.0,
842 K,386, (2.5*PITCH), (3.0*PITCH),0.0,
843 K,387, (2.5*PITCH), (2.0*PITCH),0.0,
844 K,388, (2.5*PITCH), (2.0*PITCH+TWALL),0.0,
845 K,389, (2.5*PITCH+TWALL), (2.0*PITCH),0.0,
846 K,390,(3.0*PITCH+HCELL+SWALL), (2.0*PITCH),0.0,
847 /COM,
848 K,391,(3.0*PITCH+HCELL+SWALL), (-2.0*PITCH),0.0,
849 K,392, (2.5*PITCH+TWALL), (-2.0*PITCH),0.0,
850 K,393, (2.5*PITCH), (-2.0*PITCH-TWALL),0.0,
851 K,394, (2.5*PITCH), (-2.0*PITCH),0.0,
852 K,395, (2.5*PITCH), (-3.0*PITCH),0.0,
853 K,396, (1.5*PITCH+TWALL), (-3.0*PITCH),0.0,
854 K,397, (1.5*PITCH-TWALL), (-3.0*PITCH),0.0,
855 K,398, (0.5*PITCH+TWALL), (-3.0*PITCH),0.0,
856 K,399, (0.5*PITCH), (-3.0*PITCH-TWALL),0.0,
857 K,400, (0.5*PITCH), (-3.0*PITCH),0.0,
858 K,401, (0.5*PITCH), (-3.5*PITCH-HCELL-SWALL),0.0,

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859 /COM,
860 A,152,116,117,153,
861 A,117,382,381,153,
862 A,381,383,213,153,
863 A,117,115,380,382,
864 A,153,213,207,149,
865 A,213,383,384,212,
866 A,212,384,385,285,
867 A,285,385,386,284,
868 A,212,285,279,206,
869 A,284,386,388,278,
870 A,278,388,387,272,
871 A,272,387,389,333,
872 A,272,333,327,266,
873 A,333,389,390,332,
874 A,278,272,273,279,
875 A,206,279,273,200,
876 A,200,273,267,194,
877 A,200,206,207,201,
878 A,141,149,207,201,
879 A,141,201,195,137,
880 A,141,149,146,140,
881 A, 88,134,137, 92,
882 A, 92,137,195,105,
883 A, 92,105, 95, 89,
884 A,105,195,194,106,
885 A,106,194,267,261,
886 A,106,261,255, 96,
887 A,261,267,266,260,
888 A,260,266,327,128,
889 A,260,128,126,254,
890 A,128,327,326,129,
891 A,296,254,126,345,
892 A,296,345,339,290,
893 A,345,126,127,344,
894 A,296,254,255,297,
895 A,224, 96,255,297,
896 A,224,297,291,218,
897 A,224, 96, 95,225,
898 A,165, 89, 95,225,
899 A,165, 89, 83,164,
900 A,165,225,219,161,
901 A,177,161,219,237,
902 A,177,161,158,176,
903 A,177,237,231,173,
904 A,237,219,218,236,
905 A,236,218,291,309,
906 A,236,309,303,230,
907 A,309,291,290,308,
908 A,308,290,339,357,
909 A,308,357,351,302,
910 A,357,339,338,356,
911 A,350,391,392,351,
912 A,351,392,394,302,
913 A,302,394,393,320,
914 A,320,393,395,314,
915 A,320,302,303,321,
916 A,248,230,303,321,
917 A,248,321,315,242,
918 A,248,230,231,249,
919 A,189,173,231,249,
920 A,189,173,170,188,
921 A,189,249,243,185,
922 A,243,398,400,185,
923 A,185,400,399,363,
924 A,363,185,182,362,
925 A,363,399,401,368,
926 A,398,243,242,397,
927 A,242,315,396,397,
928 A,315,314,395,396,

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929 MAT,1,
930 TYPE,1,
931 ESHAPE,2,
932 AMESH,233,301,1,
933 NUMMRG,NODE,
934 NUMMRG,KP,
935 /COM, *****
936 /COM,          Create mesh in tube guides
937 /COM,          (L's 686,687,688)
938 ESIZE,,2,
939 LESIZE,47,,, 2,
940 LESIZE,48,,, 4,
941 LESIZE,49,,, 2,
942 LESIZE,50,,, 4,
943 LESIZE,51,,, 13,
944 LESIZE,52,,, 2,
945 LESIZE,53,,, 13,
946 LESIZE,54,,, 8,
947 LESIZE,55,,, 18,
948 LESIZE,56,,, 13,
949 LESIZE,57,,, 13,
950 LESIZE,58,,, 2,
951 LESIZE,59,,, 8,
952 LESIZE,60,,, 2,
953 LESIZE,61,,, 2,
954 LESIZE,62,,, 1,
955 LESIZE,63,,, 1,
956 LESIZE,64,,, 2,
957 LESIZE,65,,, 2,
958 LESIZE,66,,, 2,
959 LESIZE,67,,, 9,
960 LESIZE,68,,, 9,
961 LESIZE,69,,, 2,
962 LESIZE,70,,, 13,
963 LESIZE,71,,, 13,
964 LESIZE,72,,, 2,
965 LESIZE,73,,, 2,
966 LESIZE,74,,, 38,
967 LESIZE,75,,, 8,
968 LESIZE,76,,, 2,
969 LESIZE,77,,, 4,
970 LESIZE,78,,, 4,
971 LESIZE,79,,, 8,
972 LESIZE,80,,, 2,
973 LESIZE,81,,, 4,
974 LESIZE,82,,, 4,
975 LESIZE,83,,, 8,
976 LESIZE,84,,, 2,
977 LESIZE,85,,, 4,
978 LESIZE,86,,, 4,
979 LESIZE,87,,, 8,
980 LESIZE,88,,, 2,
981 LESIZE,89,,, 2,
982 LESIZE,90,,, 13,
983 LESIZE,91,,, 2,
984 LESIZE,92,,, 13,
985 LESIZE,93,,, 9,
986 LESIZE,94,,, 2,
987 LESIZE,95,,, 1,
988 LESIZE,96,,, 2,
989 LESIZE,97,,, 1,
990 LESIZE,98,,, 2,
991 LESIZE,99,,, 9,
992 LESIZE,100,,, 2,
993 LESIZE,101,,, 2,
994 LESIZE,102,,, 18,
995 LESIZE,103,,, 2,
996 LESIZE,104,,, 8,
997 LESIZE,105,,, 2,
998 LESIZE,106,,, 8,

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999 LESIZE,107,,, 13,
1000 LESIZE,108,,, 13,
1001 LESIZE,109,,, 13,
1002 LESIZE,110,,, 13,
1003 LESIZE,111,,, 2,
1004 LESIZE,112,,, 4,
1005 LESIZE,113,,, 2,
1006 LESIZE,114,,, 4,
1007 LSEL,S,LINE,,58,59,1,
1008 LSEL,A,LINE,,54,
1009 LCCAT,ALL,
1010 LSEL,S,LINE,,75,76,1,
1011 LSEL,A,LINE,,79,80,1,
1012 LSEL,A,LINE,,83,84,1,
1013 LSEL,A,LINE,,87,
1014 LCCAT,ALL,
1015 LSEL,S,LINE,,104,106,1,
1016 LCCAT,ALL,
1017 LSEL,ALL,
1018 MAT,1,
1019 TYPE,1,
1020 AMESH,19,38,1,
1021 /COM, *****
1022 /COM,          Create mesh in MPC shell
1023 /COM,          (L's 689,690,691)
1024 LESIZE,22,,, 4,
1025 LESIZE,23,,, 3,
1026 LESIZE,25,,, 8,
1027 LESIZE,27,,,15,
1028 LESIZE,28,,,12,
1029 LESIZE,29,,, 5,
1030 LESIZE,30,,,11,
1031 LESIZE,32,,, 8,
1032 LESIZE,34,,, 8,
1033 LESIZE,36,,,11,
1034 LESIZE,37,,, 5,
1035 LESIZE,38,,,12,
1036 LESIZE,39,,,15,
1037 LESIZE,41,,, 8,
1038 LESIZE,43,,, 3,
1039 LESIZE,44,,, 4,
1040 LSEL,S,LINE,,22,44,1,
1041 LCCAT,ALL,
1042 LSEL,ALL,
1043 LESIZE,17,,,73,
1044 LESIZE,18,,,73,
1045 LESIZE,21,,, 3,
1046 LESIZE,45,,, 3,
1047 LCCAT,17,18,
1048 ESHAPE,2,
1049 MAT,1,
1050 TYPE,1,
1051 AMESH,6,
1052 /COM,          Assume vacuum between shell and inner barrier
1053 LESIZE,14,,,73,
1054 LESIZE,13,,,73,
1055 LESIZE,19,,, 2,
1056 LESIZE,20,,, 2,
1057 LCCAT,14,13,
1058 ESHAPE,2,
1059 /COM,          No MAT,7,
1060 /COM,          No TYPE,1,
1061 /COM,          No AMESH,5,
1062 /COM,          Delete concatenated lines
1063 /COM,          (L's freed up 686,687,688,689,690,691)
1064 LDELE,686,691,1,
1065 /COM, *****
1066 /COM,          Create mesh in inner and outer barrier
1067 LSEL,S,LINE,,7,10,1,
1068 LESIZE,ALL,,,73,

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1069 LSEL,ALL,
1070 LESIZE,6,,,3,
1071 LESIZE,15,,,3,
1072 LESIZE,16,,,3,
1073 LESIZE,5,,,3,
1074 LESIZE,11,,,3,
1075 LESIZE,12,,,3,
1076 MAT,2,
1077 TYPE,1,
1078 AMESH,3,4,1,
1079 MAT,15,
1080 TYPE,1,
1081 AMESH,1,2,1,
1082 /COM, *****
1083 /COM, Create mesh in empty basket spaces
1084 ESIZE,0.1,
1085 LESIZE,46,,,1,
1086 LESIZE,115,,,1,
1087 ESHAPE,0,
1088 MAT,7,
1089 TYPE,1,
1090 AMESH,7,
1091 ESHAPE,0,
1092 MAT,7,
1093 TYPE,1,
1094 AMESH,8,11,1,
1095 ESHAPE,2,
1096 MAT,7,
1097 TYPE,1,
1098 AMESH,12,13,1,
1099 ESHAPE,0,
1100 MAT,7,
1101 TYPE,1,
1102 AMESH,14,16,1,
1103 ESHAPE,2,
1104 MAT,7,
1105 TYPE,1,
1106 AMESH,17,
1107 ESHAPE,0,
1108 MAT,7,
1109 TYPE,1,
1110 AMESH,18,
1111 /COM, *****
1112 /COM, Define mesh and radiation surface elements for
1113 /COM, tube/guides gap
1114 /COM, (L's 686,687)
1115 /COM, (A's 302)
1116 L,47,111,
1117 L,366,82,
1118 /COM, Select lines around tubes
1119 LSEL,S,LINE,,686,
1120 LSEL,A,LINE,,165,
1121 LSEL,A,LINE,,159,
1122 LSEL,A,LINE,,580,
1123 LSEL,A,LINE,,581,
1124 LSEL,A,LINE,,575,
1125 LSEL,A,LINE,,577,
1126 LSEL,A,LINE,,583,
1127 LSEL,A,LINE,,585,
1128 LSEL,A,LINE,,588,
1129 LSEL,A,LINE,,591,
1130 LSEL,A,LINE,,593,
1131 LSEL,A,LINE,,596,
1132 LSEL,A,LINE,,600,
1133 LSEL,A,LINE,,601,
1134 LSEL,A,LINE,,512,
1135 LSEL,A,LINE,,517,
1136 LSEL,A,LINE,,506,
1137 LSEL,A,LINE,,624,
1138 LSEL,A,LINE,,177,

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1139 LSEL,A,LINE,,188,
1140 LSEL,A,LINE,,174,
1141 LSEL,A,LINE,,629,
1142 LSEL,A,LINE,,531,
1143 LSEL,A,LINE,,536,
1144 LSEL,A,LINE,,525,
1145 LSEL,A,LINE,,652,
1146 LSEL,A,LINE,,550,
1147 LSEL,A,LINE,,555,
1148 LSEL,A,LINE,,544,
1149 LSEL,A,LINE,,653,
1150 LSEL,A,LINE,,654,
1151 LSEL,A,LINE,,656,
1152 LSEL,A,LINE,,658,
1153 LSEL,A,LINE,,661,
1154 LSEL,A,LINE,,685,
1155 LSEL,A,LINE,,684,
1156 LSEL,A,LINE,,682,
1157 LSEL,A,LINE,,673,
1158 LSEL,A,LINE,,675,
1159 LSEL,A,LINE,,679,
1160 LSEL,A,LINE,,680,
1161 LSEL,A,LINE,,570,
1162 LSEL,A,LINE,,567,
1163 LSEL,A,LINE,,687,
1164 /COM,          Select lines around tube guides
1165 LSEL,A,LINE,,112,
1166 LSEL,A,LINE,,111,
1167 LSEL,A,LINE,, 43,
1168 LSEL,A,LINE,,108,
1169 LSEL,A,LINE,,102,
1170 LSEL,A,LINE,, 99,
1171 LSEL,A,LINE,, 90,
1172 LSEL,A,LINE,, 89,
1173 LSEL,A,LINE,, 37,
1174 LSEL,A,LINE,, 88,
1175 LSEL,A,LINE,, 74,
1176 LSEL,A,LINE,, 73,
1177 LSEL,A,LINE,, 29,
1178 LSEL,A,LINE,, 72,
1179 LSEL,A,LINE,, 71,
1180 LSEL,A,LINE,, 68,
1181 LSEL,A,LINE,, 55,
1182 LSEL,A,LINE,, 51,
1183 LSEL,A,LINE,, 23,
1184 LSEL,A,LINE,, 49,
1185 LSEL,A,LINE,, 50,
1186 /COM,          Define area
1187 AL,ALL,
1188 /COM,          Create radiation surface elements
1189 NSLL,S,1,
1190 MAT,1,
1191 TYPE,7,
1192 ESURF,
1193 LSEL,ALL,
1194 NSEL,ALL,
1195 /COM,          Mesh gap
1196 ESHAPE,0,
1197 LESIZE,686,,,1,
1198 LESIZE,687,,,1,
1199 MAT,7,
1200 TYPE,1,
1201 AMESH,302,
1202 ESHAPE,2,
1203 /COM,          *****
1204 /COM,          Create other radiation surface elements
1205 /COM,          Basket spaces
1206 MAT,1,
1207 TYPE,17,
1208 LMESH,22,

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1209 LMESH,25,27,2,
1210 LMESH,28,38,2,
1211 LMESH,39,41,2,
1212 LMESH,44,
1213 LMESH,46,48,2,
1214 LMESH,53,54,1,
1215 LMESH,56,57,1,
1216 LMESH,59,
1217 LMESH,61,64,1,
1218 LMESH,67,70,3,
1219 LMESH,75,
1220 LMESH,77,79,1,
1221 LMESH,81,83,1,
1222 LMESH,85,87,1,
1223 LMESH,92,97,1,
1224 LMESH,104,
1225 LMESH,106,107,1,
1226 LMESH,109,110,1,
1227 LMESH,114,115,1,
1228 /COM, MPC shell/inner barrier gap
1229 MAT,1,
1230 TYPE,27,
1231 LMESH,17,18,1,
1232 MAT,2,
1233 TYPE,27,
1234 LMESH,13,14,1,
1235 FINISH
1236 /COM, *****
1237 /COM, Create element mesh plots to illustrate model
1238 /COM, View mesh for entire model
1239 /RESET
1240 /TRIAD,OFF,
1241 /NUM, 1,
1242 /PNUM,MAT, 1,
1243 /TYPE,HIDP,
1244 /GLINE,,0,
1245 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1246 /TITLE, 40 BWR MPC/Waste Package - 1/2 FEM Model
1247 /SHOW,meshfull,grph,1,8,
1248 EPLOT
1249 ESEL,U,MAT,, 7,
1250 /SHOW,meshgap,grph,1,8,
1251 EPLOT
1252 /COM, View mesh for radiation substructure
1253 /PNUM,MAT, 0,
1254 /PNUM,TYPE, 1,
1255 ESEL,S,TYPE,, 7,
1256 ESEL,A,TYPE,,17,
1257 ESEL,A,TYPE,,27,
1258 /TITLE, 40 BWR MPC/Waste Package - Radiation Matrix
1259 /SHOW,meshrad,grph,1,8,
1260 EPLOT
1261 ESEL,ALL,
1262 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
1263 /COM, *****
1264 /COM, Generate super-elements
1265 /AUX12,
1266 ESEL,S,TYPE,,7,
1267 NSLE,S,
1268 STEF,5.67E-8,
1269 GEOM,1,0,
1270 VTYPE,0,800,
1271 WRITE,tubegap,
1272 ESEL,S,TYPE,,17,
1273 NSLE,S,
1274 STEF,5.67E-8,
1275 GEOM,1,0,
1276 VTYPE,0,800,
1277 WRITE,spaces,
1278 ESEL,S,TYPE,,27,

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1279 NSLE,S,
1280 STEF,5.67E-8,
1281 GEOM,1,0,
1282 VTYPE,0,800,
1283 WRITE,shellgap,
1284 ESEL,ALL,
1285 NSEL,ALL,
1286 FINISH
1287 /PREP7,
1288 TYPE,18,
1289 SE,tubegap,
1290 SE,spaces,
1291 SE,shellgap,
1292 /COM,          Delete radiation edge elements
1293 ESEL,S,TYPE,,7,
1294 EDELE,ALL,
1295 ESEL,ALL,
1296 LSEL,S,TYPE,,17,
1297 LSEL,A,TYPE,,27,
1298 LCLEAR,ALL,
1299 LSEL,ALL,
1300 FINISH
1301 /COM,          *****
1302 /COM,          Set solution parameters and apply B.C.'s
1303 /COM,
1304 /COM,          Solve steady-state for initial conditions
1305 /COM,          with WP surface equal to drift ambient
1306 /COM,          temperature from repository model.
1307 /SOLU
1308 ANTYPE,TRAN,NEW,
1309 NROPT,AUTO,
1310 TRNOPT,FULL,
1311 TOFFST,273.15,
1312 LSEL,S,LINE,,7,
1313 LSEL,A,LINE,,8,
1314 NSLL,S,1,
1315 D,ALL,TEMP,DFAMBT,
1316 LSEL,ALL,
1317 NSEL,ALL,
1318 ASEL,S,MAT,,14,
1319 ESLA,S,
1320 BFE,ALL,HGEN,,(FUEL(TM_START)),
1321 ASEL,ALL,
1322 ESEL,ALL,
1323 TIMINT,OFF,
1324 TIME,1e-6,
1325 AUTOTS,ON,
1326 KBC,0,
1327 SOLVE
1328 /COM,          Solve steady-state for initial conditions
1329 /COM,          with WP surface temperatures from repository
1330 /COM,          steady-state solution.
1331 LSEL,S,LINE,,7,
1332 LSEL,A,LINE,,8,
1333 NSLL,S,1,
1334 DDELE,ALL,TEMP,
1335 LSEL,ALL,
1336 NSEL,ALL,
1337 DK,11,TEMP,(WPTOP(TM_START)),,1,
1338 DK,10,TEMP,(WPSID(TM_START)),,1,
1339 DK, 9,TEMP,(WPBOT(TM_START)),,1,
1340 ASEL,S,MAT,,14,
1341 ESLA,S,
1342 BFE,ALL,HGEN,,(FUEL(TM_START)),
1343 ASEL,ALL,
1344 ESEL,ALL,
1345 TIMINT,OFF,
1346 TIME,2e-6,
1347 AUTOTS,ON,
1348 KBC,0,

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1349 SOLVE
1350 /COM, *****
1351 /COM, Set time integration parameters
1352 TIMINT,ON,
1353 AUTOTS,ON,
1354 /COM, Time substep ranges from 10 sec to 1/4 loadstep
1355 NSUBST,10,40,4,ON
1356 /COM, Begin Transient
1357 /COM, Apply loads and solve for 0 to .9 years
1358 *DO,TM,TM_START,TME0,TM10
1359 TIME,TM,
1360 ASEL,S,MAT,,14,
1361 ESLA,S,
1362 BFE,ALL,HGEN,,(FUEL(TM)),
1363 ASEL,ALL
1364 ESEL,ALL
1365 DK,11,TEMP,(WPTOP(TM)),,1,
1366 DK,10,TEMP,(WPSID(TM)),,1,
1367 DK, 9,TEMP,(WPBOT(TM)),,1,
1368 SOLVE
1369 *ENDDO
1370 /COM, Apply loads and solve for 1 to 9 years
1371 *DO,TM,TME1,TME9,TM11
1372 TIME,TM,
1373 ASEL,S,MAT,,14,
1374 ESLA,S,
1375 BFE,ALL,HGEN,,(FUEL(TM)),
1376 ASEL,ALL
1377 ESEL,ALL
1378 DK,11,TEMP,(WPTOP(TM)),,1,
1379 DK,10,TEMP,(WPSID(TM)),,1,
1380 DK, 9,TEMP,(WPBOT(TM)),,1,
1381 SOLVE
1382 *ENDDO
1383 /COM, Apply loads and solve for 10 to 90 years
1384 *DO,TM,TME10,TME90,TM110
1385 TIME,TM,
1386 ASEL,S,MAT,,14,
1387 ESLA,S,
1388 BFE,ALL,HGEN,,(FUEL(TM)),
1389 ASEL,ALL
1390 ESEL,ALL
1391 DK,11,TEMP,(WPTOP(TM)),,1,
1392 DK,10,TEMP,(WPSID(TM)),,1,
1393 DK, 9,TEMP,(WPBOT(TM)),,1,
1394 SOLVE
1395 *ENDDO
1396 /COM, Apply loads and solve for 100 to 1000 years
1397 *DO,TM,TME100,TME1000,TM1100
1398 TIME,TM,
1399 ASEL,S,MAT,,14,
1400 ESLA,S,
1401 BFE,ALL,HGEN,,(FUEL(TM)),
1402 ASEL,ALL
1403 ESEL,ALL
1404 DK,11,TEMP,(WPTOP(TM)),,1,
1405 DK,10,TEMP,(WPSID(TM)),,1,
1406 DK, 9,TEMP,(WPBOT(TM)),,1,
1407 SOLVE
1408 *ENDDO
1409 FINISH
1410 SAVE,
1411 /COM, *****
1412 /COM, Create element contour plots of solution results
1413 /COM,
1414 /COM, Sort through solution results for time of max temp.
1415 /POST26,
1416 NSOL,2,(NODE(0.0,(-0.5*PITCH),0.0)),TEMP,,peakclad,
1417 STORE,NEW,
1418 *GET,TMTMAX,VARI,2,EXTREM,TMAX,

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1419 FINISH
1420 /POST1,
1421 /COM,          Create temperature contour plots of WP at peak
1422 /RESET
1423 /TRIAD,OFF,
1424 /NUM, 1,
1425 /PNUM,MAT, 1,
1426 /TYPE,HIDP,
1427 /GLINE,, -1,
1428 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1429 ESEL,U,MAT,,7,
1430 SET,NEAR,,,,TMTMAX,
1431 /TITLE, 40 BWR MPC/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
1432 /SHOW,solupk,grph,0,8,
1433 /CONTOUR,1,128,AUTO,
1434 PLNSOL,TEMP,
1435 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
1436 SET,NEAR,,,,TME10,
1437 /TITLE, 40 BWR MPC/WP at 10 years
1438 /SHOW,solu10,grph,0,8,
1439 /CONTOUR,1,128,USER,
1440 PLNSOL,TEMP,
1441 SET,NEAR,,,,TME50,
1442 /TITLE, 40 BWR MPC/WP at 50 years
1443 /SHOW,solu50,grph,0,8,
1444 /CONTOUR,1,128,USER,
1445 PLNSOL,TEMP,
1446 SET,NEAR,,,,TME100,
1447 /TITLE, 40 BWR MPC/WP at 100 years
1448 /SHOW,solu100,grph,0,8,
1449 /CONTOUR,1,128,USER,
1450 PLNSOL,TEMP,
1451 ESEL,ALL,
1452 FINISH
1453 /COM, *****
1454 /COM,          Print time/temperature output at specific locations
1455 /COM,          Save profile from center to edge
1456 /COM,
1457 /COM,          Variable Legend: A01i000
1458 /COM,          c = center of assembly
1459 /COM,          h = halfway between center and tube
1460 /COM,          s = inside structural stainless tube layer
1461 /COM,          a = aluminum-born tube layer
1462 /COM,          t = stainless tube cladding
1463 /COM,          g = tube guide
1464 /COM,          m = mpc shell
1465 /COM,          i = inner barrier of DC
1466 /COM,          o = outer barrier of DC
1467 /COM,          ## = ID number of assembly (01 is center)
1468 /COM,          i = side of assembly toward center of WP
1469 /COM,          o = side of assembly toward edge of WP
1470 /COM,          000 = profile center down
1471 /COM,          045 = profile 45 deg down
1472 /COM,          090 = profile center side
1473 /COM,          135 = profile 45 deg up
1474 /COM,          180 = profile center up
1475 /POST26,
1476 NUMVAR,41,
1477 /COM,
1478 /COM, *****
1479 /COM, * Temperature Profile from center to bottom of WP (0 deg.) *
1480 /COM, *****
1481 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t02i000,
1482 NSOL, 3,(NODE(0.0, (0.0-ATWCL),0.0)),TEMP,,a02i000,
1483 NSOL, 4,(NODE(0.0, (0.0-STWCL),0.0)),TEMP,,s02i000,
1484 NSOL, 5,(NODE(0.0, (0.0-STWCL-QCELL),0.0)),TEMP,,h02i000,
1485 NSOL, 6,(NODE(0.0, (-0.5*PITCH),0.0)),TEMP,,c02i000,
1486 NSOL, 7,(NODE(0.0, (-0.5*PITCH-QCELL),0.0)),TEMP,,h02o000,
1487 NSOL, 8,(NODE(0.0, (-0.5*PITCH-HCELL),0.0)),TEMP,,s02o000,
1488 NSOL, 9,(NODE(0.0, (-0.5*PITCH-SCCELL),0.0)),TEMP,,a02o000,

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1489 NSOL,10,(NODE(0.0, (-1.0*PITCH),0.0)),TEMP,,t08i000,
1490 NSOL,11,(NODE(0.0, (-1.0*PITCH-ATWCL),0.0)),TEMP,,a08i000,
1491 NSOL,12,(NODE(0.0, (-1.0*PITCH-STWCL),0.0)),TEMP,,s08i000,
1492 NSOL,13,(NODE(0.0, (-1.0*PITCH-TQPCL),0.0)),TEMP,,h08i000,
1493 NSOL,14,(NODE(0.0, (-1.5*PITCH),0.0)),TEMP,,c08i000,
1494 NSOL,15,(NODE(0.0, (-1.5*PITCH-QCELL),0.0)),TEMP,,h08o000,
1495 NSOL,16,(NODE(0.0, (-1.5*PITCH-HCELL),0.0)),TEMP,,s08o000,
1496 NSOL,17,(NODE(0.0, (-1.5*PITCH-SCCELL),0.0)),TEMP,,a08o000,
1497 NSOL,18,(NODE(0.0, (-2.0*PITCH),0.0)),TEMP,,t18i000,
1498 NSOL,19,(NODE(0.0, (-2.0*PITCH-ATWCL),0.0)),TEMP,,a18i000,
1499 NSOL,20,(NODE(0.0, (-2.0*PITCH-STWCL),0.0)),TEMP,,s18i000,
1500 NSOL,21,(NODE(0.0, (-2.0*PITCH-TQPCL),0.0)),TEMP,,h18i000,
1501 NSOL,22,(NODE(0.0, (-2.5*PITCH),0.0)),TEMP,,c18i000,
1502 NSOL,23,(NODE(0.0, (-2.5*PITCH-QCELL),0.0)),TEMP,,h18o000,
1503 NSOL,24,(NODE(0.0, (-2.5*PITCH-HCELL),0.0)),TEMP,,s18o000,
1504 NSOL,25,(NODE(0.0, (-2.5*PITCH-SCCELL),0.0)),TEMP,,a18o000,
1505 NSOL,26,(NODE(0.0, (-3.0*PITCH),0.0)),TEMP,,t24i000,
1506 NSOL,27,(NODE(0.0, (-3.0*PITCH-ATWCL),0.0)),TEMP,,a24i000,
1507 NSOL,28,(NODE(0.0, (-3.0*PITCH-STWCL),0.0)),TEMP,,s24i000,
1508 NSOL,29,(NODE(0.0, (-3.0*PITCH-TQPCL),0.0)),TEMP,,h24i000,
1509 NSOL,30,(NODE(0.0, (-3.5*PITCH),0.0)),TEMP,,c24i000,
1510 NSOL,31,(NODE(0.0, (-3.5*PITCH-QCELL),0.0)),TEMP,,h24o000,
1511 NSOL,32,(NODE(0.0, (-3.5*PITCH-HCELL),0.0)),TEMP,,s24o000,
1512 NSOL,33,(NODE(0.0, (-3.5*PITCH-SCCELL),0.0)),TEMP,,t24o000,
1513 NSOL,34,(NODE(0.0, (0.0-GY11+TPGPT),0.0)),TEMP,,g24i000,
1514 NSOL,35,(NODE(0.0, (0.0-GY11),0.0)),TEMP,,g24o000,
1515 NSOL,36,(NODE(0.0, (0.0-MIRAD),0.0)),TEMP,,m24i000,
1516 NSOL,37,(NODE(0.0, (0.0-MIRAD-MWALL),0.0)),TEMP,,m24o000,
1517 NSOL,38,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i24i000,
1518 NSOL,39,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i24o000,
1519 NSOL,40,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o24o000,
1520 PRVAR, 2, 3, 4, 5, 6, 7,
1521 PRVAR, 8, 9,10,11,12,13,
1522 PRVAR,14,15,16,17,18,19,
1523 PRVAR,20,21,22,23,24,25,
1524 PRVAR,26,27,28,29,30,31,
1525 PRVAR,32,33,34,35,36,37,
1526 PRVAR,38,39,40,
1527 /COM,
1528 /COM,
1529 /COM, * Temperature Profile from center to lower right (45 deg.) *
1530 /COM,
1531 NSOL, 2,(NODE( 0.0, -OFFS,0.0)),TEMP,,c02i045,
1532 NSOL, 3,(NODE( QCELL, (-OFFS-QCELL),0.0)),TEMP,,h02o045,
1533 NSOL, 4,(NODE( HCELL, (-OFFS-HCELL),0.0)),TEMP,,s02o045,
1534 NSOL, 5,(NODE( SCELL, (-OFFS-SCELL),0.0)),TEMP,,a02o045,
1535 NSOL, 6,(NODE( ACELL, (-OFFS-ACELL),0.0)),TEMP,,t02o045,
1536 NSOL, 7,(NODE( (PITCH-ACELL), (ACELL-1.5*PITCH),0.0)),TEMP,,t07i045,
1537 NSOL, 8,(NODE( (PITCH-SCCELL), (SCCELL-1.5*PITCH),0.0)),TEMP,,a07i045,
1538 NSOL, 9,(NODE( (PITCH-HCELL), (HCELL-1.5*PITCH),0.0)),TEMP,,s07i045,
1539 NSOL,10,(NODE( (PITCH-QCELL), (QCELL-1.5*PITCH),0.0)),TEMP,,h07i045,
1540 NSOL,11,(NODE( PITCH, (-1.5*PITCH),0.0)),TEMP,,c07i045,
1541 NSOL,12,(NODE( (PITCH+QCELL), (-1.5*PITCH-QCELL),0.0)),TEMP,,h07o045,
1542 NSOL,13,(NODE( (PITCH+HCELL), (-1.5*PITCH-HCELL),0.0)),TEMP,,s07o045,
1543 NSOL,14,(NODE( (PITCH+SCCELL), (-1.5*PITCH-SCCELL),0.0)),TEMP,,a07o045,
1544 NSOL,15,(NODE( (PITCH+ACELL), (-1.5*PITCH-ACELL),0.0)),TEMP,,t07o045,
1545 NSOL,16,(NODE( (2.0*PITCH-ACELL), (ACELL-2.5*PITCH),0.0)),TEMP,,t16i045,
1546 NSOL,17,(NODE( (2.0*PITCH-SCCELL), (SCCELL-2.5*PITCH),0.0)),TEMP,,a16i045,
1547 NSOL,18,(NODE( (2.0*PITCH-HCELL), (HCELL-2.5*PITCH),0.0)),TEMP,,s16i045,
1548 NSOL,19,(NODE( (2.0*PITCH-QCELL), (QCELL-2.5*PITCH),0.0)),TEMP,,h16i045,
1549 NSOL,20,(NODE( (2.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c16i045,
1550 NSOL,21,(NODE( (2.0*PITCH+QCELL), (-2.5*PITCH-QCELL),0.0)),TEMP,,h16o045,
1551 NSOL,22,(NODE( (2.0*PITCH+HCELL), (-2.5*PITCH-HCELL),0.0)),TEMP,,s16o045,
1552 NSOL,23,(NODE( (2.0*PITCH+SCCELL), (-2.5*PITCH-SCCELL),0.0)),TEMP,,a16o045,
1553 NSOL,24,(NODE( (2.0*PITCH+ACELL), (-2.5*PITCH-ACELL),0.0)),TEMP,,t16o045,
1554 NSOL,25,(NODE( (GX32-GWALL), (0.0-GY24+SGCD1),0.0)),TEMP,,g16i045,
1555 NSOL,26,(NODE( MI45, (-1.0*MI45),0.0)),TEMP,,m16i045,
1556 NSOL,27,(NODE( MO45, (-1.0*MO45),0.0)),TEMP,,m16o045,
1557 NSOL,28,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i16i045,
1558 NSOL,29,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i16o045,

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1559 NSOL,30,(NODE(          DO45,          (-1.0*DO45),0.0)),TEMP,,o16o045,
1560 /COM, Add centers of assemblies 6, 14, 15, 17, 22, 23
1561 NSOL,31,(NODE(          (1.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c06i045,
1562 NSOL,32,(NODE(          (2.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c14i045,
1563 NSOL,33,(NODE(          (2.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c15i045,
1564 NSOL,34,(NODE(          (1.0*PITCH),      (-2.5*PITCH),0.0)),TEMP,,c17i045,
1565 NSOL,35,(NODE(          (3.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c22i045,
1566 NSOL,36,(NODE(          (3.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c23i045,
1567 PRVAR, 2, 3, 4, 5, 6, 7,
1568 PRVAR, 8, 9,10,11,12,13,
1569 PRVAR,14,15,16,17,18,19,
1570 PRVAR,20,21,22,23,24,25,
1571 PRVAR,26,27,28,29,30,31,
1572 PRVAR,32,33,34,35,36,
1573 /COM,
1574 /COM, *****
1575 /COM, * Temperature Profile from center to side of WP (90 deg.) *
1576 /COM, *****
1577 NSOL, 2,(NODE(          0.0,0.0,0.0)),TEMP,,c01i090,
1578 NSOL, 3,(NODE(          QCELL,0.0,0.0)),TEMP,,h01o090,
1579 NSOL, 4,(NODE(          HCELL,0.0,0.0)),TEMP,,s01o090,
1580 NSOL, 5,(NODE(          SCELL,0.0,0.0)),TEMP,,a01o090,
1581 NSOL, 6,(NODE(          ACELL,0.0,0.0)),TEMP,,t01o090,
1582 NSOL, 7,(NODE(          (PITCH-ACELL),0.0,0.0)),TEMP,,t05i090,
1583 NSOL, 8,(NODE(          (PITCH-SCELL),0.0,0.0)),TEMP,,a05i090,
1584 NSOL, 9,(NODE(          (PITCH-HCELL),0.0,0.0)),TEMP,,s05i090,
1585 NSOL,10,(NODE(          (PITCH-QCELL),0.0,0.0)),TEMP,,h05i090,
1586 NSOL,11,(NODE(          PITCH,0.0,0.0)),TEMP,,c05i090,
1587 NSOL,12,(NODE(          (PITCH+QCELL),0.0,0.0)),TEMP,,h05o090,
1588 NSOL,13,(NODE(          (PITCH+HCELL),0.0,0.0)),TEMP,,s05o090,
1589 NSOL,14,(NODE(          (PITCH+SCELL),0.0,0.0)),TEMP,,a05o090,
1590 NSOL,15,(NODE(          (PITCH+ACELL),0.0,0.0)),TEMP,,t05i090,
1591 NSOL,16,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1592 NSOL,17,(NODE(          (2.0*PITCH-SCELL),0.0,0.0)),TEMP,,a13i090,
1593 NSOL,18,(NODE(          (2.0*PITCH-HCELL),0.0,0.0)),TEMP,,s13i090,
1594 NSOL,19,(NODE(          (2.0*PITCH-QCELL),0.0,0.0)),TEMP,,h13i090,
1595 NSOL,20,(NODE(          (2.0*PITCH),0.0,0.0)),TEMP,,c13i090,
1596 NSOL,21,(NODE(          (2.0*PITCH+QCELL),0.0,0.0)),TEMP,,h13o090,
1597 NSOL,22,(NODE(          (2.0*PITCH+HCELL),0.0,0.0)),TEMP,,s13o090,
1598 NSOL,23,(NODE(          (2.0*PITCH+SCELL),0.0,0.0)),TEMP,,a13o090,
1599 NSOL,26,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1600 NSOL,27,(NODE(          (3.0*PITCH-ACELL),0.0,0.0)),TEMP,,t21i090,
1601 NSOL,28,(NODE(          (3.0*PITCH-SCELL),0.0,0.0)),TEMP,,a21i090,
1602 NSOL,29,(NODE(          (3.0*PITCH-HCELL),0.0,0.0)),TEMP,,s21i090,
1603 NSOL,30,(NODE(          (3.0*PITCH-QCELL),0.0,0.0)),TEMP,,h21i090,
1604 NSOL,31,(NODE(          (3.0*PITCH),0.0,0.0)),TEMP,,c21i090,
1605 NSOL,32,(NODE(          (3.0*PITCH+QCELL),0.0,0.0)),TEMP,,h21o090,
1606 NSOL,33,(NODE(          (3.0*PITCH+HCELL),0.0,0.0)),TEMP,,s21o090,
1607 NSOL,34,(NODE(          (3.0*PITCH+SCELL),0.0,0.0)),TEMP,,t21o090,
1608 NSOL,35,(NODE(          (GX44-GWALL),0.0,0.0)),TEMP,,g04i090,
1609 NSOL,36,(NODE(          GX44,0.0,0.0)),TEMP,,g04o090,
1610 NSOL,37,(NODE(          MIRAD,0.0,0.0)),TEMP,,m04i090,
1611 NSOL,38,(NODE(          (MIRAD+MWALL),0.0,0.0)),TEMP,,m04o090,
1612 NSOL,39,(NODE(          (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
1613 NSOL,40,(NODE(          (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
1614 NSOL,41,(NODE(          DCRAD,0.0,0.0)),TEMP,,o04o090,
1615 PRVAR, 2, 3, 4, 5, 6, 7,
1616 PRVAR, 8, 9,10,11,12,13,
1617 PRVAR,14,15,16,17,18,19,
1618 PRVAR,20,21,22,23,24,25,
1619 PRVAR,26,27,28,29,30,31,
1620 PRVAR,32,33,34,35,36,37,
1621 PRVAR,38,39,40,41,
1622 /COM,
1623 /COM, *****
1624 /COM, * Temperature Profile from center to upper right (135 deg.) *
1625 /COM, *****
1626 NSOL, 2,(NODE(          0.0,          OFFS,0.0)),TEMP,,c01i135,
1627 NSOL, 3,(NODE(          QCELL,          (OFFS+QCELL),0.0)),TEMP,,h01o135,
1628 NSOL, 4,(NODE(          HCELL,          (OFFS+HCELL),0.0)),TEMP,,s01o135,

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1629 NSOL, 5, (NODE(          SCELL,          (OFFS+SCELL),0.0)),TEMP,,a01o135,
1630 NSOL, 6, (NODE(          ACELL,          (OFFS+ACELL),0.0)),TEMP,,t01o135,
1631 NSOL, 7, (NODE(          (PITCH-ACELL), (1.5*PITCH-ACELL),0.0)),TEMP,,t04i135,
1632 NSOL, 8, (NODE(          (PITCH-SCELL), (1.5*PITCH-SCELL),0.0)),TEMP,,a04i135,
1633 NSOL, 9, (NODE(          (PITCH-HCELL), (1.5*PITCH-HCELL),0.0)),TEMP,,s04i135,
1634 NSOL,10, (NODE(          (PITCH-QCELL), (1.5*PITCH-QCELL),0.0)),TEMP,,h04i135,
1635 NSOL,11, (NODE(          PITCH,          (1.5*PITCH),0.0)),TEMP,,c04i135,
1636 NSOL,12, (NODE(          (PITCH+QCELL), (1.5*PITCH+QCELL),0.0)),TEMP,,h04o135,
1637 NSOL,13, (NODE(          (PITCH+HCELL), (1.5*PITCH+HCELL),0.0)),TEMP,,s04o135,
1638 NSOL,14, (NODE(          (PITCH+SCELL), (1.5*PITCH+SCELL),0.0)),TEMP,,a04o135,
1639 NSOL,15, (NODE(          (PITCH+ACELL), (1.5*PITCH+ACELL),0.0)),TEMP,,t04o135,
1640 NSOL,16, (NODE((2.0*PITCH-ACELL), (2.5*PITCH-ACELL),0.0)),TEMP,,t11i135,
1641 NSOL,17, (NODE((2.0*PITCH-SCELL), (2.5*PITCH-SCELL),0.0)),TEMP,,a11i135,
1642 NSOL,18, (NODE((2.0*PITCH-HCELL), (2.5*PITCH-HCELL),0.0)),TEMP,,s11i135,
1643 NSOL,19, (NODE((2.0*PITCH-QCELL), (2.5*PITCH-QCELL),0.0)),TEMP,,h11i135,
1644 NSOL,20, (NODE(          (2.0*PITCH),          (2.5*PITCH),0.0)),TEMP,,c11i135,
1645 NSOL,21, (NODE((2.0*PITCH+QCELL), (2.5*PITCH+QCELL),0.0)),TEMP,,h11o135,
1646 NSOL,22, (NODE((2.0*PITCH+HCELL), (2.5*PITCH+HCELL),0.0)),TEMP,,s11o135,
1647 NSOL,23, (NODE((2.0*PITCH+SCELL), (2.5*PITCH+SCELL),0.0)),TEMP,,a11o135,
1648 NSOL,24, (NODE((2.0*PITCH+ACELL), (2.5*PITCH+ACELL),0.0)),TEMP,,t11o135,
1649 NSOL,25, (NODE(          (GX32-GWALL),          (GY24-SGCD1),0.0)),TEMP,,g11i135,
1650 NSOL,26, (NODE(          MI45,          (1.0*MI45),0.0)),TEMP,,m11i135,
1651 NSOL,27, (NODE(          MO45,          (1.0*MO45),0.0)),TEMP,,m11o135,
1652 NSOL,28, (NODE(          DI45,          (1.0*DI45),0.0)),TEMP,,i11i135,
1653 NSOL,29, (NODE(          DM45,          (1.0*DM45),0.0)),TEMP,,i11o135,
1654 NSOL,30, (NODE(          DO45,          (1.0*DO45),0.0)),TEMP,,o11o135,
1655 /COM, Add centers of assemblies 5, 10, 12, 13, 20, 21
1656 NSOL,31, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c06i135,
1657 NSOL,32, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c14i135,
1658 NSOL,33, (NODE(          (2.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c15i135,
1659 NSOL,34, (NODE(          (2.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c17i135,
1660 NSOL,35, (NODE(          (3.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c22i135,
1661 NSOL,36, (NODE(          (3.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c23i135,
1662 PRVAR, 2, 3, 4, 5, 6, 7,
1663 PRVAR, 8, 9,10,11,12,13,
1664 PRVAR,14,15,16,17,18,19,
1665 PRVAR,20,21,22,23,24,25,
1666 PRVAR,26,27,28,29,30,31,
1667 PRVAR,32,33,34,35,36,
1668 /COM,
1669 /COM, *****
1670 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1671 /COM, *****
1672 NSOL, 2, (NODE(0.0,          0.0,0.0)),TEMP,,t02i000,
1673 NSOL, 3, (NODE(0.0,          (ATWCL),0.0)),TEMP,,a02i000,
1674 NSOL, 4, (NODE(0.0,          (STWCL),0.0)),TEMP,,s02i000,
1675 NSOL, 5, (NODE(0.0,          (STWCL+QCELL),0.0)),TEMP,,h02i000,
1676 NSOL, 6, (NODE(0.0,          (0.5*PITCH),0.0)),TEMP,,c02i000,
1677 NSOL, 7, (NODE(0.0,          (0.5*PITCH+QCELL),0.0)),TEMP,,h02o000,
1678 NSOL, 8, (NODE(0.0,          (0.5*PITCH+HCELL),0.0)),TEMP,,s02o000,
1679 NSOL, 9, (NODE(0.0,          (0.5*PITCH+SCELL),0.0)),TEMP,,a02o000,
1680 NSOL,10, (NODE(0.0,          (1.0*PITCH),0.0)),TEMP,,t08i000,
1681 NSOL,11, (NODE(0.0,          (1.0*PITCH+ATWCL),0.0)),TEMP,,a08i000,
1682 NSOL,12, (NODE(0.0,          (1.0*PITCH+STWCL),0.0)),TEMP,,s08i000,
1683 NSOL,13, (NODE(0.0,          (1.0*PITCH+QPCCL),0.0)),TEMP,,h08i000,
1684 NSOL,14, (NODE(0.0,          (1.5*PITCH),0.0)),TEMP,,c08i000,
1685 NSOL,15, (NODE(0.0,          (1.5*PITCH+QCELL),0.0)),TEMP,,h08o000,
1686 NSOL,16, (NODE(0.0,          (1.5*PITCH+HCELL),0.0)),TEMP,,s08o000,
1687 NSOL,17, (NODE(0.0,          (1.5*PITCH+SCELL),0.0)),TEMP,,a08o000,
1688 NSOL,18, (NODE(0.0,          (2.0*PITCH),0.0)),TEMP,,t18i000,
1689 NSOL,19, (NODE(0.0,          (2.0*PITCH+ATWCL),0.0)),TEMP,,a18i000,
1690 NSOL,20, (NODE(0.0,          (2.0*PITCH+STWCL),0.0)),TEMP,,s18i000,
1691 NSOL,21, (NODE(0.0,          (2.0*PITCH+QPCCL),0.0)),TEMP,,h18i000,
1692 NSOL,22, (NODE(0.0,          (2.5*PITCH),0.0)),TEMP,,c18i000,
1693 NSOL,23, (NODE(0.0,          (2.5*PITCH+QCELL),0.0)),TEMP,,h18o000,
1694 NSOL,24, (NODE(0.0,          (2.5*PITCH+HCELL),0.0)),TEMP,,s18o000,
1695 NSOL,25, (NODE(0.0,          (2.5*PITCH+SCELL),0.0)),TEMP,,a18o000,
1696 NSOL,26, (NODE(0.0,          (3.0*PITCH),0.0)),TEMP,,t24i000,
1697 NSOL,27, (NODE(0.0,          (3.0*PITCH+ATWCL),0.0)),TEMP,,a24i000,
1698 NSOL,28, (NODE(0.0,          (3.0*PITCH+STWCL),0.0)),TEMP,,s24i000,

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1699 NSOL,29,(NODE(0.0, (3.0*PITCH+TPCL),0.0)),TEMP,,h24i000,
1700 NSOL,30,(NODE(0.0, (3.5*PITCH),0.0)),TEMP,,c24i000,
1701 NSOL,31,(NODE(0.0, (3.5*PITCH+QCELL),0.0)),TEMP,,h24o000,
1702 NSOL,32,(NODE(0.0, (3.5*PITCH+HCELL),0.0)),TEMP,,s24o000,
1703 NSOL,33,(NODE(0.0, (3.5*PITCH+SCELL),0.0)),TEMP,,t24o000,
1704 NSOL,34,(NODE(0.0, (GY11-TPGPT),0.0)),TEMP,,g24i000,
1705 NSOL,35,(NODE(0.0, (GY11),0.0)),TEMP,,g24o000,
1706 NSOL,36,(NODE(0.0, (MIRAD),0.0)),TEMP,,m24i000,
1707 NSOL,37,(NODE(0.0, (MIRAD+MWALL),0.0)),TEMP,,m24o000,
1708 NSOL,38,(NODE(0.0, (DCRAD-OWALL-IWALL),0.0)),TEMP,,i24i000,
1709 NSOL,39,(NODE(0.0, (DCRAD-OWALL),0.0)),TEMP,,i24o000,
1710 NSOL,40,(NODE(0.0, (DCRAD),0.0)),TEMP,,o24o000,
1711 PRVAR, 2, 3, 4, 5, 6, 7,
1712 PRVAR, 8, 9,10,11,12,13,
1713 PRVAR,14,15,16,17,18,19,
1714 PRVAR,20,21,22,23,24,25,
1715 PRVAR,26,27,28,29,30,31,
1716 PRVAR,32,33,34,35,36,37,
1717 PRVAR,38,39,40,
1718 FINISH
1719 /COM, *****
1720 /COM, End of batch input file
1721 /COM, *****
1722 /EXIT,
1723 /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,

```

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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                                03/07/1995
2-D Model of 125 ton burnup credit MPC-DC          Thomas L Lotz
*****
*
* File name: ma40w1.inp                             *
*   40 BWR MPC with Low T.L. Disposal Container      *
*   Helium Fill Gas                                 *
*
* Material Property file: props01.dat                *
*
* SNF Conductivity file: pwr15e.parm (check for Changes) *
*   GE-7 8x8 SNF Assembly                           *
*
* SNF Heat Loads file:  bwr1049.dat                  *
*   SNF Type: 10 years old, 49 GWD/MTU                *
*
* Surface Temp. file:   c21w5a.parm                  *
*   25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
*   5.0 m Diameter Drift with Concrete Invert         *
*   Drift spacing = 45.0 m                             *
*   WP c/c spacing = 32.331 m                          *
*
*****
Increase the number of database pages from 16 (256) to 32 Mb

```

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512

Work space must also be increased (-m 64)

TITLE=

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
 MASS = KILOGRAMS(KG)
 TIME = SECONDS(SEC)
 TEMPERATURE = CENTIGRADE
 CURRENT = AMPS

Define Transient time parameters

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

Read in average effective conductivities from SNF model

*** NOTE *** CP= .780 TIME= 20:25:35
 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= 1.000 TIME= 20:25:35
 Restore ANSYS parameters from file= c21w5a.parm.

/INPUT FILE= c21w5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define MPC/waste package parameters
 (MPC dimensions converted from inches to meters)
 Required Constants:

PARAMETER PI = 3.141593

Required container wall parameters:
 MIRAD = inner radius of MPC shell (m)
 MWALL = MPC shell thickness (m)
 DCRAD = disposal container outer radius (m)

OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)

PARAMETER MIRAD = .7404100
PARAMETER MWALL = .2540000E-01
PARAMETER DCRAD = .8508000
PARAMETER OWALL = .5000000E-01
PARAMETER IWALL = .2000000E-01

Required outer guide hardware parameters:

Set 1: TPGPL = top/bottom guide plate length (m)
TPGPT = top/bottom guide plate thickness (m)

PARAMETER TPGPL = .1606296
PARAMETER TPGPT = .6350000E-02

Set 2: SGCCW = Width; corner guide to far corner side guide (m)
SGCMW = Width; Side guide corner to Middle side guide (m)
SGCD1 = Vert. Dist. Down to Corner of Guide (m)

PARAMETER SGCCW = .5367528
PARAMETER SGCMW = .1722374
PARAMETER SGCD1 = .1772666

SET 3: GCORV = corner guide Vertical width (m)
GCORH = corner guide Horizontal width (m)
GX32 = X coord. of upper contact from drawing. (m)
GY32 = Y coord. of upper contact from drawing. (m)

PARAMETER GCORV = .1971040
PARAMETER GCORH = .1705864
PARAMETER GX32 = .4739989
PARAMETER GY32 = .5687987

SET 4: GLEN1 = side guide Low width (m)
GLEN2 = side guide High width (m)
GLENT = side guide total width (m)
GWALL = guide thickness (m)

PARAMETER GLEN1 = .1709166
PARAMETER GLEN2 = .3539998
PARAMETER GLENT = .7331964
PARAMETER GWALL = .9525000E-02

Required Tube/Fuel parameters:

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
AWALL = Al/boron tube thickness (m)
TWALL = stainless tube cladding thickness (m)
ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

PARAMETER HCELL = .7620000E-01
PARAMETER SWALL = .6350000E-02
PARAMETER AWALL = .6350000E-02

PARAMETER TWALL = .2387600E-02
 PARAMETER ACTVL = 3.810000
 PARAMETER PEAKF = 1.400000

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)
 ATWCL = Dist. to edge of B-AL plate (m)
 STWCL = Dist. to edge of Steel Bask. Plate (m)
 TQPCL = Top quarter of cell dist. (m)

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 = .8849015E-01
 PARAMETER PITCH = .1825752
 PARAMETER QCELL = .3810000E-01
 PARAMETER SCELL = .8255000E-01
 PARAMETER ACELL = .8890000E-01
 PARAMETER ATWCL = .8737600E-02
 PARAMETER STWCL = .1508760E-01
 PARAMETER TQPCL = .5318760E-01

Determine the required contact points for the outer guide hardware

GX## = x coord. of guide/shell contact
 GY## = y coord. of guide/shell contact

Set 1:

PARAMETER GX11 = .8031480E-01
 PARAMETER GY11 = .7360411

Set 3:

PARAMETER GX31 = .6350603
 PARAMETER GY31 = .3812197

Set 2:

PARAMETER GX24 = .9830753E-01
 PARAMETER GY24 = .7338546
 PARAMETER GX23 = .1078325
 PARAMETER GY23 = .7325156

PARAMETER GX22 = .2705449
 PARAMETER GY22 = .6892114
 PARAMETER GX21 = .2800699
 PARAMETER GY21 = .6853961

Set 4:

PARAMETER GY41 = .4762500E-02
 PARAMETER GX41 = .7403947
 PARAMETER GY44 = .3587623
 PARAMETER GX44 = .6476856
 PARAMETER GY43 = .1878457
 PARAMETER GX43 = .7161850
 PARAMETER GY42 = .1783207
 PARAMETER GX42 = .7186158

Define 45 degree point of reference:

MI45 = x coord. MIRAD at 45 deg.
 MO45 = x coord. MIRAD+MWALL at 45 deg.
 DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 DM45 = x coord. DCRAD-OWALL at 45 deg.
 DO45 = x coord. DCRAD at 45 deg.
 OFFS = 45 degree Y off set to go through centers

PARAMETER MI45 = .5235489
 PARAMETER MO45 = .5415094
 PARAMETER DI45 = .5521090
 PARAMETER DM45 = .5662511
 PARAMETER DO45 = .6016064
 PARAMETER OFFS = .9128760E-01

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:36 APR 08, 1995 CP= 1.970
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 .000000E+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
	585.9600	588.3900	586.3600
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
	40.50000	39.98000	41.02000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 18
SLOC= 13	39.29000	38.77000	38.08000
	36.69000	36.17000	37.56000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 24
SLOC= 19	35.48000	34.61000	33.92000
	32.36000	31.50000	33.23000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 30
SLOC= 25	30.29000	28.90000	27.35000
	26.13000	26.13000	26.48000
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 6
SLOC= 1	428.7200	444.9500	460.9400
	486.0800	495.6600	476.8700
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 12
SLOC= 7	506.0900	517.0700	525.6400
	543.6300	550.6200	536.9900
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 18
SLOC= 13	562.2100	577.3200	589.1000
	611.3500	629.0900	600.5700
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 24
SLOC= 19	645.3200	665.1200	682.0700
	724.0700	761.9500	694.5200
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 30
SLOC= 25	806.3100	888.6000	1095.040
	808.6800	736.9000	1638.780

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
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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
	16.64000	16.76000	16.52000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 42	
SLOC= 37	16.88000	16.99000	17.11000
	17.35000	17.46000	17.23000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 48	
SLOC= 43	17.58000	17.70000	17.82000
	18.06000	18.18000	17.94000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 50	
SLOC= 48	18.30000	18.42000	18.54000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 6	
SLOC= 1	1.940000	1.940000	1.940000
	1.940000	1.940000	1.940000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 12	
SLOC= 7	1.940000	1.950000	1.950000
	1.950000	1.950000	1.950000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 18	
SLOC= 13	1.950000	1.950000	1.960000
	1.960000	1.960000	1.960000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 24	
SLOC= 19	1.960000	1.970000	1.970000
	1.970000	1.980000	1.970000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 30	
SLOC= 25	1.980000	1.980000	1.980000
	1.990000	1.990000	1.990000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 36	
SLOC= 31	2.000000	2.000000	2.000000
	2.010000	2.010000	2.010000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 42	
SLOC= 37	2.020000	2.020000	2.020000
	2.030000	2.030000	2.030000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 48	
SLOC= 43	2.040000	2.040000	2.040000
	2.050000	2.060000	2.050000
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= bwr1049.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: bwr1049.dat
** Execution Date: 03/07/95
** Start Age (years): 10.0
** Decay Period (years): 10000
** Enrichment (percent): 3.74
** Burnup (MWd/MTU): 49000
** Assembly Type: BWR
** SNF U Mass (MTU/assy): 0.200
**
** ASSY(#,1) is the SNF assembly heat in Watts.
** ASSY(#,0) is the time post emplacement in years.
*****

```

PARAMETER ASSY(1,1) =	409.4200 408.7300	409.2500 408.5500	409.0700	408.9000
PARAMETER ASSY(7,1) =	408.3800 407.6800	408.2000 406.8200	408.0300	407.8600
PARAMETER ASSY(13,1) =	405.9700 402.6100	405.1200 401.7900	404.2800	403.4400
PARAMETER ASSY(19,1) =	400.9700 397.7400	400.1500 396.9500	399.3400	398.5400
PARAMETER ASSY(25,1) =	396.1600 393.0600	395.3800 386.0700	394.6000	393.8300
PARAMETER ASSY(31,1) =	379.4900 357.2900	373.4300 352.6900	367.7000	362.3600
PARAMETER ASSY(37,1) =	348.3000 331.0000	343.5600 327.1800	339.0300	334.9300
PARAMETER ASSY(43,1) =	323.5200 310.5600	319.9200 280.3200	316.4600	313.4600
PARAMETER ASSY(49,1) =	255.6100 183.3200	233.4000 169.5700	214.5200	197.6200
PARAMETER ASSY(55,1) =	157.9000 122.2500	147.4800 115.4800	138.1500	129.7800
PARAMETER ASSY(61,1) =	109.3700 90.35000	103.8500 64.29000	99.33000	94.47000
PARAMETER ASSY(67,1) =	51.61000 31.79000	43.92000 29.32000	38.89000	34.91000
PARAMETER ASSY(73,1) =	27.23000 21.02000	25.32000 19.82000	23.69000	22.28000
PARAMETER ASSY(79,1) =	18.76000 15.49000	17.81000 10.52000	16.96000	16.20000
PARAMETER ASSY(85,1) =	8.210000 5.640000	7.000000 5.430000	6.340000	5.950000
PARAMETER ASSY(91,1) =	5.250000 4.510000	5.030000 4.350000	4.830000	4.660000
PARAMETER ASSY(97,1) =	4.210000 3.750000	4.080000	3.960000	3.850000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01	.7000000E-01	.8000000E-01	.9000000E-01

	.1000000	.1500000		
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= 15.821
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= 15.821 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 .000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
 SLOC= 1 3882.420

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
 SLOC= 1 284.0100
 Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

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

PARAMETER IINC = 2.000000

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

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

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

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

PARAMETER IINC = 2.000000

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

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

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

 Define new material 15 for low thermal loading
 outer barrier of 70/30 Copper Nickel (C71500)
 Density: DENS (kg/m^3)
 Conductivity: KXX (W/m/K)
 Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 .000000E+00
 Density (lb/in^3 converted to kg/m^3)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1

SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1
SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***
SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***
SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2
SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4
SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6
SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8
SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

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

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

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

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

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

KP2= 7 TAN2= .0000 .0000 1.0000
 Define disposal container and MPC outer radius
 (K's 9,10,11,12,13,14,15,16,17,18,19,20)
 (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
 (A's 1,2,3,4,5)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.850800	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.850800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.850800	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.800800	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.800800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.800800	.000000E+00	IN CSYS= 0
KEYPOINT	15	X,Y,Z=	.000000E+00	-.780800	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.780800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.000000E+00	.780800	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.000000E+00	-.765810	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.765810	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.000000E+00	.765810	.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

LINE CONNECTS KEYPOINTS	13	16			
LINE NO.= 6	KP1=	13	TAN1=	1.0000	.0000 .0000
	KP2=	16	TAN2=	-1.0000	.0000 .0000

ARC BETWEEN KEYPOINTS	10 AND	9	ORIENTATION KEYPOINT=	1
RADIUS= .85080				
LINE NO.= 7	KP1=	10	TAN1=	.0000 1.0000 .0000
	KP2=	9	TAN2=	-1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS	11 AND	10	ORIENTATION KEYPOINT=	1
RADIUS= .85080				
LINE NO.= 8	KP1=	11	TAN1=	-1.0000 .0000 .0000
	KP2=	10	TAN2=	.0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS	13 AND	12	ORIENTATION KEYPOINT=	1
RADIUS= .80080				
LINE NO.= 9	KP1=	13	TAN1=	.0000 1.0000 .0000
	KP2=	12	TAN2=	-1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS	14 AND	13	ORIENTATION KEYPOINT=	1
RADIUS= .80080				
LINE NO.= 10	KP1=	14	TAN1=	-1.0000 .0000 .0000
	KP2=	13	TAN2=	.0000 -1.0000 .0000

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

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

ARC BETWEEN KEYPOINTS	15 AND	16	ORIENTATION KEYPOINT=	1
RADIUS= .78080				
LINE NO.= 13	KP1=	15	TAN1=	-1.0000 .0000 .0000
	KP2=	16	TAN2=	.0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 16 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .78080
 LINE NO.= 14 KP1= 16 TAN1= .0000 -1.0000 .0000
 KP2= 17 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 14 17
 LINE NO.= 15 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 17 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 12 15
 LINE NO.= 16 KP1= 12 TAN1= .0000 -1.0000 .0000
 KP2= 15 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 17 KP1= 19 TAN1= .0000 1.0000 .0000
 KP2= 18 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 18 KP1= 20 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 17 20
 LINE NO.= 19 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 20 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 18
 LINE NO.= 20 KP1= 15 TAN1= .0000 -1.0000 .0000
 KP2= 18 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 7 12 9
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 11 8 5 10
 (TRAVERSED IN SAME DIRECTION AS LINE 11)

AREA NUMBER = 2

DEFINE AREA BY LIST OF LINES
 LINE LIST = 6 9 16 13
 (TRAVERSED IN SAME DIRECTION AS LINE 6)

AREA NUMBER = 3

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 10 6 14
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 4

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 14 13 20 17 18
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 5

 Define MPC shell inner edge and area
 (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38, 39, 40, 41, 42, 43, 44)
 (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38,39, 40, 41, 42, 43, 44, 45)
 (A's 6)

KEYPOINT 21 X,Y,Z= .000000E+00 .740410 .000000E+00 IN CSYS= 0

KEYPOINT	22	X,Y,Z=	.803148E-01	.736041	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.983075E-01	.733855	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.107833	.732516	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.270545	.689211	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.280070	.685396	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.473999	.568799	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.635060	.381220	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.647686	.358762	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.716185	.187846	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.718616	.178321	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.740395	.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.740395	-.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	34	X,Y,Z=	.718616	-.178321	.000000E+00	IN CSYS= 0
KEYPOINT	35	X,Y,Z=	.716185	-.187846	.000000E+00	IN CSYS= 0
KEYPOINT	36	X,Y,Z=	.647686	-.358762	.000000E+00	IN CSYS= 0
KEYPOINT	37	X,Y,Z=	.635060	-.381220	.000000E+00	IN CSYS= 0
KEYPOINT	38	X,Y,Z=	.473999	-.568799	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.280070	-.685396	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.270545	-.689211	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.107833	-.732516	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.983075E-01	-.733855	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.803148E-01	-.736041	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.000000E+00	-.740410	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		20	21				
LINE NO.=	21	KP1=	20	TAN1=	.0000	1.0000	.0000
		KP2=	21	TAN2=	.0000	-1.0000	.0000

ARC BETWEEN KEYPOINTS		22	AND	21	ORIENTATION KEYPOINT= 1		
RADIUS=		.74041					
LINE NO.=	22	KP1=	22	TAN1=	.9941	-.1085	.0000
		KP2=	21	TAN2=	-1.0000	.0000	.0000

ARC BETWEEN KEYPOINTS		23	AND	22	ORIENTATION KEYPOINT= 1		
RADIUS=		.74041					
LINE NO.=	23	KP1=	23	TAN1=	.9911	-.1328	.0000
		KP2=	22	TAN2=	-.9941	.1085	.0000

ARC BETWEEN KEYPOINTS		24	AND	23	ORIENTATION KEYPOINT= 1		
RADIUS=		.74041					
LINE NO.=	24	KP1=	24	TAN1=	.9893	-.1456	.0000
		KP2=	23	TAN2=	-.9911	.1328	.0000

ARC BETWEEN KEYPOINTS		25	AND	24	ORIENTATION KEYPOINT= 1		
RADIUS=		.74041					
LINE NO.=	25	KP1=	25	TAN1=	.9309	-.3654	.0000
		KP2=	24	TAN2=	-.9893	.1456	.0000

ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	26	KP1=	26 TAN1=	.9257 -.3783 .0000
		KP2=	25 TAN2=	-.9309 .3654 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	27	KP1=	27 TAN1=	.7682 -.6402 .0000
		KP2=	26 TAN2=	-.9257 .3783 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	28	KP1=	28 TAN1=	.5156 -.8568 .0000
		KP2=	27 TAN2=	-.7690 .6393 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	29	KP1=	29 TAN1=	.4748 -.8801 .0000
		KP2=	28 TAN2=	-.5051 .8630 .0000
ARC BETWEEN KEYPOINTS	30 AND	29	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	30	KP1=	30 TAN1=	.2537 -.9673 .0000
		KP2=	29 TAN2=	-.4845 .8748 .0000
ARC BETWEEN KEYPOINTS	31 AND	30	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	31	KP1=	31 TAN1=	.2408 -.9706 .0000
		KP2=	30 TAN2=	-.2537 .9673 .0000
ARC BETWEEN KEYPOINTS	32 AND	31	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	32	KP1=	32 TAN1=	.0064 -1.0000 .0000
		KP2=	31 TAN2=	-.2408 .9706 .0000
ARC BETWEEN KEYPOINTS	33 AND	32	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	33	KP1=	33 TAN1=	-.0064 -1.0000 .0000
		KP2=	32 TAN2=	-.0064 1.0000 .0000
ARC BETWEEN KEYPOINTS	34 AND	33	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	34	KP1=	34 TAN1=	-.2408 -.9706 .0000
		KP2=	33 TAN2=	.0064 1.0000 .0000
ARC BETWEEN KEYPOINTS	35 AND	34	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	35	KP1=	35 TAN1=	-.2537 -.9673 .0000
		KP2=	34 TAN2=	.2408 .9706 .0000
ARC BETWEEN KEYPOINTS	36 AND	35	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	36	KP1=	36 TAN1=	-.4845 -.8748 .0000
		KP2=	35 TAN2=	.2537 .9673 .0000
ARC BETWEEN KEYPOINTS	37 AND	36	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	37	KP1=	37 TAN1=	-.5051 -.8630 .0000
		KP2=	36 TAN2=	.4748 .8801 .0000
ARC BETWEEN KEYPOINTS	38 AND	37	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	38	KP1=	38 TAN1=	-.7690 -.6393 .0000
		KP2=	37 TAN2=	.5156 .8568 .0000
ARC BETWEEN KEYPOINTS	39 AND	38	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	39	KP1=	39 TAN1=	-.9257 -.3783 .0000
		KP2=	38 TAN2=	.7682 .6402 .0000

ARC BETWEEN KEYPOINTS 40 AND 39 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 40 KP1= 40 TAN1= -.9309 -.3654 .0000
 KP2= 39 TAN2= .9257 .3783 .0000

ARC BETWEEN KEYPOINTS 41 AND 40 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 41 KP1= 41 TAN1= -.9893 -.1456 .0000
 KP2= 40 TAN2= .9309 .3654 .0000

ARC BETWEEN KEYPOINTS 42 AND 41 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 42 KP1= 42 TAN1= -.9911 -.1328 .0000
 KP2= 41 TAN2= .9893 .1456 .0000

ARC BETWEEN KEYPOINTS 43 AND 42 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 43 KP1= 43 TAN1= -.9941 -.1085 .0000
 KP2= 42 TAN2= .9911 .1328 .0000

ARC BETWEEN KEYPOINTS 44 AND 43 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 44 KP1= 44 TAN1= -1.0000 .0000 .0000
 KP2= 43 TAN2= .9941 .1085 .0000

LINE CONNECTS KEYPOINTS 18 44
 LINE NO.= 45 KP1= 18 TAN1= .0000 -1.0000 .0000
 KP2= 44 TAN2= .0000 1.0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 45 STEP 1

25 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 17 TO 18 STEP 1

27 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 6

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 45 STEP 1

45 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

 Define tube guides
 (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
 (62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
 (79,80,81,82)
 (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
 (63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
 (80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
 (97,98,99,100,101,102,103,104,105,106,107,108,109,110)
 (111,112,113,114,115)
 (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
 (25,26,27,28,29,30,31,32,33,34,35,36,37,38)

Set 1: top plate

KEYPOINT 45 X,Y,Z= .803148E-01 .726516 .000000E+00 IN CSYS= 0
 KEYPOINT 46 X,Y,Z= .000000E+00 .736041 .000000E+00 IN CSYS= 0
 KEYPOINT 47 X,Y,Z= .000000E+00 .726516 .000000E+00 IN CSYS= 0

Set 2: top side guide

KEYPOINT	48	X,Y,Z=	.983075E-01	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.107833	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.270545	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.280070	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.464474	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.464474	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.473999	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.473999	.556588	.000000E+00	IN CSYS= 0

Set 3: top corner

KEYPOINT	56	X,Y,Z=	.464474	.568799	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.464474	.371695	.000000E+00	IN CSYS= 0
KEYPOINT	58	X,Y,Z=	.473999	.381220	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.635060	.371695	.000000E+00	IN CSYS= 0

Set 4: side guide

KEYPOINT	60	X,Y,Z=	.638161	.358762	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.638161	-.358762	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.647686	.187846	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.647686	.178321	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.647686	.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.647686	-.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	66	X,Y,Z=	.647686	-.178321	.000000E+00	IN CSYS= 0
KEYPOINT	67	X,Y,Z=	.647686	-.187846	.000000E+00	IN CSYS= 0

Set 3: bottom corner

KEYPOINT	68	X,Y,Z=	.464474	-.568799	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.464474	-.371695	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.473999	-.381220	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.635060	-.371695	.000000E+00	IN CSYS= 0

Set 2: bottom side guide

KEYPOINT	72	X,Y,Z=	.983075E-01	-.556588	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.107833	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.270545	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.280070	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	76	X,Y,Z=	.464474	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.464474	-.556588	.000000E+00	IN CSYS= 0

KEYPOINT 78 X,Y,Z= .473999 -.566113 .000000E+00 IN CSYS= 0
 KEYPOINT 79 X,Y,Z= .473999 -.556588 .000000E+00 IN CSYS= 0

Set 1: bottom plate

KEYPOINT 80 X,Y,Z= .803148E-01 -.726516 .000000E+00 IN CSYS= 0
 KEYPOINT 81 X,Y,Z= .000000E+00 -.736041 .000000E+00 IN CSYS= 0
 KEYPOINT 82 X,Y,Z= .000000E+00 -.726516 .000000E+00 IN CSYS= 0

Now Fill in the required lines:

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 21 46
 LINE NO.= 46 KP1= 21 TAN1= .0000 1.0000 .0000
 KP2= 46 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 47
 LINE NO.= 47 KP1= 46 TAN1= .0000 1.0000 .0000
 KP2= 47 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 22
 LINE NO.= 48 KP1= 46 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 22 45
 LINE NO.= 49 KP1= 22 TAN1= .0000 1.0000 .0000
 KP2= 45 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 45 47
 LINE NO.= 50 KP1= 45 TAN1= 1.0000 .0000 .0000
 KP2= 47 TAN2= -1.0000 .0000 .0000

Set 2: top side guide

LINE CONNECTS KEYPOINTS 48 23
 LINE NO.= 51 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 23 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 52 KP1= 48 TAN1= -.7071 -.7071 .0000
 KP2= 49 TAN2= .7071 .7071 .0000
 LINE CONNECTS KEYPOINTS 24 49
 LINE NO.= 53 KP1= 24 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 54 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 53 48
 LINE NO.= 55 KP1= 53 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 50 25
 LINE NO.= 56 KP1= 50 TAN1= .0000 -1.0000 .0000
 KP2= 25 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 26 51
 LINE NO.= 57 KP1= 26 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 58 KP1= 50 TAN1= -1.0000 .0000 .0000
 KP2= 51 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	51	52			
LINE NO.= 59 KP1=	51	TAN1=	-1.0000	.0000	.0000
KP2= 52	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 60 KP1=	52	TAN1=	.0000	1.0000	.0000
KP2= 53	TAN2=	.0000	-1.0000	.0000	

Set 3: top corner

LINE CONNECTS KEYPOINTS	56	27			
LINE NO.= 61 KP1=	56	TAN1=	-1.0000	.0000	.0000
KP2= 27	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	52	56			
LINE NO.= 62 KP1=	52	TAN1=	.0000	-1.0000	.0000
KP2= 56	TAN2=	.0000	1.0000	.0000	

LINE CONNECTS KEYPOINTS	27	54			
LINE NO.= 63 KP1=	27	TAN1=	.0000	1.0000	.0000
KP2= 54	TAN2=	.0000	-1.0000	.0000	

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 64 KP1=	54	TAN1=	.0000	1.0000	.0000
KP2= 55	TAN2=	.0000	-1.0000	.0000	

LINE CONNECTS KEYPOINTS	52	54			
LINE NO.= 65 KP1=	52	TAN1=	-1.0000	.0000	.0000
KP2= 54	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	53	55			
LINE NO.= 66 KP1=	53	TAN1=	-1.0000	.0000	.0000
KP2= 55	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	55	58			
LINE NO.= 67 KP1=	55	TAN1=	.0000	1.0000	.0000
KP2= 58	TAN2=	.0000	-1.0000	.0000	

LINE CONNECTS KEYPOINTS	57	53			
LINE NO.= 68 KP1=	57	TAN1=	.0000	-1.0000	.0000
KP2= 53	TAN2=	.0000	1.0000	.0000	

LINE CONNECTS KEYPOINTS	57	58			
LINE NO.= 69 KP1=	57	TAN1=	-.7071	-.7071	.0000
KP2= 58	TAN2=	.7071	.7071	.0000	

LINE CONNECTS KEYPOINTS	58	28			
LINE NO.= 70 KP1=	58	TAN1=	-1.0000	.0000	.0000
KP2= 28	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	59	57			
LINE NO.= 71 KP1=	59	TAN1=	1.0000	.0000	.0000
KP2= 57	TAN2=	-1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	28	59			
LINE NO.= 72 KP1=	28	TAN1=	.0000	1.0000	.0000
KP2= 59	TAN2=	.0000	-1.0000	.0000	

Set 4: side guide

LINE CONNECTS KEYPOINTS	60	29			
LINE NO.= 73 KP1=	60	TAN1=	-1.0000	.0000	.0000
KP2= 29	TAN2=	1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	61	60			
LINE NO.= 74 KP1=	61	TAN1=	.0000	-1.0000	.0000
KP2= 60	TAN2=	.0000	1.0000	.0000	

LINE CONNECTS KEYPOINTS	29	62			
LINE NO.= 75 KP1=	29	TAN1=	.0000	1.0000	.0000

	KP2=	62	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	62	63			
LINE NO.=	76	KP1=	62	TAN1=	.0000	1.0000
		KP2=	63	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	62	30			
LINE NO.=	77	KP1=	62	TAN1=	-1.0000	.0000
		KP2=	30	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	31	63			
LINE NO.=	78	KP1=	31	TAN1=	1.0000	.0000
		KP2=	63	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	63	64			
LINE NO.=	79	KP1=	63	TAN1=	.0000	1.0000
		KP2=	64	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	64	65			
LINE NO.=	80	KP1=	64	TAN1=	.0000	1.0000
		KP2=	65	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	64	32			
LINE NO.=	81	KP1=	64	TAN1=	-1.0000	.0000
		KP2=	32	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	33	65			
LINE NO.=	82	KP1=	33	TAN1=	1.0000	.0000
		KP2=	65	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	65	66			
LINE NO.=	83	KP1=	65	TAN1=	.0000	1.0000
		KP2=	66	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	66	67			
LINE NO.=	84	KP1=	66	TAN1=	.0000	1.0000
		KP2=	67	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	66	34			
LINE NO.=	85	KP1=	66	TAN1=	-1.0000	.0000
		KP2=	34	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	35	67			
LINE NO.=	86	KP1=	35	TAN1=	1.0000	.0000
		KP2=	67	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	67	36			
LINE NO.=	87	KP1=	67	TAN1=	.0000	1.0000
		KP2=	36	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	36	61			
LINE NO.=	88	KP1=	36	TAN1=	1.0000	.0000
		KP2=	61	TAN2=	-1.0000	.0000

Set 3: bottom corner

LINE CONNECTS	KEYPOINTS	37	71			
LINE NO.=	89	KP1=	37	TAN1=	.0000	-1.0000
		KP2=	71	TAN2=	.0000	1.0000
LINE CONNECTS	KEYPOINTS	69	71			
LINE NO.=	90	KP1=	69	TAN1=	-1.0000	.0000
		KP2=	71	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	69	70			
LINE NO.=	91	KP1=	69	TAN1=	-.7071	.7071
		KP2=	70	TAN2=	.7071	-.7071
LINE CONNECTS	KEYPOINTS	37	70			
LINE NO.=	92	KP1=	37	TAN1=	1.0000	.0000

	KP2=	70	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		70	79			
LINE NO.= 93	KP1=	70	TAN1=	.0000	1.0000	.0000
	KP2=	79	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		79	78			
LINE NO.= 94	KP1=	79	TAN1=	.0000	1.0000	.0000
	KP2=	78	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		78	38			
LINE NO.= 95	KP1=	78	TAN1=	.0000	1.0000	.0000
	KP2=	38	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		38	68			
LINE NO.= 96	KP1=	38	TAN1=	1.0000	.0000	.0000
	KP2=	68	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		68	76			
LINE NO.= 97	KP1=	68	TAN1=	.0000	-1.0000	.0000
	KP2=	76	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	77			
LINE NO.= 98	KP1=	76	TAN1=	.0000	-1.0000	.0000
	KP2=	77	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		77	69			
LINE NO.= 99	KP1=	77	TAN1=	.0000	-1.0000	.0000
	KP2=	69	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	78			
LINE NO.= 100	KP1=	76	TAN1=	-1.0000	.0000	.0000
	KP2=	78	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		77	79			
LINE NO.= 101	KP1=	77	TAN1=	-1.0000	.0000	.0000
	KP2=	79	TAN2=	1.0000	.0000	.0000

Set 2: bottom side guide

LINE CONNECTS KEYPOINTS		72	77			
LINE NO.= 102	KP1=	72	TAN1=	-1.0000	.0000	.0000
	KP2=	77	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		72	73			
LINE NO.= 103	KP1=	72	TAN1=	-.7071	.7071	.0000
	KP2=	73	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		76	75			
LINE NO.= 104	KP1=	76	TAN1=	1.0000	.0000	.0000
	KP2=	75	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		75	74			
LINE NO.= 105	KP1=	75	TAN1=	1.0000	.0000	.0000
	KP2=	74	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		74	73			
LINE NO.= 106	KP1=	74	TAN1=	1.0000	.0000	.0000
	KP2=	73	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		73	41			
LINE NO.= 107	KP1=	73	TAN1=	.0000	1.0000	.0000
	KP2=	41	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		42	72			
LINE NO.= 108	KP1=	42	TAN1=	.0000	-1.0000	.0000
	KP2=	72	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		40	74			
LINE NO.= 109	KP1=	40	TAN1=	.0000	-1.0000	.0000

KP2= 74 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 75 39
 LINE NO.= 110 KP1= 75 TAN1= .0000 1.0000 .0000
 KP2= 39 TAN2= .0000 -1.0000 .0000

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 80 43
 LINE NO.= 111 KP1= 80 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 82 80
 LINE NO.= 112 KP1= 82 TAN1= -1.0000 .0000 .0000
 KP2= 80 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 81
 LINE NO.= 113 KP1= 82 TAN1= .0000 1.0000 .0000
 KP2= 81 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 43 81
 LINE NO.= 114 KP1= 43 TAN1= 1.0000 .0000 .0000
 KP2= 81 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 81 44
 LINE NO.= 115 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 44 TAN2= .0000 -1.0000 .0000

Radiation/Back Fill Gas Gaps:

Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 46 48 22
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 7

Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 53 54 56
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 57 59 62 61
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 9

Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 28 63 64 67 70
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 10

Set 4: SIDE

DEFINE AREA BY LIST OF LINES

LINE LIST = 30 75 77
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 32 78 79 81
 (TRAVERSED IN SAME DIRECTION AS LINE 32)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 34 82 83 85
(TRAVERSED IN SAME DIRECTION AS LINE 34)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 36 86 87
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 14

Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 38 92 93 94 95
(TRAVERSED IN SAME DIRECTION AS LINE 38)

AREA NUMBER = 15

Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 96 97 104 110
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 41 109 106 107
(TRAVERSED IN SAME DIRECTION AS LINE 41)

AREA NUMBER = 17

Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 114 115
(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 18

SOLID GUIDES:

Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 48 49 50
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 19

Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 51 52 53
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 55 60 59 58 54
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 56 58 57
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 22

Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 61 62 65 63
(TRAVERSED IN SAME DIRECTION AS LINE 61)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 65 60 66 64
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 66 68 69 67
(TRAVERSED IN SAME DIRECTION AS LINE 66)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 70 69 71 72
(TRAVERSED IN SAME DIRECTION AS LINE 70)

AREA NUMBER = 26

Set 4: SIDE

DEFINE AREA BY LIST OF LINES

LINE LIST = 73 74 88 87 84 83 80 79 76 75
(TRAVERSED IN SAME DIRECTION AS LINE 73)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES

LINE LIST = 31 77 76 78
(TRAVERSED IN SAME DIRECTION AS LINE 31)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 33 81 80 82
(TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 35 85 84 86
(TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 30

Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 89 90 91 92
(TRAVERSED IN SAME DIRECTION AS LINE 89)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES

LINE LIST = 91 93 101 99
(TRAVERSED IN SAME DIRECTION AS LINE 91)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 94 100 98
(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 95 96 97
(TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 34

Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 98 104 105 106 103
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 40 110 105 109
(TRAVERSED IN SAME DIRECTION AS LINE 40)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 42 107 103 108
(TRAVERSED IN SAME DIRECTION AS LINE 42)

AREA NUMBER = 37

Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 111 112 113 114
(TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 38

Define center edge half-tube

(K's 83,84,85,86,87,88,89,90,91,92,93,94)

(L's 116,117,118,119,120,121,122,123,124,125,126,127,128)

(129,130,131,132,133)

(A's 39,40,41,42,43,44,45)

KEYPOINT	83	X,Y,Z=	.000000E+00	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	84	X,Y,Z=	.000000E+00	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	85	X,Y,Z=	.000000E+00	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	86	X,Y,Z=	.000000E+00	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	87	X,Y,Z=	.000000E+00	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	88	X,Y,Z=	.000000E+00	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	89	X,Y,Z=	.889000E-01	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	90	X,Y,Z=	.825500E-01	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	91	X,Y,Z=	.762000E-01	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	92	X,Y,Z=	.889000E-01	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	93	X,Y,Z=	.825500E-01	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	94	X,Y,Z=	.762000E-01	.167488	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	83	84			
LINE NO.= 116	KP1= 83	TAN1=	.0000	-1.0000	.0000
	KP2= 84	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	84	85			
LINE NO.= 117	KP1= 84	TAN1=	.0000	-1.0000	.0000
	KP2= 85	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	86	87			
LINE NO.= 118	KP1= 86	TAN1=	.0000	-1.0000	.0000
	KP2= 87	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	87	88			
LINE NO.= 119	KP1= 87	TAN1=	.0000	-1.0000	.0000

	KP2=	88	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		89	83			
LINE NO.= 120	KP1=	89	TAN1=	1.0000	.0000	.0000
	KP2=	83	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		84	90			
LINE NO.= 121	KP1=	84	TAN1=	-1.0000	.0000	.0000
	KP2=	90	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		85	91			
LINE NO.= 122	KP1=	85	TAN1=	-1.0000	.0000	.0000
	KP2=	91	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		86	94			
LINE NO.= 123	KP1=	86	TAN1=	-1.0000	.0000	.0000
	KP2=	94	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		87	93			
LINE NO.= 124	KP1=	87	TAN1=	-1.0000	.0000	.0000
	KP2=	93	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		88	92			
LINE NO.= 125	KP1=	88	TAN1=	-1.0000	.0000	.0000
	KP2=	92	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		90	89			
LINE NO.= 126	KP1=	90	TAN1=	-.7071	.7071	.0000
	KP2=	89	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		91	90			
LINE NO.= 127	KP1=	91	TAN1=	-.7071	.7071	.0000
	KP2=	90	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		94	93			
LINE NO.= 128	KP1=	94	TAN1=	-.7071	-.7071	.0000
	KP2=	93	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		93	92			
LINE NO.= 129	KP1=	93	TAN1=	-.7071	-.7071	.0000
	KP2=	92	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		85	86			
LINE NO.= 130	KP1=	85	TAN1=	.0000	-1.0000	.0000
	KP2=	86	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		91	94			
LINE NO.= 131	KP1=	91	TAN1=	.0000	-1.0000	.0000
	KP2=	94	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		90	93			
LINE NO.= 132	KP1=	90	TAN1=	.0000	-1.0000	.0000
	KP2=	93	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		89	92			
LINE NO.= 133	KP1=	89	TAN1=	.0000	-1.0000	.0000
	KP2=	92	TAN2=	.0000	1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 130 123 131 122
(TRAVERSED IN SAME DIRECTION AS LINE 130)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES

LINE LIST = 116 121 126 120
(TRAVERSED IN SAME DIRECTION AS LINE 116)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES

LINE LIST = 117 122 127 121
(TRAVERSED IN SAME DIRECTION AS LINE 117)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES

LINE LIST = 118 124 128 123
(TRAVERSED IN SAME DIRECTION AS LINE 118)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES

LINE LIST = 119 125 129 124
(TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 43

DEFINE AREA BY LIST OF LINES

LINE LIST = 131 128 132 127
(TRAVERSED IN SAME DIRECTION AS LINE 131)

AREA NUMBER = 44

DEFINE AREA BY LIST OF LINES

LINE LIST = 132 129 133 126
(TRAVERSED IN SAME DIRECTION AS LINE 132)

AREA NUMBER = 45

Define center full-tube

(K's 95,96,97,98,99,100,101,102,103,104,105,106)
(L's 134,135,136,137,138,139,140,141,142,143,144,145)
(146,147,148,149,150,151,152,153)
(A's 46,47,48,49,50,51,52,53,54)

KEYPOINT	95	X,Y,Z=	.936752E-01	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	96	X,Y,Z=	.271475	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	97	X,Y,Z=	.100025	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	98	X,Y,Z=	.265125	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	99	X,Y,Z=	.106375	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	100	X,Y,Z=	.258775	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	101	X,Y,Z=	.106375	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	102	X,Y,Z=	.258775	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	103	X,Y,Z=	.100025	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	104	X,Y,Z=	.265125	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	105	X,Y,Z=	.936752E-01	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	106	X,Y,Z=	.271475	.180188	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	95	97			
LINE NO.= 134	KP1= 95	TAN1=	-.7071	-.7071	.0000
	KP2= 97	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	97	99			
LINE NO.= 135	KP1= 97	TAN1=	-.7071	-.7071	.0000
	KP2= 99	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	101	103			
LINE NO.= 136	KP1= 101	TAN1=	.7071	-.7071	.0000

	KP2=	103	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		103	105			
LINE NO.= 137	KP1=	103	TAN1=	.7071	-.7071	.0000
	KP2=	105	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		96	98			
LINE NO.= 138	KP1=	96	TAN1=	.7071	-.7071	.0000
	KP2=	98	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		98	100			
LINE NO.= 139	KP1=	98	TAN1=	.7071	-.7071	.0000
	KP2=	100	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		102	104			
LINE NO.= 140	KP1=	102	TAN1=	-.7071	-.7071	.0000
	KP2=	104	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		104	106			
LINE NO.= 141	KP1=	104	TAN1=	-.7071	-.7071	.0000
	KP2=	106	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		96	95			
LINE NO.= 142	KP1=	96	TAN1=	1.0000	.0000	.0000
	KP2=	95	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		97	98			
LINE NO.= 143	KP1=	97	TAN1=	-1.0000	.0000	.0000
	KP2=	98	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		99	100			
LINE NO.= 144	KP1=	99	TAN1=	-1.0000	.0000	.0000
	KP2=	100	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		101	102			
LINE NO.= 145	KP1=	101	TAN1=	-1.0000	.0000	.0000
	KP2=	102	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		103	104			
LINE NO.= 146	KP1=	103	TAN1=	-1.0000	.0000	.0000
	KP2=	104	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		105	106			
LINE NO.= 147	KP1=	105	TAN1=	-1.0000	.0000	.0000
	KP2=	106	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		95	105			
LINE NO.= 148	KP1=	95	TAN1=	.0000	-1.0000	.0000
	KP2=	105	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		97	103			
LINE NO.= 149	KP1=	97	TAN1=	.0000	-1.0000	.0000
	KP2=	103	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		99	101			
LINE NO.= 150	KP1=	99	TAN1=	.0000	-1.0000	.0000
	KP2=	101	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		100	102			
LINE NO.= 151	KP1=	100	TAN1=	.0000	-1.0000	.0000
	KP2=	102	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		98	104			
LINE NO.= 152	KP1=	98	TAN1=	.0000	-1.0000	.0000
	KP2=	104	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		106	96			
LINE NO.= 153	KP1=	106	TAN1=	.0000	1.0000	.0000
	KP2=	96	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 144 151 145 150
 (TRAVERSED IN SAME DIRECTION AS LINE 144)

AREA NUMBER = 46

DEFINE AREA BY LIST OF LINES
 LINE LIST = 142 138 143 134
 (TRAVERSED IN SAME DIRECTION AS LINE 142)

AREA NUMBER = 47

DEFINE AREA BY LIST OF LINES
 LINE LIST = 143 139 144 135
 (TRAVERSED IN SAME DIRECTION AS LINE 143)

AREA NUMBER = 48

DEFINE AREA BY LIST OF LINES
 LINE LIST = 145 140 146 136
 (TRAVERSED IN SAME DIRECTION AS LINE 145)

AREA NUMBER = 49

DEFINE AREA BY LIST OF LINES
 LINE LIST = 146 141 147 137
 (TRAVERSED IN SAME DIRECTION AS LINE 146)

AREA NUMBER = 50

DEFINE AREA BY LIST OF LINES
 LINE LIST = 148 134 149 137
 (TRAVERSED IN SAME DIRECTION AS LINE 148)

AREA NUMBER = 51

DEFINE AREA BY LIST OF LINES
 LINE LIST = 149 135 150 136
 (TRAVERSED IN SAME DIRECTION AS LINE 149)

AREA NUMBER = 52

DEFINE AREA BY LIST OF LINES
 LINE LIST = 151 139 152 140
 (TRAVERSED IN SAME DIRECTION AS LINE 151)

AREA NUMBER = 53

DEFINE AREA BY LIST OF LINES
 LINE LIST = 152 138 153 141
 (TRAVERSED IN SAME DIRECTION AS LINE 152)

AREA NUMBER = 54

Define edge half-tube
 (K's 107,108,109,110,111,112,113,114,115,116,117)
 (L's 154,155,156,157,158,159,160,161,162,163,164,165)
 (166,167,168,169)
 (A's 55,56,57,58,59,60)

KEYPOINT	107	X,Y,Z=	.000000E+00	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	108	X,Y,Z=	.762000E-01	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	109	X,Y,Z=	.000000E+00	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	110	X,Y,Z=	.762000E-01	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	111	X,Y,Z=	.000000E+00	.721563	.000000E+00	IN CSYS= 0

KEYPOINT 112 X,Y,Z= .825500E-01 .721563 .000000E+00 IN CSYS= 0
 KEYPOINT 113 X,Y,Z= .000000E+00 .556463 .000000E+00 IN CSYS= 0
 KEYPOINT 114 X,Y,Z= .825500E-01 .556463 .000000E+00 IN CSYS= 0
 KEYPOINT 115 X,Y,Z= .889000E-01 .721563 .000000E+00 IN CSYS= 0
 KEYPOINT 116 X,Y,Z= .000000E+00 .550113 .000000E+00 IN CSYS= 0
 KEYPOINT 117 X,Y,Z= .889000E-01 .550113 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 116 113
 LINE NO.= 154 KP1= 116 TAN1= .0000 -1.0000 .0000
 KP2= 113 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 113 109
 LINE NO.= 155 KP1= 113 TAN1= .0000 -1.0000 .0000
 KP2= 109 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 107 111
 LINE NO.= 156 KP1= 107 TAN1= .0000 -1.0000 .0000
 KP2= 111 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 114 117
 LINE NO.= 157 KP1= 114 TAN1= -.7071 .7071 .0000
 KP2= 117 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 110 114
 LINE NO.= 158 KP1= 110 TAN1= -.7071 .7071 .0000
 KP2= 114 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 112 115
 LINE NO.= 159 KP1= 112 TAN1= -1.0000 .0000 .0000
 KP2= 115 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 108 112
 LINE NO.= 160 KP1= 108 TAN1= -.7071 -.7071 .0000
 KP2= 112 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 116 117
 LINE NO.= 161 KP1= 116 TAN1= -1.0000 .0000 .0000
 KP2= 117 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 113 114
 LINE NO.= 162 KP1= 113 TAN1= -1.0000 .0000 .0000
 KP2= 114 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 109 110
 LINE NO.= 163 KP1= 109 TAN1= -1.0000 .0000 .0000
 KP2= 110 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 108 107
 LINE NO.= 164 KP1= 108 TAN1= 1.0000 .0000 .0000
 KP2= 107 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 111 112
 LINE NO.= 165 KP1= 111 TAN1= -1.0000 .0000 .0000
 KP2= 112 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 109 107
 LINE NO.= 166 KP1= 109 TAN1= .0000 -1.0000 .0000
 KP2= 107 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 110 108
 LINE NO.= 167 KP1= 110 TAN1= .0000 -1.0000 .0000
 KP2= 108 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 114 112
 LINE NO.= 168 KP1= 114 TAN1= .0000 -1.0000 .0000


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      KP2=   112 TAN2=   .0000   1.0000   .0000
LINE CONNECTS KEYPOINTS   115   117
LINE NO.=   169 KP1=   115 TAN1=   .0000   1.0000   .0000
      KP2=   117 TAN2=   .0000  -1.0000   .0000

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DEFINE AREA BY LIST OF LINES
LINE LIST =   166  163  167  164
(TRAVERSED IN SAME DIRECTION AS LINE   166)

AREA NUMBER =    55

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DEFINE AREA BY LIST OF LINES
LINE LIST =   161  157  162  154
(TRAVERSED IN SAME DIRECTION AS LINE   161)

AREA NUMBER =    56

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DEFINE AREA BY LIST OF LINES
LINE LIST =   162  158  163  155
(TRAVERSED IN SAME DIRECTION AS LINE   162)

AREA NUMBER =    57

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DEFINE AREA BY LIST OF LINES
LINE LIST =   164  160  165  156
(TRAVERSED IN SAME DIRECTION AS LINE   164)

AREA NUMBER =    58

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DEFINE AREA BY LIST OF LINES
LINE LIST =   167  158  168  160
(TRAVERSED IN SAME DIRECTION AS LINE   167)

AREA NUMBER =    59

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DEFINE AREA BY LIST OF LINES
LINE LIST =   168  157  169  159
(TRAVERSED IN SAME DIRECTION AS LINE   168)

AREA NUMBER =    60

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Define edge full-tube
(K's 118,119,120,121,122,123,124,125,126,127,128,129)
(L's 170,171,172,173,174,175,176,177,178,179,180,181)
(   182,183,184,185,186,187,188)
(A's 61,62,63,64,65,66,67,68)

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KEYPOINT 118 X,Y,Z= .471526 .150876E-01 .000000E+00 IN CSYS= 0
KEYPOINT 119 X,Y,Z= .623926 .150876E-01 .000000E+00 IN CSYS= 0
KEYPOINT 120 X,Y,Z= .471526 .167488 .000000E+00 IN CSYS= 0
KEYPOINT 121 X,Y,Z= .623926 .167488 .000000E+00 IN CSYS= 0
KEYPOINT 122 X,Y,Z= .465176 .873760E-02 .000000E+00 IN CSYS= 0
KEYPOINT 123 X,Y,Z= .630276 .873760E-02 .000000E+00 IN CSYS= 0
KEYPOINT 124 X,Y,Z= .465176 .173838 .000000E+00 IN CSYS= 0
KEYPOINT 125 X,Y,Z= .630276 .173838 .000000E+00 IN CSYS= 0
KEYPOINT 126 X,Y,Z= .458826 .238760E-02 .000000E+00 IN CSYS= 0
KEYPOINT 127 X,Y,Z= .630276 .238760E-02 .000000E+00 IN CSYS= 0
KEYPOINT 128 X,Y,Z= .458826 .180188 .000000E+00 IN CSYS= 0

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KEYPOINT 129 X,Y,Z= .630276 .180188 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 122 126
LINE NO.= 170 KP1= 122 TAN1= .7071 .7071 .0000
KP2= 126 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 118 122
LINE NO.= 171 KP1= 118 TAN1= .7071 .7071 .0000
KP2= 122 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 120 124
LINE NO.= 172 KP1= 120 TAN1= .7071 -.7071 .0000
KP2= 124 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 124 128
LINE NO.= 173 KP1= 124 TAN1= .7071 -.7071 .0000
KP2= 128 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 123 127
LINE NO.= 174 KP1= 123 TAN1= .0000 1.0000 .0000
KP2= 127 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 119 123
LINE NO.= 175 KP1= 119 TAN1= -.7071 .7071 .0000
KP2= 123 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 121 125
LINE NO.= 176 KP1= 121 TAN1= -.7071 -.7071 .0000
KP2= 125 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 129 125
LINE NO.= 177 KP1= 129 TAN1= .0000 1.0000 .0000
KP2= 125 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 127 126
LINE NO.= 178 KP1= 127 TAN1= 1.0000 .0000 .0000
KP2= 126 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 122 123
LINE NO.= 179 KP1= 122 TAN1= -1.0000 .0000 .0000
KP2= 123 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 118 119
LINE NO.= 180 KP1= 118 TAN1= -1.0000 .0000 .0000
KP2= 119 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 120 121
LINE NO.= 181 KP1= 120 TAN1= -1.0000 .0000 .0000
KP2= 121 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 124 125
LINE NO.= 182 KP1= 124 TAN1= -1.0000 .0000 .0000
KP2= 125 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 128 129
LINE NO.= 183 KP1= 128 TAN1= -1.0000 .0000 .0000
KP2= 129 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 126 128
LINE NO.= 184 KP1= 126 TAN1= .0000 -1.0000 .0000
KP2= 128 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 122 124
LINE NO.= 185 KP1= 122 TAN1= .0000 -1.0000 .0000
KP2= 124 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 118 120
LINE NO.= 186 KP1= 118 TAN1= .0000 -1.0000 .0000
KP2= 120 TAN2= .0000 1.0000 .0000

```

LINE CONNECTS KEYPOINTS 119 121
LINE NO.= 187 KP1= 119 TAN1= .0000 -1.0000 .0000
KP2= 121 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 125 123
LINE NO.= 188 KP1= 125 TAN1= .0000 1.0000 .0000
KP2= 123 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
LINE LIST = 180 187 181 186
(TRAVERSED IN SAME DIRECTION AS LINE 180)

AREA NUMBER = 61

DEFINE AREA BY LIST OF LINES
LINE LIST = 178 174 179 170
(TRAVERSED IN SAME DIRECTION AS LINE 178)

AREA NUMBER = 62

DEFINE AREA BY LIST OF LINES
LINE LIST = 179 175 180 171
(TRAVERSED IN SAME DIRECTION AS LINE 179)

AREA NUMBER = 63

DEFINE AREA BY LIST OF LINES
LINE LIST = 181 176 182 172
(TRAVERSED IN SAME DIRECTION AS LINE 181)

AREA NUMBER = 64

DEFINE AREA BY LIST OF LINES
LINE LIST = 182 177 183 173
(TRAVERSED IN SAME DIRECTION AS LINE 182)

AREA NUMBER = 65

DEFINE AREA BY LIST OF LINES
LINE LIST = 184 170 185 173
(TRAVERSED IN SAME DIRECTION AS LINE 184)

AREA NUMBER = 66

DEFINE AREA BY LIST OF LINES
LINE LIST = 185 171 186 172
(TRAVERSED IN SAME DIRECTION AS LINE 185)

AREA NUMBER = 67

DEFINE AREA BY LIST OF LINES
LINE LIST = 187 175 188 176
(TRAVERSED IN SAME DIRECTION AS LINE 187)

AREA NUMBER = 68

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Set element shapes and sizes for tubes
8x8 mesh in fuel with 2
divisions per tube layer

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

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 130 TO 133 STEP 1

4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 142 TO 153 STEP 1

16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 166 TO 169 STEP 1

20 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 178 TO 188 STEP 1

31 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 8, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 120 TO 125 STEP 1
6 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 161 TO 165 STEP 1
11 LINES (OF 188 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 116 TO 119 STEP 1
4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 126 TO 129 STEP 1
8 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 134 TO 141 STEP 1
16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 154 TO 160 STEP 1
23 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 170 TO 177 STEP 1
31 LINES (OF 188 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 188 STEP 1
188 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless, then aluminum

MATERIAL NUMBER SET TO 14

```

ELEMENT TYPE SET TO      1

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

NUMBER OF AREAS MESHD    =      1
MAXIMUM NODE NUMBER      =      45
MAXIMUM ELEMENT NUMBER    =      32

GENERATE NODES AND ELEMENTS
  IN AREAS      46 TO      46 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      1
MAXIMUM NODE NUMBER      =     126
MAXIMUM ELEMENT NUMBER    =      96

GENERATE NODES AND ELEMENTS
  IN AREAS      55 TO      55 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      1
MAXIMUM NODE NUMBER      =     171
MAXIMUM ELEMENT NUMBER    =     128

GENERATE NODES AND ELEMENTS
  IN AREAS      61 TO      61 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      1
MAXIMUM NODE NUMBER      =     252
MAXIMUM ELEMENT NUMBER    =     192

MATERIAL NUMBER SET TO    1

ELEMENT TYPE SET TO      1

GENERATE NODES AND ELEMENTS
  IN AREAS      41 TO      42 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      2
MAXIMUM NODE NUMBER      =     272
MAXIMUM ELEMENT NUMBER    =     208

GENERATE NODES AND ELEMENTS
  IN AREAS      44 TO      44 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      1
MAXIMUM NODE NUMBER      =     286
MAXIMUM ELEMENT NUMBER    =     224

GENERATE NODES AND ELEMENTS
  IN AREAS      48 TO      49 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      2
MAXIMUM NODE NUMBER      =     322
MAXIMUM ELEMENT NUMBER    =     256

GENERATE NODES AND ELEMENTS
  IN AREAS      52 TO      53 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      2
MAXIMUM NODE NUMBER      =     350
MAXIMUM ELEMENT NUMBER    =     288

GENERATE NODES AND ELEMENTS
  IN AREAS      57 TO      59 IN STEPS OF      1

NUMBER OF AREAS MESHD    =      3
MAXIMUM NODE NUMBER      =     384
MAXIMUM ELEMENT NUMBER    =     320

```

GENERATE NODES AND ELEMENTS
IN AREAS 63 TO 64 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 420
MAXIMUM ELEMENT NUMBER = 352

GENERATE NODES AND ELEMENTS
IN AREAS 67 TO 68 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 448
MAXIMUM ELEMENT NUMBER = 384

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 468
MAXIMUM ELEMENT NUMBER = 400

GENERATE NODES AND ELEMENTS
IN AREAS 45 TO 45 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 482
MAXIMUM ELEMENT NUMBER = 416

GENERATE NODES AND ELEMENTS
IN AREAS 47 TO 50 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 518
MAXIMUM ELEMENT NUMBER = 448

GENERATE NODES AND ELEMENTS
IN AREAS 51 TO 54 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 546
MAXIMUM ELEMENT NUMBER = 480

GENERATE NODES AND ELEMENTS
IN AREAS 56 TO 60 IN STEPS OF 4

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 572
MAXIMUM ELEMENT NUMBER = 504

GENERATE NODES AND ELEMENTS
IN AREAS 62 TO 65 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 608
MAXIMUM ELEMENT NUMBER = 536

GENERATE NODES AND ELEMENTS
IN AREAS 66 TO 66 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 622
MAXIMUM ELEMENT NUMBER = 552

Copy tube mesh

center half tube above and below

(A's 69-75,76-82)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 848
 MAXIMUM ELEMENT NUMBER = 744
 (A's 83-89,90-96,97-103)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1187
 MAXIMUM ELEMENT NUMBER = 1032

center fuel tube above and below
 (A's 104-112,113-121)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1605
 MAXIMUM ELEMENT NUMBER = 1416
 (A's 122-130,131-139,140-148)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2232
 MAXIMUM ELEMENT NUMBER = 1992
 (A's 149-157)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .183 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2441
 MAXIMUM ELEMENT NUMBER = 2184
 (A's 158-166,167-175)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2859
 MAXIMUM ELEMENT NUMBER = 2568
 (A's 176-184,185-193,194-202)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3486
 MAXIMUM ELEMENT NUMBER = 3144

side edge fuel tube above and below
 (A's 203-210)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3681
 MAXIMUM ELEMENT NUMBER = 3320
 (A's 211-218,219-226)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 4071
 MAXIMUM ELEMENT NUMBER = 3672

edge half tube bottom (13)
 (A's 227-232)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 55 TO 60 IN STEPS OF 1

MAXIMUM NODE NUMBER = 4176
 MAXIMUM ELEMENT NUMBER = 3760

Define thin stainless layers
 (K's 380,381,382,383,384,385,286,387,388,389, through 397)
 (A's 233 - 301)

KEYPOINT	380	X,Y,Z=	.912876E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	381	X,Y,Z=	.912876E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	382	X,Y,Z=	.912876E-01	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	383	X,Y,Z=	.936752E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	384	X,Y,Z=	.271475	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	385	X,Y,Z=	.276250	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	386	X,Y,Z=	.456438	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	387	X,Y,Z=	.456438	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	388	X,Y,Z=	.456438	.367538	.000000E+00	IN CSYS= 0
KEYPOINT	389	X,Y,Z=	.458826	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	390	X,Y,Z=	.630276	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	391	X,Y,Z=	.630276	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	392	X,Y,Z=	.458826	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	393	X,Y,Z=	.456438	-.367538	.000000E+00	IN CSYS= 0
KEYPOINT	394	X,Y,Z=	.456438	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	395	X,Y,Z=	.456438	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	396	X,Y,Z=	.276250	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	397	X,Y,Z=	.271475	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	398	X,Y,Z=	.936752E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	399	X,Y,Z=	.912876E-01	-.550113	.000000E+00	IN CSYS= 0
KEYPOINT	400	X,Y,Z=	.912876E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	401	X,Y,Z=	.912876E-01	-.721563	.000000E+00	IN CSYS= 0

DEFINE AREA BY LIST OF KEYPOINTS
 KEYPOINT LIST = 152 116 117 153

AREA NUMBER = 233

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 117 382 381 153

AREA NUMBER = 234

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 381 383 213 153

AREA NUMBER = 235

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 117 115 380 382

AREA NUMBER = 236

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 153 213 207 149

AREA NUMBER = 237

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 213 383 384 212

AREA NUMBER = 238

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 212 384 385 285

AREA NUMBER = 239

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 285 385 386 284

AREA NUMBER = 240

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 212 285 279 206

AREA NUMBER = 241

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 284 386 388 278

AREA NUMBER = 242

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 278 388 387 272

AREA NUMBER = 243

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 272 387 389 333

AREA NUMBER = 244

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 272 333 327 266

AREA NUMBER = 245

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 333 389 390 332

AREA NUMBER = 246

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 278 272 273 279

AREA NUMBER = 247

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 206 279 273 200

AREA NUMBER = 248

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 273 267 194

AREA NUMBER = 249

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 206 207 201

AREA NUMBER = 250

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 207 201

AREA NUMBER = 251

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 201 195 137

AREA NUMBER = 252

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 146 140

AREA NUMBER = 253

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 88 134 137 92

AREA NUMBER = 254

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 137 195 105

AREA NUMBER = 255

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 105 95 89

AREA NUMBER = 256

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 105 195 194 106

AREA NUMBER = 257

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 194 267 261

AREA NUMBER = 258

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 261 255 96

AREA NUMBER = 259

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 261 267 266 260

AREA NUMBER = 260

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 266 327 128

AREA NUMBER = 261

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 260 128 126 254

AREA NUMBER = 262

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 128 327 326 129

AREA NUMBER = 263

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 296 254 126 345

AREA NUMBER = 264

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 296 345 339 290

AREA NUMBER = 265

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 345 126 127 344

AREA NUMBER = 266

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 296 254 255 297

AREA NUMBER = 267

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 224 96 255 297

AREA NUMBER = 268

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 224 297 291 218

AREA NUMBER = 269

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 224 96 95 225

AREA NUMBER = 270

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 165 89 95 225

AREA NUMBER = 271

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 165 89 83 164

AREA NUMBER = 272

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 165 225 219 161

AREA NUMBER = 273

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 177 161 219 237

AREA NUMBER = 274

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 177 161 158 176

AREA NUMBER = 275

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 177 237 231 173

AREA NUMBER = 276

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 237 219 218 236

AREA NUMBER = 277

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 236 218 291 309

AREA NUMBER = 278

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 236 309 303 230

AREA NUMBER = 279

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 309 291 290 308

AREA NUMBER = 280

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 308 290 339 357

AREA NUMBER = 281

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 308 357 351 302

AREA NUMBER = 282

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 357 339 338 356

AREA NUMBER = 283

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 350 391 392 351

AREA NUMBER = 284

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 351 392 394 302

AREA NUMBER = 285

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 302 394 393 320

AREA NUMBER = 286

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 320 393 395 314

AREA NUMBER = 287

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 320 302 303 321

AREA NUMBER = 288

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 230 303 321

AREA NUMBER = 289

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 321 315 242

AREA NUMBER = 290

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 230 231 249

AREA NUMBER = 291

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 173 231 249

AREA NUMBER = 292

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 173 170 188

AREA NUMBER = 293

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 249 243 185

AREA NUMBER = 294

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 243 398 400 185

AREA NUMBER = 295

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 185 400 399 363

AREA NUMBER = 296

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 363 185 182 362

AREA NUMBER = 297

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 363 399 401 368

AREA NUMBER = 298

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 398 243 242 397

AREA NUMBER = 299

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 242 315 396 397

AREA NUMBER = 300

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 315 314 395 396

AREA NUMBER = 301

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

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

GENERATE NODES AND ELEMENTS
IN AREAS 233 TO 301 IN STEPS OF 1

NUMBER OF AREAS MESHD = 69
 MAXIMUM NODE NUMBER = 4268
 MAXIMUM ELEMENT NUMBER = 4123

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 20.730 TIME= 20:25:56
 Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

 Create mesh in tube guides
 (L's 686,687,688)

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SET DIVISIONS ON LINE 47 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 48 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 49 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 50 (IF SELECTED AND UNMESHED)
 TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 51 (IF SELECTED AND UNMESHED)
 TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 52 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 53 (IF SELECTED AND UNMESHED)
 TO NDIV = 13, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 55 (IF SELECTED AND UNMESHED)
 TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 56 (IF SELECTED AND UNMESHED)
 TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 57 (IF SELECTED AND UNMESHED)
 TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 58 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 59 (IF SELECTED AND UNMESHED)
 TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 60 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 61 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 62 (IF SELECTED AND UNMESHED)
 TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 63 (IF SELECTED AND UNMESHED)
 TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 64 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 65 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 66 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 67 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 68 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 69 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 70 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 71 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 72 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 73 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 74 (IF SELECTED AND UNMESHED)
TO NDIV = 38, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 75 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 76 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 77 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 78 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 79 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 80 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 81 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 82 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 83 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 84 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 85 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 86 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 87 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 88 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 89 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 90 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 91 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 92 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 93 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 94 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 95 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 96 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 97 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 98 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 99 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 100 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 101 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 102 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 103 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 104 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 105 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 106 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 107 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 108 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 109 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 110 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 111 (IF SELECTED AND UNMESHED)

TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 112 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 113 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 114 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 59 STEP 1

2 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 54 STEP 1

3 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 686 KP1= 49 KP2= 52

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

2 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 80 STEP 1

4 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 83 TO 84 STEP 1

6 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 87 TO 87 STEP 1

7 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 687 KP1= 29 KP2= 36

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 104 TO 106 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 688 KP1= 76 KP2= 73

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 688 STEP 1

688 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 19 TO 38 IN STEPS OF 1

*** WARNING *** CP= 21.980 TIME= 20:25:57
Meshing of area 21 produced 10 poorly shaped elements.

*** NOTE *** CP= 21.980 TIME= 20:25:57
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4167 4168 4169 4170 4171 4185 4186 4187 4188 4189

*** WARNING *** CP= 22.340 TIME= 20:25:57
Meshing of area 27 produced 28 poorly shaped elements.

*** NOTE *** CP= 22.340 TIME= 20:25:57
Worst shape angle is 27 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4274 4275 4276 4277 4278 4286 4287 4290 4291 4299
4300 4301 4302 4303 4312 4313 4314 4315 4316 4324
4325 4328 4329 4337 4338 4339 4340 4341

*** WARNING *** CP= 22.630 TIME= 20:25:58
Meshing of area 35 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.630 TIME= 20:25:58
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4438 4439 4440 4441 4442 4443 4444 4445 4446 4447

NUMBER OF AREAS MESHED = 20
MAXIMUM NODE NUMBER = 4871
MAXIMUM ELEMENT NUMBER = 4515

Create mesh in MPC shell
(L's 689,690,691)

SET DIVISIONS ON LINE 22 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 23 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 25 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 29 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 30 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 32 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 34 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 36 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 37 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 38 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 39 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 41 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 43 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 44 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 44 STEP 1

23 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 689 KP1= 21 KP2= 44

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 689 STEP 1

689 LINES (OF 689 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 17 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 18 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 21 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 45 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

CONCATENATE LINES
LINES = 17 18

COMPOSITE LINE NO.= 690 KP1= 18 KP2= 20

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

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 6 TO 6 IN STEPS OF 1

*** WARNING *** CP= 24.900 TIME= 20:26:00
Meshing of area 6 produced 54 poorly shaped elements.

*** NOTE *** CP= 24.900 TIME= 20:26:00
Worst shape angle is 36 degrees.

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

4540	4541	4542	4543	4544	4545	4546	4547	4548	4611
4613	4614	4615	4616	4617	4651	4652	4653	4705	4706
4707	4708	4709	4710	4711	4712	4713	4756	4757	4758
4759	4760	4761	4762	4763	4764	4816	4817	4818	4852
4853	4854	4856	4857	4860	4921	4922	4923	4924	4925
4926	4927	4928	4929						

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 5430
 MAXIMUM ELEMENT NUMBER = 4953
 Assume vacuum between shell and inner barrier

SET DIVISIONS ON LINE 14 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 13 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 19 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 20 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

CONCATENATE LINES
 LINES = 14 13

COMPOSITE LINE NO.= 691 KP1= 17 KP2= 15

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.
 No MAT,7,
 No TYPE,1,
 No AMESH,5,
 Delete concatenated lines
 (L's freed up 686,687,688,689,690,691)

DELETE SELECTED LINES FROM 686 TO 691 BY 1

DELETED 6 LINES

 Create mesh in inner and outer barrier

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 10 STEP 1

4 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 73, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 691 STEP 1

685 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 6 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 15 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 16 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

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

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

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

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 6018
MAXIMUM ELEMENT NUMBER = 5391

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 = 6459
MAXIMUM ELEMENT NUMBER = 5829

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

SET DIVISIONS ON LINE 46 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 115 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

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 7 TO 7 IN STEPS OF 1
** AREA 7 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 28.720 TIME= 20:26:04
Meshing of area 7 produced 1 poorly shaped elements.

*** NOTE *** CP= 28.720 TIME= 20:26:04
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
5830

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6459
MAXIMUM ELEMENT NUMBER = 5833

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	8 TO	11 IN STEPS OF	1
** AREA	9 MESHED WITH	82 QUADRILATERALS,	21 TRIANGLES **
** AREA	10 MESHED WITH	78 QUADRILATERALS,	19 TRIANGLES **
** AREA	11 MESHED WITH	24 QUADRILATERALS,	7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 6704
 MAXIMUM ELEMENT NUMBER = 6168

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	12 TO	13 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 6746
 MAXIMUM ELEMENT NUMBER = 6232

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	14 TO	16 IN STEPS OF	1
** AREA	14 MESHED WITH	25 QUADRILATERALS,	11 TRIANGLES **
** AREA	15 MESHED WITH	74 QUADRILATERALS,	23 TRIANGLES **
** AREA	16 MESHED WITH	75 QUADRILATERALS,	21 TRIANGLES **

NUMBER OF AREAS MESHED = 3
 MAXIMUM NODE NUMBER = 6901
 MAXIMUM ELEMENT NUMBER = 6461

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	17 TO	17 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 6985
 MAXIMUM ELEMENT NUMBER = 6565

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	18 TO	18 IN STEPS OF	1
** AREA	18 MESHED WITH	3 QUADRILATERALS,	1 TRIANGLES **

*** WARNING *** CP= 31.990 TIME= 20:26:07
Meshing of area 18 produced 1 poorly shaped elements.

*** NOTE *** CP= 32.000 TIME= 20:26:07
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
6566

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6985
MAXIMUM ELEMENT NUMBER = 6569

Define mesh and radiation surface elements for
tube/guides gap
(L's 686,687)
(A's 302)

LINE CONNECTS KEYPOINTS 47 111
LINE NO.= 686 KP1= 47 TAN1= .0000 1.0000 .0000
KP2= 111 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 366 82
LINE NO.= 687 KP1= 366 TAN1= .0000 1.0000 .0000
KP2= 82 TAN2= .0000 -1.0000 .0000

Select lines around tubes

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 686 TO 686 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 165 TO 165 STEP 1

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 159 TO 159 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 580 TO 580 STEP 1

4 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 581 TO 581 STEP 1

5 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 575 TO 575 STEP 1

6 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 577 TO 577 STEP 1

7 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 583 TO 583 STEP 1

8 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 585 TO 585 STEP 1

9 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 588 TO 588 STEP 1

10 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 591 TO 591 STEP 1

11 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 593 TO 593 STEP 1

12 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 596 TO 596 STEP 1

13 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 600 TO 600 STEP 1

14 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 601 TO 601 STEP 1

15 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 512 TO 512 STEP 1

16 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 517 TO 517 STEP 1

17 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 506 TO 506 STEP 1

18 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 624 TO 624 STEP 1

19 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 177 TO 177 STEP 1

20 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 188 TO 188 STEP 1

21 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 174 TO 174 STEP 1

22 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 629 TO 629 STEP 1

23 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 531 TO 531 STEP 1

24 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 536 TO 536 STEP 1

25 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 525 TO 525 STEP 1

26 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 652 TO 652 STEP 1

27 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 550 TO 550 STEP 1

28 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 555 TO 555 STEP 1

29 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 544 TO 544 STEP 1

30 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 653 TO 653 STEP 1

31 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 654 TO 654 STEP 1

32 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 656 TO 656 STEP 1

33 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 658 TO 658 STEP 1

34 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 661 TO 661 STEP 1

35 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 685 TO 685 STEP 1

36 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 684 TO 684 STEP 1

37 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 682 TO 682 STEP 1

38 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 673 TO 673 STEP 1

39 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 675 TO 675 STEP 1

40 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 679 TO 679 STEP 1

41 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 680 TO 680 STEP 1

42 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 570 TO 570 STEP 1

43 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 567 TO 567 STEP 1

44 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 687 TO 687 STEP 1

45 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Select lines around tube guides

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 112 TO 112 STEP 1

46 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

47 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 43 TO 43 STEP 1

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

49 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 102 TO 102 STEP 1

50 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 99 TO 99 STEP 1

51 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

53 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 37 TO 37 STEP 1

54 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

55 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

56 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

57 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

58 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 72 TO 72 STEP 1

59 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

60 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

61 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

62 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

63 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 23 STEP 1

64 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 49 TO 49 STEP 1

65 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 50 TO 50 STEP 1

66 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

Define area

DEFINE AREA BY LIST OF LINES

LINE LIST = ALL SELECTED LINES

(TRAVERSED IN SAME DIRECTION AS LINE 23)

AREA NUMBER = 302

Create radiation surface elements

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

339 NODES (OF 6985 DEFINED) SELECTED FROM
66 SELECTED LINES BY NSLL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 7

GENERATE ELEMENTS ON SURFACE DEFINED BY SELECTED NODES

TYPE= 7 REAL= 1 MATERIAL= 1 ESYS= 0

NUMBER OF ELEMENTS GENERATED= 337

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=

IN RANGE 1 TO 6985 STEP 1

6985 NODES (OF 6985 DEFINED) SELECTED BY NSEL COMMAND.

Mesh gap

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:

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

SET DIVISIONS ON LINE 686 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 687 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS 302 TO 302 IN STEPS OF 1
** AREA 302 MESHED WITH 102 QUADRILATERALS, 190 TRIANGLES **

*** WARNING *** CP= 51.820 TIME= 20:26:27
Meshing of area 302 produced 7 poorly shaped elements.

*** NOTE *** CP= 51.820 TIME= 20:26:27
Worst aspect ratio is 92.192168 : 1.

*** NOTE *** CP= 51.820 TIME= 20:26:27
Worst shape angle is 2 degrees.

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

6914 6922 6978 6979 7110 7133 7159

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7198

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:

PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

Create other radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 22 TO 22 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7202

GENERATE NODES AND ELEMENTS
ON LINES 25 TO 27 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7225

GENERATE NODES AND ELEMENTS
ON LINES 28 TO 38 IN STEPS OF 2

NUMBER OF LINES MESHED = 6
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7287

GENERATE NODES AND ELEMENTS
ON LINES 39 TO 41 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7310

GENERATE NODES AND ELEMENTS
ON LINES 44 TO 44 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7314

GENERATE NODES AND ELEMENTS
ON LINES 46 TO 48 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7319

GENERATE NODES AND ELEMENTS
ON LINES 53 TO 54 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7340

GENERATE NODES AND ELEMENTS
ON LINES 56 TO 57 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7366

GENERATE NODES AND ELEMENTS
ON LINES 59 TO 59 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7374

GENERATE NODES AND ELEMENTS
ON LINES 61 TO 64 IN STEPS OF 1

NUMBER OF LINES MESHD = 4
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7380

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 70 IN STEPS OF 3

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7402

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 75 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7410

GENERATE NODES AND ELEMENTS
ON LINES 77 TO 79 IN STEPS OF 1

NUMBER OF LINES MESHD = 3
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7426

GENERATE NODES AND ELEMENTS
ON LINES 81 TO 83 IN STEPS OF 1

NUMBER OF LINES MESHD = 3
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7442

GENERATE NODES AND ELEMENTS
ON LINES 85 TO 87 IN STEPS OF 1

NUMBER OF LINES MESHD = 3
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7458

GENERATE NODES AND ELEMENTS
ON LINES 92 TO 97 IN STEPS OF 1

NUMBER OF LINES MESHD = 6
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7486

GENERATE NODES AND ELEMENTS
ON LINES 104 TO 104 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7494

GENERATE NODES AND ELEMENTS
ON LINES 106 TO 107 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7515

GENERATE NODES AND ELEMENTS
ON LINES 109 TO 110 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7541

GENERATE NODES AND ELEMENTS
ON LINES 114 TO 115 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7546
MPC shell/inner barrier gap

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 17 TO 18 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7692

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 13 TO 14 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7838

***** ROUTINE COMPLETED ***** CP = 52.160

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

6806 ELEMENTS (OF 7838 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=
40 BWR MPC/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

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

685 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

977 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:26:36 APR 08, 1995 CP= 60.270
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

339 NODES (OF 7016 DEFINED) SELECTED FROM
337 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= tubegap.sub

*** WARNING *** CP= 60.600 TIME= 20:26:36
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= 337 NUMBER OF NODES= 339

800 ZONES CREATE 1600 RAYS

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

348 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

346 NODES (OF 7016 DEFINED) SELECTED FROM
348 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= 76.040 TIME= 20:26:52
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= 348 NUMBER OF NODES= 346

800 ZONES CREATE 1600 RAYS

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

292 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

294 NODES (OF 7016 DEFINED) SELECTED FROM
292 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= shellgap.sub

*** WARNING *** CP= 96.180 TIME= 20:27:12
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= 292 NUMBER OF NODES= 294

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.250

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:27:25 APR 08, 1995 CP= 109.250
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 7839 tubegap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7839

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7839

SUPERELEMENT 7840 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7840

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7840

SUPERELEMENT 7841 shellgap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7841

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7841
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7841 DEFINED) SELECTED BY ESEL COMMAND.

DELETE ALL SELECTED ELEMENTS.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

7504 ELEMENTS (OF 7504 DEFINED) SELECTED BY ESEL COMMAND.

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

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 109.810 TIME= 20:27:26
Nodes cannot be cleared from line 13 because area 3 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.830 TIME= 20:27:26
Nodes cannot be cleared from line 14 because area 4 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.850 TIME= 20:27:26
Nodes cannot be cleared from line 17 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.870 TIME= 20:27:26
Nodes cannot be cleared from line 18 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.890 TIME= 20:27:26
Nodes cannot be cleared from line 22 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.900 TIME= 20:27:26
Nodes cannot be cleared from line 25 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.900 TIME= 20:27:26
Nodes cannot be cleared from line 27 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.910 TIME= 20:27:26
Nodes cannot be cleared from line 28 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.910 TIME= 20:27:26
Nodes cannot be cleared from line 30 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.920 TIME= 20:27:26
Nodes cannot be cleared from line 32 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.920 TIME= 20:27:26
Nodes cannot be cleared from line 34 because area 13 is meshed. Only

elements are deleted.

*** NOTE *** CP= 109.920 TIME= 20:27:26
Nodes cannot be cleared from line 36 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.930 TIME= 20:27:26
Nodes cannot be cleared from line 38 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.930 TIME= 20:27:26
Nodes cannot be cleared from line 39 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.940 TIME= 20:27:26
Nodes cannot be cleared from line 41 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.940 TIME= 20:27:26
Nodes cannot be cleared from line 44 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.950 TIME= 20:27:26
Nodes cannot be cleared from line 46 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.950 TIME= 20:27:26
Nodes cannot be cleared from line 48 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.950 TIME= 20:27:26
Nodes cannot be cleared from line 53 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.960 TIME= 20:27:26
Nodes cannot be cleared from line 54 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.960 TIME= 20:27:26
Nodes cannot be cleared from line 56 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.970 TIME= 20:27:26
Nodes cannot be cleared from line 57 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.970 TIME= 20:27:26
Nodes cannot be cleared from line 59 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.980 TIME= 20:27:26
Nodes cannot be cleared from line 61 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.980 TIME= 20:27:26
Nodes cannot be cleared from line 62 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.980 TIME= 20:27:26
Nodes cannot be cleared from line 63 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.980 TIME= 20:27:26
Nodes cannot be cleared from line 64 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.990 TIME= 20:27:26
Nodes cannot be cleared from line 67 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.990 TIME= 20:27:26
Nodes cannot be cleared from line 70 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.000 TIME= 20:27:26
Nodes cannot be cleared from line 75 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.000 TIME= 20:27:26
Nodes cannot be cleared from line 77 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.000 TIME= 20:27:26
Nodes cannot be cleared from line 78 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.010 TIME= 20:27:26
Nodes cannot be cleared from line 79 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.010 TIME= 20:27:26
Nodes cannot be cleared from line 81 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.010 TIME= 20:27:26
Nodes cannot be cleared from line 82 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.020 TIME= 20:27:26
Nodes cannot be cleared from line 83 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.020 TIME= 20:27:26
Nodes cannot be cleared from line 85 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.020 TIME= 20:27:26
Nodes cannot be cleared from line 86 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.030 TIME= 20:27:26
Nodes cannot be cleared from line 87 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.030 TIME= 20:27:26
Nodes cannot be cleared from line 92 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.040 TIME= 20:27:26
Nodes cannot be cleared from line 93 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.040 TIME= 20:27:26
Nodes cannot be cleared from line 94 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.040 TIME= 20:27:26
Nodes cannot be cleared from line 95 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.050 TIME= 20:27:26
Nodes cannot be cleared from line 96 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.050 TIME= 20:27:26
Nodes cannot be cleared from line 97 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.050 TIME= 20:27:26
Nodes cannot be cleared from line 104 because area 16 is meshed. Only
elements are deleted.

elements are deleted.

*** NOTE *** CP= 110.050 TIME= 20:27:26
Nodes cannot be cleared from line 106 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.060 TIME= 20:27:26
Nodes cannot be cleared from line 107 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.060 TIME= 20:27:26
Nodes cannot be cleared from line 109 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.070 TIME= 20:27:26
Nodes cannot be cleared from line 110 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.080 TIME= 20:27:26
Nodes cannot be cleared from line 114 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.080 TIME= 20:27:26
Nodes cannot be cleared from line 115 because area 18 is meshed. Only
elements are deleted.

CLEARED 52 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 110.090

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= 110.110 TIME= 20:27:26
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 7 TO 7 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 7016 BY 1
REAL= 26.1400304 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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= 111.960 TIME= 20:27:28

All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:27:28 APR 08, 1995 CP= 111.970
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP

ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 113.340 TIME= 20:27:30
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 113.910 TIME= 20:27:30
 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 = 5207.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .37700	IXX = 1018.	IXX = 1018.
YC = .46170E-08	IYY = 1033.	IYY = 293.3
ZC = .00000E+00	IZZ = 2052.	IZZ = 1312.
	IXY = -.2533E-05	IXY = .6532E-05
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	5207.87

Range of element maximum matrix coefficients in global coordinates
 Maximum= 517.858581 at element 972.
 Minimum= 9.524656763E-10 at element 7841.

*** WARNING *** CP= 139.900 TIME= 20:27:58
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

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

1	6861	PLANE55	16.990	.002
18	3	MATRIX50	.410	.137

Time at end of element matrix formulation CP= 139.9.
 HT FLOW CONVERGENCE VALUE= .1009E+05 CRITERION= 10.09

Estimated number of active DOF= 6869.
Maximum wavefront= 691.

Time at end of matrix triangularization CP= 231.
Equation solver maximum pivot= 1604.85465 at node 3170 TEMP.
Equation solver minimum pivot= 0.234557569 at node 6681 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 495.5
HT FLOW CONVERGENCE VALUE= 1906. CRITERION= .2606
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -177.1
HT FLOW CONVERGENCE VALUE= 301.5 CRITERION= .7077
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -67.31
HT FLOW CONVERGENCE VALUE= 94.01 CRITERION= .3638
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.21
HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .2720
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.251
HT FLOW CONVERGENCE VALUE= 1.746 CRITERION= .2598
EQUIL ITER 6 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3291
HT FLOW CONVERGENCE VALUE= .3681 CRITERION= .2606
EQUIL ITER 7 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5938E-01
HT FLOW CONVERGENCE VALUE= .4634E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 7

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	9.480	.001
18	3	MATRIX50	.550	.183

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	1.550	.000
18	3	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 6869
R.M.S. WAVEFRONT SIZE = 269.8

*** ANSYS BINARY FILE STATISTICS
BUFFER SIZE USED= 4096
4.938 MB WRITTEN ON ELEMENT MATRIX FILE: ma40w1.emat
3.078 MB WRITTEN ON ELEMENT SAVED DATA FILE: ma40w1.esav
12.609 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ma40w1.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ma40w1.dsub
3.734 MB WRITTEN ON RESULTS FILE: ma40w1.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 8 TO 8 STEP 1
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.
147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 7016 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 147

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.768 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.821 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 68.864 .00000E+00 EXPANSION KEY = 1

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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 = 147

*** WARNING *** CP= 950.130 TIME= 20:41:38
This load step will be a static (steady-state) step.

*** NOTE *** CP= 950.690 TIME= 20:41:38
The step data was checked and warning messages were found.
Please review output or errors file (ma40w1.err) for these warning messages.

*** NOTE *** CP= 950.690 TIME= 20:41:38
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:41:38 APR 08, 1995 CP= 950.690
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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= .1647E+05 CRITERION= 16.47
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 42.97
HT FLOW CONVERGENCE VALUE= 52.40 CRITERION= .2738
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.41
HT FLOW CONVERGENCE VALUE= 14.66 CRITERION= .2728
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.101
HT FLOW CONVERGENCE VALUE= 1.080 CRITERION= .2611
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2822
HT FLOW CONVERGENCE VALUE= .2762 CRITERION= .2607
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2390E-01
HT FLOW CONVERGENCE VALUE= .2037E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 5
*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 12
*** 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 4 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.768 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.821 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 68.864 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 1226.970 TIME= 20:46:23
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 20:46:23 APR 08, 1995 CP= 1226.970
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .2037E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1386E-03
 HT FLOW CONVERGENCE VALUE= .4112E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 13
 *** TIME = .788942 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .7673 OSCILLATION LIMIT = .6053
 *** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3718E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6061E-04
 HT FLOW CONVERGENCE VALUE= .4682E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 14
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .2026 OSCILLATION LIMIT = .1598
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .3354E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8284E-04
 HT FLOW CONVERGENCE VALUE= .1083E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 15
 *** TIME = 3.94470 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .9315E-01 OSCILLATION LIMIT = .2205
 *** AUTO TIME STEP: NEXT TIME INC = 5.3675 INCREASED (FACTOR = 2.2678)

HT FLOW CONVERGENCE VALUE= .2951E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5905E-04
 HT FLOW CONVERGENCE VALUE= .1689E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 16
 *** TIME = 9.31222 TIME INC = 5.36752
 *** RESPONSE EIGENVALUE = .3301E-01 OSCILLATION LIMIT = .1772
 *** AUTO TIME STEP: NEXT TIME INC = 7.8894 INCREASED (FACTOR = 1.4698)

HT FLOW CONVERGENCE VALUE= .2690E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1790E-04
 HT FLOW CONVERGENCE VALUE= .1678E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 17
 *** TIME = 17.2016 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .1162E-01 OSCILLATION LIMIT = .9167E-01
 *** AUTO STEP TIME: NEXT TIME INC = 7.8894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2515E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2364E-04
 HT FLOW CONVERGENCE VALUE= .1348E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 18
 *** TIME = 25.0910 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .6567E-02 OSCILLATION LIMIT = .5181E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.4666 DECREASED (FACTOR = .8197)

HT FLOW CONVERGENCE VALUE= .2407E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1529E-04
 HT FLOW CONVERGENCE VALUE= .9856E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 19
 *** TIME = 31.5576 TIME INC = 6.46658
 *** RESPONSE EIGENVALUE = .4847E-02 OSCILLATION LIMIT = .3135E-01

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 20:57:15 APR 08, 1995 CP= 1871.350
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 249.4 CRITERION= .3609
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7036
HT FLOW CONVERGENCE VALUE= .6445 CRITERION= .2599
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1112
HT FLOW CONVERGENCE VALUE= .1261 CRITERION= .2599 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 21
*** TIME = 78925.6 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1633E-05 OSCILLATION LIMIT = .1289
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 249.8 CRITERION= .3604
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7042
HT FLOW CONVERGENCE VALUE= .7177 CRITERION= .2604
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1068
HT FLOW CONVERGENCE VALUE= .1224 CRITERION= .2605 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 23
*** TIME = 157820. TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8209E-06 OSCILLATION LIMIT = .6476E-01
*** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 748.3 CRITERION= .7923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.111
HT FLOW CONVERGENCE VALUE= 2.235 CRITERION= .2598
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4670
HT FLOW CONVERGENCE VALUE= .4989 CRITERION= .2600
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4003E-01
HT FLOW CONVERGENCE VALUE= .2841E-01 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 26
*** TIME = 394502. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .3519E-06 OSCILLATION LIMIT = .8330E-01
*** AUTO STEP TIME: NEXT TIME INC = .23668E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 748.6 CRITERION= .7921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.111
HT FLOW CONVERGENCE VALUE= 2.269 CRITERION= .2604
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4715
HT FLOW CONVERGENCE VALUE= .4993 CRITERION= .2606
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3985E-01
HT FLOW CONVERGENCE VALUE= .2851E-01 CRITERION= .2602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 29
*** TIME = 631184. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .4384E-06 OSCILLATION LIMIT = .1038
*** AUTO TIME STEP: NEXT TIME INC = .71005E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 2244. CRITERION= 2.259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 6.332
HT FLOW CONVERGENCE VALUE= 6.868 CRITERION= .2603
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.707
HT FLOW CONVERGENCE VALUE= 1.731 CRITERION= .2605
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1539
HT FLOW CONVERGENCE VALUE= .1026 CRITERION= .2593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 32
*** TIME = .134123E+07 TIME INC = 710046.
*** RESPONSE EIGENVALUE = .4004E-06 OSCILLATION LIMIT = .2843
*** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 2493. CRITERION= 2.506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.036
HT FLOW CONVERGENCE VALUE= 7.592 CRITERION= .2607

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.885
HT FLOW CONVERGENCE VALUE= 1.880 CRITERION= .2610
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1658
HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 35
*** TIME = .213017E+07 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4271E-06 OSCILLATION LIMIT = .3370
*** AUTO TIME STEP: NEXT TIME INC = .51281E+06 DECREASED (FACTOR = .6500)

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HT FLOW CONVERGENCE VALUE= 1619. CRITERION= 1.640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.573
HT FLOW CONVERGENCE VALUE= 4.731 CRITERION= .2593
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.140
HT FLOW CONVERGENCE VALUE= 1.132 CRITERION= .2596
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9754E-01
HT FLOW CONVERGENCE VALUE= .6397E-01 CRITERION= .2588 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 38
*** TIME = .264298E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .4119E-06 OSCILLATION LIMIT = .2112
*** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1619. CRITERION= 1.640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.573
HT FLOW CONVERGENCE VALUE= 4.375 CRITERION= .2598
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.132
HT FLOW CONVERGENCE VALUE= 1.117 CRITERION= .2601
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9661E-01
HT FLOW CONVERGENCE VALUE= .6176E-01 CRITERION= .2593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 41
*** TIME = .315579E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .4445E-06 OSCILLATION LIMIT = .2280

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:20:16 APR 08, 1995 CP= 3237.600
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 275.7 CRITERION= .3784
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7304
HT FLOW CONVERGENCE VALUE= .8893 CRITERION= .2596
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2069
HT FLOW CONVERGENCE VALUE= .1875 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 43
*** TIME = .366860E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .3389E-06 OSCILLATION LIMIT = .1738
*** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 275.7 CRITERION= .3788
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7232
HT FLOW CONVERGENCE VALUE= .6409 CRITERION= .2594
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .1922 CRITERION= .2593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 45
*** TIME = .418141E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .2892E-05 OSCILLATION LIMIT = 1.483
*** AUTO TIME STEP: NEXT TIME INC = .17291E+06 DECREASED (FACTOR = .3372)

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HT FLOW CONVERGENCE VALUE= 92.94 CRITERION= .2755
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2439
HT FLOW CONVERGENCE VALUE= .2832 CRITERION= .2592

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5108E-01
 HT FLOW CONVERGENCE VALUE= .4750E-01 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 47
 *** TIME = .435433E+07 TIME INC = 172912.
 *** RESPONSE EIGENVALUE = .8076E-07 OSCILLATION LIMIT = .1396E-01
 *** AUTO STEP TIME: NEXT TIME INC = .17291E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 93.00 CRITERION= .2754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2439
 HT FLOW CONVERGENCE VALUE= .2281 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 48
 *** TIME = .452724E+07 TIME INC = 172912.
 *** RESPONSE EIGENVALUE = .7151E-06 OSCILLATION LIMIT = .1236
 *** AUTO TIME STEP: NEXT TIME INC = .51874E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 278.8 CRITERION= .3807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7316
 HT FLOW CONVERGENCE VALUE= .7157 CRITERION= .2592
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1859
 HT FLOW CONVERGENCE VALUE= .1912 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 50
 *** TIME = .504597E+07 TIME INC = 518737.
 *** RESPONSE EIGENVALUE = .9810E-06 OSCILLATION LIMIT = .5089
 *** AUTO STEP TIME: NEXT TIME INC = .51874E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 278.8 CRITERION= .3807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7316
 HT FLOW CONVERGENCE VALUE= .6964 CRITERION= .2590
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1818
 HT FLOW CONVERGENCE VALUE= .1891 CRITERION= .2589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 52
 *** TIME = .556471E+07 TIME INC = 518737.
 *** RESPONSE EIGENVALUE = .1192E-05 OSCILLATION LIMIT = .6182
 *** AUTO STEP TIME: NEXT TIME INC = .51874E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 278.8 CRITERION= .3805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7316
 HT FLOW CONVERGENCE VALUE= .7367 CRITERION= .2588
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1890
 HT FLOW CONVERGENCE VALUE= .1876 CRITERION= .2588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 54
 *** TIME = .608345E+07 TIME INC = 518737.
 *** RESPONSE EIGENVALUE = .6695E-06 OSCILLATION LIMIT = .3473
 *** AUTO TIME STEP: NEXT TIME INC = .22810E+06 DECREASED (FACTOR = .4397)

HT FLOW CONVERGENCE VALUE= 122.7 CRITERION= .2864
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3217
 HT FLOW CONVERGENCE VALUE= .2985 CRITERION= .2586
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6528E-01
 HT FLOW CONVERGENCE VALUE= .6976E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 56
 *** TIME = .631155E+07 TIME INC = 228103.
 *** RESPONSE EIGENVALUE = .7725E-06 OSCILLATION LIMIT = .1762

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:37:58 APR 08, 1995 CP= 4286.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 70.38 CRITERION= .2680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1834
 HT FLOW CONVERGENCE VALUE= .1895 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 57
 *** TIME = .653966E+07 TIME INC = 228103.
 *** RESPONSE EIGENVALUE = .3042E-06 OSCILLATION LIMIT = .6940E-01
 *** AUTO STEP TIME: NEXT TIME INC = .22810E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 70.42 CRITERION= .2680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1834
 HT FLOW CONVERGENCE VALUE= .1642 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 58
 *** TIME = .676776E+07 TIME INC = 228103.
 *** RESPONSE EIGENVALUE = .1123E-05 OSCILLATION LIMIT = .2562
 *** AUTO TIME STEP: NEXT TIME INC = .44517E+06 INCREASED (FACTOR = 1.9516)

HT FLOW CONVERGENCE VALUE= 137.4 CRITERION= .2928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3579
 HT FLOW CONVERGENCE VALUE= .3228 CRITERION= .2585
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8434E-01
 HT FLOW CONVERGENCE VALUE= .9206E-01 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 60
 *** TIME = .721293E+07 TIME INC = 445174.
 *** RESPONSE EIGENVALUE = .2407E-05 OSCILLATION LIMIT = 1.071
 *** AUTO TIME STEP: NEXT TIME INC = .20777E+06 DECREASED (FACTOR = .4667)

HT FLOW CONVERGENCE VALUE= 64.16 CRITERION= .2662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1670
 HT FLOW CONVERGENCE VALUE= .1540 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 61
 *** TIME = .742070E+07 TIME INC = 207770.
 *** RESPONSE EIGENVALUE = .8788E-06 OSCILLATION LIMIT = .1826
 *** AUTO STEP TIME: NEXT TIME INC = .20777E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.16 CRITERION= .2661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1670
 HT FLOW CONVERGENCE VALUE= .1557 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 62
 *** TIME = .762847E+07 TIME INC = 207770.
 *** RESPONSE EIGENVALUE = .7728E-06 OSCILLATION LIMIT = .1606
 *** AUTO TIME STEP: NEXT TIME INC = .62331E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 192.5 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5011
 HT FLOW CONVERGENCE VALUE= .4501 CRITERION= .2582
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1249
 HT FLOW CONVERGENCE VALUE= .1331 CRITERION= .2581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 64
 *** TIME = .825178E+07 TIME INC = 623311.
 *** RESPONSE EIGENVALUE = .2115E-05 OSCILLATION LIMIT = 1.319
 *** AUTO TIME STEP: NEXT TIME INC = .23636E+06 DECREASED (FACTOR = .3792)

HT FLOW CONVERGENCE VALUE= 73.02 CRITERION= .2682
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1900
 HT FLOW CONVERGENCE VALUE= .1741 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 65
 *** TIME = .848815E+07 TIME INC = 236362.
 *** RESPONSE EIGENVALUE = .1025E-05 OSCILLATION LIMIT = .2423
 *** AUTO STEP TIME: NEXT TIME INC = .23636E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.08 CRITERION= .2681
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1900
 HT FLOW CONVERGENCE VALUE= .1660 CRITERION= .2580 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 66
*** TIME = .872451E+07 TIME INC = 236362.
*** RESPONSE EIGENVALUE = .5897E-06 OSCILLATION LIMIT = .1394
*** AUTO TIME STEP: NEXT TIME INC = .37140E+06 INCREASED (FACTOR = 1.5713)

HT FLOW CONVERGENCE VALUE= 114.8 CRITERION= .2823
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2986
HT FLOW CONVERGENCE VALUE= .2513 CRITERION= .2579 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 67
*** TIME = .909591E+07 TIME INC = 371402.
*** RESPONSE EIGENVALUE = .1824E-05 OSCILLATION LIMIT = .6776
*** AUTO STEP TIME: NEXT TIME INC = .37140E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 114.9 CRITERION= .2823
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2986
HT FLOW CONVERGENCE VALUE= .2501 CRITERION= .2578 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 68
*** TIME = .946731E+07 TIME INC = 371402.
*** RESPONSE EIGENVALUE = .9927E-06 OSCILLATION LIMIT = .3687

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:54:48 APR 08, 1995 CP= 5284.520
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 81.11 CRITERION= .2703
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2111
HT FLOW CONVERGENCE VALUE= .1701 CRITERION= .2577 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 69
*** TIME = .983871E+07 TIME INC = 371402.
*** RESPONSE EIGENVALUE = .2996E-05 OSCILLATION LIMIT = 1.113
*** AUTO TIME STEP: NEXT TIME INC = .16687E+06 DECREASED (FACTOR = .4493)

HT FLOW CONVERGENCE VALUE= 36.48 CRITERION= .2602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9482E-01
HT FLOW CONVERGENCE VALUE= .7960E-01 CRITERION= .2575 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 70
*** TIME = .100056E+08 TIME INC = 166868.
*** RESPONSE EIGENVALUE = .2883E-05 OSCILLATION LIMIT = .4811
*** AUTO STEP TIME: NEXT TIME INC = .16687E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.46 CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9482E-01
HT FLOW CONVERGENCE VALUE= .7586E-01 CRITERION= .2574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 71
*** TIME = .101724E+08 TIME INC = 166868.
*** RESPONSE EIGENVALUE = .3947E-05 OSCILLATION LIMIT = .6587
*** AUTO STEP TIME: NEXT TIME INC = .16687E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.49 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9482E-01
HT FLOW CONVERGENCE VALUE= .7731E-01 CRITERION= .2574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 72
*** TIME = .103393E+08 TIME INC = 166868.
*** RESPONSE EIGENVALUE = .1501E-05 OSCILLATION LIMIT = .2505
*** AUTO TIME STEP: NEXT TIME INC = .33302E+06 INCREASED (FACTOR = 1.9957)

HT FLOW CONVERGENCE VALUE= 72.79 CRITERION= .2674

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1892
HT FLOW CONVERGENCE VALUE= .1582 CRITERION= .2573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 73
*** TIME = .106723E+08 TIME INC = 333021.
*** RESPONSE EIGENVALUE = .2036E-05 OSCILLATION LIMIT = .6781
*** AUTO STEP TIME: NEXT TIME INC = .33302E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.83 CRITERION= .2674
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1892
HT FLOW CONVERGENCE VALUE= .1545 CRITERION= .2572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 74
*** TIME = .110054E+08 TIME INC = 333021.
*** RESPONSE EIGENVALUE = .1763E-05 OSCILLATION LIMIT = .5870
*** AUTO STEP TIME: NEXT TIME INC = .33302E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.84 CRITERION= .2673
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1892
HT FLOW CONVERGENCE VALUE= .1525 CRITERION= .2571 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 75
*** TIME = .113384E+08 TIME INC = 333021.
*** RESPONSE EIGENVALUE = .2684E-05 OSCILLATION LIMIT = .8939
*** AUTO TIME STEP: NEXT TIME INC = .18628E+06 DECREASED (FACTOR = .5594)

HT FLOW CONVERGENCE VALUE= 40.78 CRITERION= .2603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
HT FLOW CONVERGENCE VALUE= .8521E-01 CRITERION= .2570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 76
*** TIME = .115247E+08 TIME INC = 186280.
*** RESPONSE EIGENVALUE = .2213E-05 OSCILLATION LIMIT = .4122
*** AUTO STEP TIME: NEXT TIME INC = .18628E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.76 CRITERION= .2602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
HT FLOW CONVERGENCE VALUE= .8456E-01 CRITERION= .2569 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 77
*** TIME = .117109E+08 TIME INC = 186280.
*** RESPONSE EIGENVALUE = .3313E-05 OSCILLATION LIMIT = .6171
*** AUTO STEP TIME: NEXT TIME INC = .18628E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.79 CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
HT FLOW CONVERGENCE VALUE= .8597E-01 CRITERION= .2568 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 78
*** TIME = .118972E+08 TIME INC = 186280.
*** RESPONSE EIGENVALUE = .1775E-05 OSCILLATION LIMIT = .3307
*** AUTO STEP TIME: NEXT TIME INC = .18628E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.78 CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
HT FLOW CONVERGENCE VALUE= .8554E-01 CRITERION= .2568 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 79
*** TIME = .120835E+08 TIME INC = 186280.
*** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = .4314
*** AUTO STEP TIME: NEXT TIME INC = .18628E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.80 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
HT FLOW CONVERGENCE VALUE= .8543E-01 CRITERION= .2567 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 80
*** TIME = .122698E+08 TIME INC = 186280.
*** RESPONSE EIGENVALUE = .2215E-05 OSCILLATION LIMIT = .4126
*** AUTO STEP TIME: NEXT TIME INC = .18628E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 40.79 CRITERION= .2599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059
 HT FLOW CONVERGENCE VALUE= .8547E-01 CRITERION= .2567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 81
 *** TIME = .124561E+08 TIME INC = 186280.
 *** RESPONSE EIGENVALUE = .2205E-05 OSCILLATION LIMIT = .4108
 *** AUTO TIME STEP: NEXT TIME INC = .16701E+06 DECREASED (FACTOR = .8966)

HT FLOW CONVERGENCE VALUE= 36.60 CRITERION= .2593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9491E-01
 HT FLOW CONVERGENCE VALUE= .7621E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 82
 *** TIME = .126231E+08 TIME INC = 167013.
 *** RESPONSE EIGENVALUE = .2291E-05 OSCILLATION LIMIT = .3827

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:16:06 APR 08, 1995 CP= 6549.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 28.12 CRITERION= .2581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
 HT FLOW CONVERGENCE VALUE= .5833E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 83
 *** TIME = .127901E+08 TIME INC = 167013.
 *** RESPONSE EIGENVALUE = .2770E-05 OSCILLATION LIMIT = .4627
 *** AUTO STEP TIME: NEXT TIME INC = .16701E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.14 CRITERION= .2581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
 HT FLOW CONVERGENCE VALUE= .5787E-01 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 84
 *** TIME = .129571E+08 TIME INC = 167013.
 *** RESPONSE EIGENVALUE = .3797E-05 OSCILLATION LIMIT = .6341
 *** AUTO STEP TIME: NEXT TIME INC = .16701E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.13 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
 HT FLOW CONVERGENCE VALUE= .5835E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 85
 *** TIME = .131241E+08 TIME INC = 167013.
 *** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = .4905
 *** AUTO STEP TIME: NEXT TIME INC = .16701E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.15 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
 HT FLOW CONVERGENCE VALUE= .5800E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 86
 *** TIME = .132911E+08 TIME INC = 167013.
 *** RESPONSE EIGENVALUE = .3228E-05 OSCILLATION LIMIT = .5392
 *** AUTO STEP TIME: NEXT TIME INC = .16701E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.14 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
 HT FLOW CONVERGENCE VALUE= .5825E-01 CRITERION= .2563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 87
 *** TIME = .134581E+08 TIME INC = 167013.

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*** RESPONSE EIGENVALUE = .3112E-05  OSCILLATION LIMIT = .5198
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.15  CRITERION= .2579
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5796E-01 CRITERION= .2563  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 88
*** TIME = .136252E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3212E-05  OSCILLATION LIMIT = .5364
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.14  CRITERION= .2578
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5821E-01 CRITERION= .2562  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 89
*** TIME = .137922E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3096E-05  OSCILLATION LIMIT = .5170
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.16  CRITERION= .2577
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5793E-01 CRITERION= .2561  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 90
*** TIME = .139592E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3223E-05  OSCILLATION LIMIT = .5383
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.15  CRITERION= .2577
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5817E-01 CRITERION= .2561  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 91
*** TIME = .141262E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3078E-05  OSCILLATION LIMIT = .5141
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.17  CRITERION= .2576
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5787E-01 CRITERION= .2560  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 92
*** TIME = .142932E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3233E-05  OSCILLATION LIMIT = .5400
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.16  CRITERION= .2576
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5810E-01 CRITERION= .2560  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 93
*** TIME = .144602E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3063E-05  OSCILLATION LIMIT = .5116
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.17  CRITERION= .2575
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5782E-01 CRITERION= .2559  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 94
*** TIME = .146272E+08 TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3241E-05  OSCILLATION LIMIT = .5413
*** AUTO STEP TIME:  NEXT TIME INC = .16701E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.16  CRITERION= .2575
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
  HT FLOW CONVERGENCE VALUE= .5805E-01 CRITERION= .2559  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      8  SUBSTEP    13  COMPLETED.    CUM ITER =    95
*** TIME = .147942E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3051E-05    OSCILLATION LIMIT = .5095
*** AUTO STEP TIME: NEXT TIME INC = .16701E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.18    CRITERION= .2574
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
    HT FLOW CONVERGENCE VALUE= .5776E-01 CRITERION= .2558    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    14  COMPLETED.    CUM ITER =    96
*** TIME = .149613E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3247E-05    OSCILLATION LIMIT = .5423
*** AUTO STEP TIME: NEXT TIME INC = .16701E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.17    CRITERION= .2574
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
    HT FLOW CONVERGENCE VALUE= .5798E-01 CRITERION= .2558    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    15  COMPLETED.    CUM ITER =    97
*** TIME = .151283E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3041E-05    OSCILLATION LIMIT = .5078
*** AUTO STEP TIME: NEXT TIME INC = .16701E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.19    CRITERION= .2573
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
    HT FLOW CONVERGENCE VALUE= .5769E-01 CRITERION= .2557    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    16  COMPLETED.    CUM ITER =    98
*** TIME = .152953E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3251E-05    OSCILLATION LIMIT = .5429
*** AUTO STEP TIME: NEXT TIME INC = .16701E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.18    CRITERION= .2572
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
    HT FLOW CONVERGENCE VALUE= .5791E-01 CRITERION= .2557    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    17  COMPLETED.    CUM ITER =    99
*** TIME = .154623E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3033E-05    OSCILLATION LIMIT = .5065
*** AUTO STEP TIME: NEXT TIME INC = .16701E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.19    CRITERION= .2572
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7298E-01
    HT FLOW CONVERGENCE VALUE= .5764E-01 CRITERION= .2556    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    18  COMPLETED.    CUM ITER =   100
*** TIME = .156293E+08    TIME INC = 167013.
*** RESPONSE EIGENVALUE = .3253E-05    OSCILLATION LIMIT = .5434
*** AUTO TIME STEP: NEXT TIME INC = .14952E+06  DECREASED (FACTOR = .8953)

    HT FLOW CONVERGENCE VALUE= 25.23    CRITERION= .2568
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6533E-01
    HT FLOW CONVERGENCE VALUE= .5175E-01 CRITERION= .2555    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    19  COMPLETED.    CUM ITER =   101
*** TIME = .157788E+08    TIME INC = 149524.
*** RESPONSE EIGENVALUE = .3034E-05    OSCILLATION LIMIT = .4537

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:45:00 APR 08, 1995 CP= 8264.250
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 20.24    CRITERION= .2563
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01

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HT FLOW CONVERGENCE VALUE= .4120E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 102
 *** TIME = .159284E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4186E-05 OSCILLATION LIMIT = .6260
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .2563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4130E-01 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 103
 *** TIME = .160779E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4611E-05 OSCILLATION LIMIT = .6895
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4108E-01 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 104
 *** TIME = .162274E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4442E-05 OSCILLATION LIMIT = .6643
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4126E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 105
 *** TIME = .163769E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4108E-05 OSCILLATION LIMIT = .6142
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4106E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 106
 *** TIME = .165265E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4587E-05 OSCILLATION LIMIT = .6858
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4124E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 107
 *** TIME = .166760E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4104E-05 OSCILLATION LIMIT = .6136
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4103E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 108
 *** TIME = .168255E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4572E-05 OSCILLATION LIMIT = .6836
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4121E-01 CRITERION= .2551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 109
 *** TIME = .169750E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4112E-05 OSCILLATION LIMIT = .6148
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4101E-01 CRITERION= .2551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 110
 *** TIME = .171246E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4557E-05 OSCILLATION LIMIT = .6814
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4119E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 111
 *** TIME = .172741E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4120E-05 OSCILLATION LIMIT = .6160
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4099E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 112
 *** TIME = .174236E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4544E-05 OSCILLATION LIMIT = .6794
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4116E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 113
 *** TIME = .175731E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4126E-05 OSCILLATION LIMIT = .6170
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4096E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 114
 *** TIME = .177226E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4532E-05 OSCILLATION LIMIT = .6777
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4114E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 115
 *** TIME = .178722E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4132E-05 OSCILLATION LIMIT = .6179
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4094E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 116
 *** TIME = .180217E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4522E-05 OSCILLATION LIMIT = .6762
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4112E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 117
 *** TIME = .181712E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4137E-05 OSCILLATION LIMIT = .6186

*** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4092E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 118
 *** TIME = .183207E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4513E-05 OSCILLATION LIMIT = .6748
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4109E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 119
 *** TIME = .184703E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4141E-05 OSCILLATION LIMIT = .6192
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4089E-01 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 120
 *** TIME = .186198E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4505E-05 OSCILLATION LIMIT = .6736
 *** AUTO STEP TIME: NEXT TIME INC = .14952E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5249E-01
 HT FLOW CONVERGENCE VALUE= .4107E-01 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 121
 *** TIME = .187693E+08 TIME INC = 149524.
 *** RESPONSE EIGENVALUE = .4145E-05 OSCILLATION LIMIT = .6198
 *** AUTO STEP TIME: NEXT TIME INC = 82637. DECREASED (FACTOR = .5527)

HT FLOW CONVERGENCE VALUE= 11.21 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2901E-01
 HT FLOW CONVERGENCE VALUE= .2293E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 122
 *** TIME = .188520E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .4390E-05 OSCILLATION LIMIT = .3628
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.20 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2901E-01
 HT FLOW CONVERGENCE VALUE= .2284E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 123
 *** TIME = .189346E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5157E-05 OSCILLATION LIMIT = .4261

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:18:33 APR 08, 1995 CP= 10252.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.416 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 124

*** TIME = .190172E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5498E-05 OSCILLATION LIMIT = .4543
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.396 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1916E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 125
 *** TIME = .190999E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5066E-05 OSCILLATION LIMIT = .4187
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.417 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1893E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 126
 *** TIME = .191825E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .6265E-05 OSCILLATION LIMIT = .5178
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.396 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1912E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 127
 *** TIME = .192651E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .4930E-05 OSCILLATION LIMIT = .4074
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.417 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1893E-01 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 128
 *** TIME = .193478E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .6113E-05 OSCILLATION LIMIT = .5052
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.397 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1910E-01 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 129
 *** TIME = .194304E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5033E-05 OSCILLATION LIMIT = .4159
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.418 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1893E-01 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 130
 *** TIME = .195130E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .6004E-05 OSCILLATION LIMIT = .4961
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.398 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1909E-01 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 131
 *** TIME = .195957E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5105E-05 OSCILLATION LIMIT = .4218
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.419 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1893E-01 CRITERION= .2542 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 132
*** TIME = .196783E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5925E-05 OSCILLATION LIMIT = .4896
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.399 CRITERION= .2544
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1908E-01 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 133
*** TIME = .197610E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5155E-05 OSCILLATION LIMIT = .4260
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.420 CRITERION= .2544
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1892E-01 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 134
*** TIME = .198436E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5868E-05 OSCILLATION LIMIT = .4849
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.400 CRITERION= .2544
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1907E-01 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 135
*** TIME = .199262E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5190E-05 OSCILLATION LIMIT = .4289
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.420 CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1892E-01 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 136
*** TIME = .200089E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5825E-05 OSCILLATION LIMIT = .4813
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.400 CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1906E-01 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 137
*** TIME = .200915E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5216E-05 OSCILLATION LIMIT = .4310
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.421 CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1892E-01 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 138
*** TIME = .201741E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5791E-05 OSCILLATION LIMIT = .4786
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.401 CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1905E-01 CRITERION= .2540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 139
*** TIME = .202568E+08 TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5235E-05 OSCILLATION LIMIT = .4326
*** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.422 CRITERION= .2542

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1891E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 140
 *** TIME = .203394E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5765E-05 OSCILLATION LIMIT = .4764
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.402 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1905E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 141
 *** TIME = .204221E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5249E-05 OSCILLATION LIMIT = .4338
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.422 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1891E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 142
 *** TIME = .205047E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5743E-05 OSCILLATION LIMIT = .4746
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.403 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1904E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 143
 *** TIME = .205873E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5261E-05 OSCILLATION LIMIT = .4347
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.423 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1890E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 144
 *** TIME = .206700E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5726E-05 OSCILLATION LIMIT = .4731
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.403 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1903E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 145
 *** TIME = .207526E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5269E-05 OSCILLATION LIMIT = .4355
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.424 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1890E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 146
 *** TIME = .208352E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5711E-05 OSCILLATION LIMIT = .4719
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.404 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1902E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 147
 *** TIME = .209179E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5277E-05 OSCILLATION LIMIT = .4361
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.425 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1889E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 148
 *** TIME = .210005E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5698E-05 OSCILLATION LIMIT = .4708
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.405 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1902E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 149
 *** TIME = .210831E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5283E-05 OSCILLATION LIMIT = .4366
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.425 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1889E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 150
 *** TIME = .211658E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5686E-05 OSCILLATION LIMIT = .4699
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.406 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1901E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 151
 *** TIME = .212484E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5288E-05 OSCILLATION LIMIT = .4370
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.426 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1888E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 152
 *** TIME = .213311E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5676E-05 OSCILLATION LIMIT = .4690
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.406 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1900E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 153
 *** TIME = .214137E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5293E-05 OSCILLATION LIMIT = .4374
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.427 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1888E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 154
 *** TIME = .214963E+08 TIME INC = 82636.7
 *** RESPONSE EIGENVALUE = .5667E-05 OSCILLATION LIMIT = .4683
 *** AUTO STEP TIME: NEXT TIME INC = 82637. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.407 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
 HT FLOW CONVERGENCE VALUE= .1900E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 155
 *** TIME = .215790E+08 TIME INC = 82636.7

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*** RESPONSE EIGENVALUE = .5297E-05  OSCILLATION LIMIT = .4377
*** AUTO STEP TIME: NEXT TIME INC = 82637.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.428  CRITERION= .2538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1887E-01 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 156
*** TIME = .216616E+08  TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5659E-05  OSCILLATION LIMIT = .4676
*** AUTO STEP TIME: NEXT TIME INC = 82637.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.408  CRITERION= .2538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1899E-01 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 157
*** TIME = .217442E+08  TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5300E-05  OSCILLATION LIMIT = .4380
*** AUTO STEP TIME: NEXT TIME INC = 82637.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.428  CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1886E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 158
*** TIME = .218269E+08  TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5651E-05  OSCILLATION LIMIT = .4670
*** AUTO STEP TIME: NEXT TIME INC = 82637.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.409  CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1898E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 159
*** TIME = .219095E+08  TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5304E-05  OSCILLATION LIMIT = .4383
*** AUTO STEP TIME: NEXT TIME INC = 82637.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.429  CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2434E-01
HT FLOW CONVERGENCE VALUE= .1886E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 37 COMPLETED. CUM ITER = 160
*** TIME = .219921E+08  TIME INC = 82636.7
*** RESPONSE EIGENVALUE = .5644E-05  OSCILLATION LIMIT = .4664
*** AUTO STEP TIME: NEXT TIME INC = 49102.  DECREASED (FACTOR = .5942)

HT FLOW CONVERGENCE VALUE= 5.590  CRITERION= .2536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1446E-01
HT FLOW CONVERGENCE VALUE= .1149E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 38 COMPLETED. CUM ITER = 161
*** TIME = .220412E+08  TIME INC = 49101.7
*** RESPONSE EIGENVALUE = .4508E-05  OSCILLATION LIMIT = .2213
*** AUTO STEP TIME: NEXT TIME INC = 49102.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610  CRITERION= .2535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1446E-01
HT FLOW CONVERGENCE VALUE= .1128E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 39 COMPLETED. CUM ITER = 162
*** TIME = .220904E+08  TIME INC = 49101.7
*** RESPONSE EIGENVALUE = .6554E-05  OSCILLATION LIMIT = .3218

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:17:53 APR 09, 1995 CP= 13768.290

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 7.701 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 163
 *** TIME = .221692E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6824E-05 OSCILLATION LIMIT = .5384
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.719 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 164
 *** TIME = .222481E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6304E-05 OSCILLATION LIMIT = .4973
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.702 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 165
 *** TIME = .223270E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6593E-05 OSCILLATION LIMIT = .5201
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.720 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 166
 *** TIME = .224059E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6883E-05 OSCILLATION LIMIT = .5430
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.702 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 167
 *** TIME = .224848E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6535E-05 OSCILLATION LIMIT = .5155
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.720 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1551E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 168
 *** TIME = .225637E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6906E-05 OSCILLATION LIMIT = .5448
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.703 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 169
 *** TIME = .226426E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6501E-05 OSCILLATION LIMIT = .5129
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.721 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01

HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 170
 *** TIME = .227215E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6924E-05 OSCILLATION LIMIT = .5462
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.703 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 171
 *** TIME = .228004E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6482E-05 OSCILLATION LIMIT = .5114
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.721 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 172
 *** TIME = .228793E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6934E-05 OSCILLATION LIMIT = .5470
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.704 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 173
 *** TIME = .229582E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6471E-05 OSCILLATION LIMIT = .5105
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.722 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 174
 *** TIME = .230371E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6938E-05 OSCILLATION LIMIT = .5474
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.704 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 175
 *** TIME = .231160E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6465E-05 OSCILLATION LIMIT = .5100
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.722 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 176
 *** TIME = .231949E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6939E-05 OSCILLATION LIMIT = .5474
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.705 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 177
 *** TIME = .232738E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6462E-05 OSCILLATION LIMIT = .5098
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.723 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 178
 *** TIME = .233527E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6937E-05 OSCILLATION LIMIT = .5473
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.705 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 179
 *** TIME = .234315E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6460E-05 OSCILLATION LIMIT = .5097
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.723 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 180
 *** TIME = .235104E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6934E-05 OSCILLATION LIMIT = .5471
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.706 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 181
 *** TIME = .235893E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6461E-05 OSCILLATION LIMIT = .5097
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.724 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 182
 *** TIME = .236682E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6931E-05 OSCILLATION LIMIT = .5468
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.706 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1561E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 183
 *** TIME = .237471E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6462E-05 OSCILLATION LIMIT = .5098
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.724 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 184
 *** TIME = .238260E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6926E-05 OSCILLATION LIMIT = .5465
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.707 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1561E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 185
 *** TIME = .239049E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6464E-05 OSCILLATION LIMIT = .5100

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.725 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 186
 *** TIME = .239838E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6922E-05 OSCILLATION LIMIT = .5461
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.707 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 187
 *** TIME = .240627E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6466E-05 OSCILLATION LIMIT = .5101
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.725 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 188
 *** TIME = .241416E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6917E-05 OSCILLATION LIMIT = .5457
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.708 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 189
 *** TIME = .242205E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6469E-05 OSCILLATION LIMIT = .5103
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.726 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 190
 *** TIME = .242994E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6912E-05 OSCILLATION LIMIT = .5453
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.708 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1559E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 191
 *** TIME = .243783E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6471E-05 OSCILLATION LIMIT = .5105
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.726 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 192
 *** TIME = .244572E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6908E-05 OSCILLATION LIMIT = .5450
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.709 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1558E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 193

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*** TIME = .245361E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6474E-05    OSCILLATION LIMIT = .5108
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.727    CRITERION= .2528
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1545E-01    CRITERION= .2527    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 32 COMPLETED.    CUM ITER = 194
*** TIME = .246150E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6903E-05    OSCILLATION LIMIT = .5446
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.709    CRITERION= .2528
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1558E-01    CRITERION= .2526    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 33 COMPLETED.    CUM ITER = 195
*** TIME = .246939E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6477E-05    OSCILLATION LIMIT = .5110
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.727    CRITERION= .2527
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1545E-01    CRITERION= .2526    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 34 COMPLETED.    CUM ITER = 196
*** TIME = .247727E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6898E-05    OSCILLATION LIMIT = .5442
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.710    CRITERION= .2527
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1557E-01    CRITERION= .2526    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 35 COMPLETED.    CUM ITER = 197
*** TIME = .248516E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6479E-05    OSCILLATION LIMIT = .5112
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.728    CRITERION= .2527
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1545E-01    CRITERION= .2526    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 36 COMPLETED.    CUM ITER = 198
*** TIME = .249305E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6894E-05    OSCILLATION LIMIT = .5439
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.710    CRITERION= .2527
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1557E-01    CRITERION= .2525    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 37 COMPLETED.    CUM ITER = 199
*** TIME = .250094E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6482E-05    OSCILLATION LIMIT = .5114
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.728    CRITERION= .2526
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1544E-01    CRITERION= .2525    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 38 COMPLETED.    CUM ITER = 200
*** TIME = .250883E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6890E-05    OSCILLATION LIMIT = .5436
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 7.711    CRITERION= .2526
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
    HT FLOW CONVERGENCE VALUE= .1556E-01    CRITERION= .2525    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 39 COMPLETED. CUM ITER = 201
*** TIME = .251672E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6485E-05 OSCILLATION LIMIT = .5116
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.728 CRITERION= .2526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1544E-01 CRITERION= .2525 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 40 COMPLETED. CUM ITER = 202
*** TIME = .252461E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6886E-05 OSCILLATION LIMIT = .5432
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:18:43 APR 09, 1995 CP= 17376.950
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 6.694 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1367E-01 CRITERION= .2524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 203
*** TIME = .253250E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7029E-05 OSCILLATION LIMIT = .5545
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 6.710 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1361E-01 CRITERION= .2524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 204
*** TIME = .254039E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8273E-05 OSCILLATION LIMIT = .6527
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 6.694 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1370E-01 CRITERION= .2524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 205
*** TIME = .254828E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7748E-05 OSCILLATION LIMIT = .6113
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 6.710 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1356E-01 CRITERION= .2524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 206
*** TIME = .255617E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8096E-05 OSCILLATION LIMIT = .6388
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 6.694 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 207
*** TIME = .256406E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7696E-05 OSCILLATION LIMIT = .6072
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED
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HT FLOW CONVERGENCE VALUE= 6.710 CRITERION= .2524

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1356E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 208
*** TIME = .257195E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8131E-05 OSCILLATION LIMIT = .6415
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.695 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 209
*** TIME = .257984E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7666E-05 OSCILLATION LIMIT = .6048
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.711 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1355E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 210
*** TIME = .258773E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8153E-05 OSCILLATION LIMIT = .6432
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.695 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 211
*** TIME = .259562E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7647E-05 OSCILLATION LIMIT = .6033
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.711 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1355E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 212
*** TIME = .260351E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8165E-05 OSCILLATION LIMIT = .6442
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.695 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1368E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 213
*** TIME = .261139E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7636E-05 OSCILLATION LIMIT = .6024
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.711 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 214
*** TIME = .261928E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8171E-05 OSCILLATION LIMIT = .6446
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.696 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1368E-01 CRITERION= .2521 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 215
*** TIME = .262717E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7630E-05 OSCILLATION LIMIT = .6020
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 6.712 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 216
 *** TIME = .263506E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8173E-05 OSCILLATION LIMIT = .6448
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.696 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1367E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 217
 *** TIME = .264295E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7628E-05 OSCILLATION LIMIT = .6018
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.712 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 218
 *** TIME = .265084E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8173E-05 OSCILLATION LIMIT = .6448
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.697 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1367E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 219
 *** TIME = .265873E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7628E-05 OSCILLATION LIMIT = .6018
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.713 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1353E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 220
 *** TIME = .266662E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8171E-05 OSCILLATION LIMIT = .6446
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.697 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1366E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 221
 *** TIME = .267451E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7629E-05 OSCILLATION LIMIT = .6019
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.713 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1353E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 222
 *** TIME = .268240E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8168E-05 OSCILLATION LIMIT = .6444
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.697 CRITERION= .2520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1366E-01 CRITERION= .2519 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 223
 *** TIME = .269029E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .7631E-05  OSCILLATION LIMIT = .6020
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.713    CRITERION= .2520
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1353E-01 CRITERION= .2519    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 224
*** TIME = .269818E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8164E-05  OSCILLATION LIMIT = .6441
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.698    CRITERION= .2520
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1365E-01 CRITERION= .2519    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 225
*** TIME = .270607E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7634E-05  OSCILLATION LIMIT = .6023
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.714    CRITERION= .2520
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1352E-01 CRITERION= .2519    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 226
*** TIME = .271396E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8161E-05  OSCILLATION LIMIT = .6438
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.698    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1365E-01 CRITERION= .2518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 227
*** TIME = .272185E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7637E-05  OSCILLATION LIMIT = .6025
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.714    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1352E-01 CRITERION= .2518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 228
*** TIME = .272974E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8156E-05  OSCILLATION LIMIT = .6435
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.699    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1364E-01 CRITERION= .2518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 229
*** TIME = .273762E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7640E-05  OSCILLATION LIMIT = .6028
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.714    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1352E-01 CRITERION= .2518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 230
*** TIME = .274551E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8152E-05  OSCILLATION LIMIT = .6432
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.699    CRITERION= .2518
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1364E-01 CRITERION= .2517    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 231
*** TIME = .275340E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7644E-05 OSCILLATION LIMIT = .6031
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.715 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1351E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 232
*** TIME = .276129E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8148E-05 OSCILLATION LIMIT = .6428
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.699 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1363E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 233
*** TIME = .276918E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7648E-05 OSCILLATION LIMIT = .6034
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.715 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1351E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 234
*** TIME = .277707E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8144E-05 OSCILLATION LIMIT = .6425
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.700 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1363E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 235
*** TIME = .278496E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7651E-05 OSCILLATION LIMIT = .6037
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.715 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1351E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 236
*** TIME = .279285E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8140E-05 OSCILLATION LIMIT = .6422
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.700 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1362E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 237
*** TIME = .280074E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7655E-05 OSCILLATION LIMIT = .6039
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.716 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1351E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 238
*** TIME = .280863E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8135E-05 OSCILLATION LIMIT = .6418
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.700 CRITERION= .2516
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01

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HT FLOW CONVERGENCE VALUE= .1362E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 239
 *** TIME = .281652E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7659E-05 OSCILLATION LIMIT = .6042
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.716 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1350E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 240
 *** TIME = .282441E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8131E-05 OSCILLATION LIMIT = .6415
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.701 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1362E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 241
 *** TIME = .283230E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7663E-05 OSCILLATION LIMIT = .6045
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.717 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1350E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 242
 *** TIME = .284019E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8128E-05 OSCILLATION LIMIT = .6412
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 6218.59052 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 107.47 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 108.60 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 111.24 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 20992.460 TIME= 02:19:54
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 02:19:54 APR 09, 1995 CP= 20992.460
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 5.924 CRITERION= .2515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1223E-01 CRITERION= .2514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 243
*** TIME = .284808E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8160E-05 OSCILLATION LIMIT = .6437
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.939 CRITERION= .2515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .2514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 244
*** TIME = .285597E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9282E-05 OSCILLATION LIMIT = .7323
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.925 CRITERION= .2515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1226E-01 CRITERION= .2514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 245
*** TIME = .286386E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8741E-05 OSCILLATION LIMIT = .6896
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.939 CRITERION= .2515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1214E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 246
 *** TIME = .287174E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9157E-05 OSCILLATION LIMIT = .7224
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.925 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1226E-01 CRITERION= .2513 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 247
 *** TIME = .287963E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8699E-05 OSCILLATION LIMIT = .6863
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.939 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1214E-01 CRITERION= .2513 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 248
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9189E-05 OSCILLATION LIMIT = .7249
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.925 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1225E-01 CRITERION= .2513 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 249
 *** TIME = .289541E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8673E-05 OSCILLATION LIMIT = .6843
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.940 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .2513 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 250
 *** TIME = .290330E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9208E-05 OSCILLATION LIMIT = .7264
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.926 CRITERION= .2513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1225E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 251
 *** TIME = .291119E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8658E-05 OSCILLATION LIMIT = .6830
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.940 CRITERION= .2513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 252
 *** TIME = .291908E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9219E-05 OSCILLATION LIMIT = .7273
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.926 CRITERION= .2513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1225E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 253
 *** TIME = .292697E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .8649E-05  OSCILLATION LIMIT = .6824
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.940    CRITERION= .2513
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .2512    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 254
*** TIME = .293486E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9224E-05  OSCILLATION LIMIT = .7277
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.926    CRITERION= .2512
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .2511    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 255
*** TIME = .294275E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8645E-05  OSCILLATION LIMIT = .6821
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.941    CRITERION= .2512
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .2511    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 256
*** TIME = .295064E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9226E-05  OSCILLATION LIMIT = .7279
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.927    CRITERION= .2512
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .2511    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 257
*** TIME = .295853E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8644E-05  OSCILLATION LIMIT = .6820
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.941    CRITERION= .2512
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .2511    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 258
*** TIME = .296642E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9225E-05  OSCILLATION LIMIT = .7278
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.927    CRITERION= .2511
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .2510    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 259
*** TIME = .297431E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8645E-05  OSCILLATION LIMIT = .6821
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.941    CRITERION= .2511
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .2510    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 260
*** TIME = .298220E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9224E-05  OSCILLATION LIMIT = .7277
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.927    CRITERION= .2511
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
    HT FLOW CONVERGENCE VALUE= .1223E-01 CRITERION= .2510    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 261
*** TIME = .299009E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8648E-05 OSCILLATION LIMIT = .6823
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.941 CRITERION= .2511
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1211E-01 CRITERION= .2510 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 262
*** TIME = .299798E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9221E-05 OSCILLATION LIMIT = .7275
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.927 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1223E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 263
*** TIME = .300586E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8651E-05 OSCILLATION LIMIT = .6825
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.942 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1211E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 264
*** TIME = .301375E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9218E-05 OSCILLATION LIMIT = .7272
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.928 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1222E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 265
*** TIME = .302164E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8655E-05 OSCILLATION LIMIT = .6828
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.942 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1211E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 266
*** TIME = .302953E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9214E-05 OSCILLATION LIMIT = .7269
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.928 CRITERION= .2509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1222E-01 CRITERION= .2508 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 267
*** TIME = .303742E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8659E-05 OSCILLATION LIMIT = .6831
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.942 CRITERION= .2509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .2508 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 268
*** TIME = .304531E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9210E-05 OSCILLATION LIMIT = .7266
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.928 CRITERION= .2509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01

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HT FLOW CONVERGENCE VALUE= .1221E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 269
 *** TIME = .305320E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8663E-05 OSCILLATION LIMIT = .6834
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.943 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 270
 *** TIME = .306109E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9206E-05 OSCILLATION LIMIT = .7263
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.929 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1221E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 271
 *** TIME = .306898E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8667E-05 OSCILLATION LIMIT = .6838
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.943 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 272
 *** TIME = .307687E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9202E-05 OSCILLATION LIMIT = .7260
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.929 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1221E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 273
 *** TIME = .308476E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8672E-05 OSCILLATION LIMIT = .6841
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.943 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1210E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 274
 *** TIME = .309265E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9198E-05 OSCILLATION LIMIT = .7257
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.929 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1220E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 275
 *** TIME = .310054E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8676E-05 OSCILLATION LIMIT = .6845
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.943 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 276
 *** TIME = .310843E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9194E-05 OSCILLATION LIMIT = .7254
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.930 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1220E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 277
 *** TIME = .311632E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8680E-05 OSCILLATION LIMIT = .6848
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.944 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 278
 *** TIME = .312421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9191E-05 OSCILLATION LIMIT = .7251
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.930 CRITERION= .2506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 279
 *** TIME = .313209E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = .6852
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.944 CRITERION= .2506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 280
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9187E-05 OSCILLATION LIMIT = .7248
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.930 CRITERION= .2506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1219E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 281
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8689E-05 OSCILLATION LIMIT = .6855
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.944 CRITERION= .2506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 282
 *** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9183E-05 OSCILLATION LIMIT = .7245

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:20:54 APR 09, 1995 CP= 24606.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 36.11 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .7508E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 283

*** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1420E-04 OSCILLATION LIMIT = 11.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.13 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8335E-01 CRITERION= .2502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 284
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1137E-04 OSCILLATION LIMIT = 8.967
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.12 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8464E-01 CRITERION= .2499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 285
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 8.803
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.14 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8268E-01 CRITERION= .2497 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 286
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 8.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.13 CRITERION= .2523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8387E-01 CRITERION= .2495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 287
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 8.841
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.15 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8277E-01 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 288
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1127E-04 OSCILLATION LIMIT = 8.888
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.14 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8346E-01 CRITERION= .2491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 289
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 8.835
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.16 CRITERION= .2517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8273E-01 CRITERION= .2489 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 290
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1130E-04 OSCILLATION LIMIT = 8.912
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.15 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8315E-01 CRITERION= .2486 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 291
*** TIME = .386581E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 8.837
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.17 CRITERION= .2512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8262E-01 CRITERION= .2484 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 292
*** TIME = .394470E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1132E-04 OSCILLATION LIMIT = 8.930
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.17 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8288E-01 CRITERION= .2482 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 293
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 8.843
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.18 CRITERION= .2508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8247E-01 CRITERION= .2480 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 294
*** TIME = .410249E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1134E-04 OSCILLATION LIMIT = 8.945
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.18 CRITERION= .2506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8264E-01 CRITERION= .2478 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 295
*** TIME = .418139E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 8.851
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.19 CRITERION= .2504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8230E-01 CRITERION= .2476 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 296
*** TIME = .426028E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1136E-04 OSCILLATION LIMIT = 8.959
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.19 CRITERION= .2502
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8243E-01 CRITERION= .2473 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 297
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 8.861
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.20 CRITERION= .2500
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .8212E-01 CRITERION= .2471 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 298
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1137E-04 OSCILLATION LIMIT = 8.971
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.20 CRITERION= .2497

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8222E-01 CRITERION= .2469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 299
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 8.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.21 CRITERION= .2495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8193E-01 CRITERION= .2467 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 300
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1139E-04 OSCILLATION LIMIT = 8.983
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.21 CRITERION= .2493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8201E-01 CRITERION= .2465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 301
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1126E-04 OSCILLATION LIMIT = 8.882
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.23 CRITERION= .2491
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8174E-01 CRITERION= .2463 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 302
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1140E-04 OSCILLATION LIMIT = 8.995
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.22 CRITERION= .2489
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8181E-01 CRITERION= .2460 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 303
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1127E-04 OSCILLATION LIMIT = 8.893
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.24 CRITERION= .2487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8154E-01 CRITERION= .2458 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 304
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1142E-04 OSCILLATION LIMIT = 9.006
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.23 CRITERION= .2485
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8161E-01 CRITERION= .2456 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 305
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1129E-04 OSCILLATION LIMIT = 8.904
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.25 CRITERION= .2483
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8135E-01 CRITERION= .2454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 306
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1143E-04 OSCILLATION LIMIT = 9.018
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.24 CRITERION= .2480
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8141E-01 CRITERION= .2452 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 307
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1130E-04 OSCILLATION LIMIT = 8.915
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.26 CRITERION= .2478
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8115E-01 CRITERION= .2450 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 308
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1144E-04 OSCILLATION LIMIT = 9.029
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.25 CRITERION= .2476
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8122E-01 CRITERION= .2447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 309
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1131E-04 OSCILLATION LIMIT = 8.927
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.27 CRITERION= .2474
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8096E-01 CRITERION= .2445 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 310
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1146E-04 OSCILLATION LIMIT = 9.040
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.26 CRITERION= .2472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8102E-01 CRITERION= .2443 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 311
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1133E-04 OSCILLATION LIMIT = 8.938
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.28 CRITERION= .2470
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8076E-01 CRITERION= .2441 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 312
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1147E-04 OSCILLATION LIMIT = 9.052
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.27 CRITERION= .2468
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8082E-01 CRITERION= .2439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 313
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1134E-04 OSCILLATION LIMIT = 8.950
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.29 CRITERION= .2465
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .8056E-01 CRITERION= .2437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 314
 *** TIME = .568037E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1149E-04  OSCILLATION LIMIT = 9.063
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.29  CRITERION= .2463
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8062E-01 CRITERION= .2434  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 33 COMPLETED.  CUM ITER = 315
*** TIME = .575927E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1136E-04  OSCILLATION LIMIT = 8.961
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.30  CRITERION= .2461
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8036E-01 CRITERION= .2432  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 34 COMPLETED.  CUM ITER = 316
*** TIME = .583816E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1150E-04  OSCILLATION LIMIT = 9.075
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.30  CRITERION= .2459
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8042E-01 CRITERION= .2430  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED.  CUM ITER = 317
*** TIME = .591705E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1137E-04  OSCILLATION LIMIT = 8.973
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.31  CRITERION= .2457
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8016E-01 CRITERION= .2428  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED.  CUM ITER = 318
*** TIME = .599595E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04  OSCILLATION LIMIT = 9.086
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.31  CRITERION= .2455
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8022E-01 CRITERION= .2426  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED.  CUM ITER = 319
*** TIME = .607484E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1139E-04  OSCILLATION LIMIT = 8.984
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.32  CRITERION= .2453
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .7996E-01 CRITERION= .2424  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 38 COMPLETED.  CUM ITER = 320
*** TIME = .615374E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1153E-04  OSCILLATION LIMIT = 9.097
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.32  CRITERION= .2451
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .8002E-01 CRITERION= .2422  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 39 COMPLETED.  CUM ITER = 321
*** TIME = .623263E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1140E-04  OSCILLATION LIMIT = 8.995
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 36.33  CRITERION= .2448
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
  HT FLOW CONVERGENCE VALUE= .7977E-01 CRITERION= .2419  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 322
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1155E-04 OSCILLATION LIMIT = 9.109

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:23:03 APR 09, 1995 CP= 28228.960
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8617E-01
 HT FLOW CONVERGENCE VALUE= .6741E-01 CRITERION= .2417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 323
 *** TIME = .639042E+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= 17.68 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8079E-01
 HT FLOW CONVERGENCE VALUE= .6139E-01 CRITERION= .2415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 324
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1018E-04 OSCILLATION LIMIT = 8.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7393E-01
 HT FLOW CONVERGENCE VALUE= .5710E-01 CRITERION= .2413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 325
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1055E-04 OSCILLATION LIMIT = 8.325
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8028E-01
 HT FLOW CONVERGENCE VALUE= .6053E-01 CRITERION= .2411 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 326
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 8.162
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.67 CRITERION= .2418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7570E-01
 HT FLOW CONVERGENCE VALUE= .5794E-01 CRITERION= .2410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 327
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 8.252
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7905E-01
 HT FLOW CONVERGENCE VALUE= .5978E-01 CRITERION= .2408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 328
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1039E-04 OSCILLATION LIMIT = 8.193
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7663E-01

HT FLOW CONVERGENCE VALUE= .5830E-01 CRITERION= .2406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 329
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 8.235
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7838E-01
 HT FLOW CONVERGENCE VALUE= .5933E-01 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 330
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = 8.214
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2410
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7715E-01
 HT FLOW CONVERGENCE VALUE= .5845E-01 CRITERION= .2402 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 331
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 8.225
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7802E-01
 HT FLOW CONVERGENCE VALUE= .5903E-01 CRITERION= .2400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 332
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 8.228
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7744E-01
 HT FLOW CONVERGENCE VALUE= .5850E-01 CRITERION= .2398 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 333
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.220
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2405
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7782E-01
 HT FLOW CONVERGENCE VALUE= .5881E-01 CRITERION= .2396 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 334
 *** TIME = .725825E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 8.239
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.68 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7761E-01
 HT FLOW CONVERGENCE VALUE= .5849E-01 CRITERION= .2395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 335
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.217
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7772E-01
 HT FLOW CONVERGENCE VALUE= .5864E-01 CRITERION= .2393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 336
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 8.247
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7771E-01
 HT FLOW CONVERGENCE VALUE= .5841E-01 CRITERION= .2391 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 337
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = 8.216
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7767E-01
 HT FLOW CONVERGENCE VALUE= .5847E-01 CRITERION= .2389 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 338
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 8.254
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7777E-01
 HT FLOW CONVERGENCE VALUE= .5830E-01 CRITERION= .2387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 339
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = 8.216
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7765E-01
 HT FLOW CONVERGENCE VALUE= .5831E-01 CRITERION= .2385 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 340
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1047E-04 OSCILLATION LIMIT = 8.261
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2392
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7781E-01
 HT FLOW CONVERGENCE VALUE= .5820E-01 CRITERION= .2383 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 341
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = 8.216
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2390
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7765E-01
 HT FLOW CONVERGENCE VALUE= .5819E-01 CRITERION= .2381 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 342
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1048E-04 OSCILLATION LIMIT = 8.266
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.69 CRITERION= .2388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7783E-01
 HT FLOW CONVERGENCE VALUE= .5811E-01 CRITERION= .2380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 343
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.217
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2386
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7766E-01
 HT FLOW CONVERGENCE VALUE= .5808E-01 CRITERION= .2378 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 344
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 8.272

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

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2384
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7784E-01
 HT FLOW CONVERGENCE VALUE= .5802E-01 CRITERION= .2376 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 345
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.219
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.71 CRITERION= .2382
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7767E-01
 HT FLOW CONVERGENCE VALUE= .5797E-01 CRITERION= .2374 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 346
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 8.278
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2380
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7786E-01
 HT FLOW CONVERGENCE VALUE= .5792E-01 CRITERION= .2372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 347
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.220
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.71 CRITERION= .2378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7769E-01
 HT FLOW CONVERGENCE VALUE= .5786E-01 CRITERION= .2370 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 348
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1050E-04 OSCILLATION LIMIT = 8.283
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.70 CRITERION= .2377
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7787E-01
 HT FLOW CONVERGENCE VALUE= .5782E-01 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 349
 *** TIME = .844166E+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= 17.71 CRITERION= .2375
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7771E-01
 HT FLOW CONVERGENCE VALUE= .5776E-01 CRITERION= .2366 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 350
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = 8.288
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.71 CRITERION= .2373
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7788E-01
 HT FLOW CONVERGENCE VALUE= .5773E-01 CRITERION= .2365 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 351
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 8.223
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.71 CRITERION= .2371
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7772E-01
 HT FLOW CONVERGENCE VALUE= .5766E-01 CRITERION= .2363 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 352


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*** TIME = .867834E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1051E-04    OSCILLATION LIMIT = 8.293
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.71    CRITERION= .2369
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7789E-01
    HT FLOW CONVERGENCE VALUE= .5764E-01    CRITERION= .2361    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 353
*** TIME = .875724E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1042E-04    OSCILLATION LIMIT = 8.224
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.72    CRITERION= .2367
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7774E-01
    HT FLOW CONVERGENCE VALUE= .5757E-01    CRITERION= .2359    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 354
*** TIME = .883613E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1052E-04    OSCILLATION LIMIT = 8.298
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.71    CRITERION= .2365
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7790E-01
    HT FLOW CONVERGENCE VALUE= .5755E-01    CRITERION= .2357    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 355
*** TIME = .891503E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1043E-04    OSCILLATION LIMIT = 8.226
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.72    CRITERION= .2364
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7776E-01
    HT FLOW CONVERGENCE VALUE= .5747E-01    CRITERION= .2355    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 356
*** TIME = .899392E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1052E-04    OSCILLATION LIMIT = 8.303
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.71    CRITERION= .2362
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7791E-01
    HT FLOW CONVERGENCE VALUE= .5745E-01    CRITERION= .2353    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 357
*** TIME = .907281E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1043E-04    OSCILLATION LIMIT = 8.228
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.72    CRITERION= .2360
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7778E-01
    HT FLOW CONVERGENCE VALUE= .5737E-01    CRITERION= .2351    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 358
*** TIME = .915171E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1053E-04    OSCILLATION LIMIT = 8.308
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.72    CRITERION= .2358
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7791E-01
    HT FLOW CONVERGENCE VALUE= .5736E-01    CRITERION= .2350    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 359
*** TIME = .923060E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1043E-04    OSCILLATION LIMIT = 8.230
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.72    CRITERION= .2356
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7779E-01
    HT FLOW CONVERGENCE VALUE= .5727E-01    CRITERION= .2348    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 360
*** TIME = .930950E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1054E-04 OSCILLATION LIMIT = 8.313
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .2354
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7792E-01
HT FLOW CONVERGENCE VALUE= .5726E-01 CRITERION= .2346 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 361
*** TIME = .938839E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 8.232
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.73 CRITERION= .2352
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7781E-01
HT FLOW CONVERGENCE VALUE= .5716E-01 CRITERION= .2344 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 362
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1054E-04 OSCILLATION LIMIT = 8.317
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***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:24:38 APR 09, 1995 CP= 31853.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2346
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7911E-01
HT FLOW CONVERGENCE VALUE= .5404E-01 CRITERION= .2342 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 363
*** TIME = .954618E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7984E-05 OSCILLATION LIMIT = 6.299
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2344
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7601E-01
HT FLOW CONVERGENCE VALUE= .5092E-01 CRITERION= .2340 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 364
*** TIME = .962507E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8817E-05 OSCILLATION LIMIT = 6.956
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2342
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7450E-01
HT FLOW CONVERGENCE VALUE= .4964E-01 CRITERION= .2339 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 365
*** TIME = .970397E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8878E-05 OSCILLATION LIMIT = 7.004
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2341
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7611E-01
HT FLOW CONVERGENCE VALUE= .5070E-01 CRITERION= .2337 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 366
*** TIME = .978286E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8864E-05 OSCILLATION LIMIT = 6.993
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2339
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7501E-01
 HT FLOW CONVERGENCE VALUE= .4981E-01 CRITERION= .2335 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 367
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8845E-05 OSCILLATION LIMIT = 6.978
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7579E-01
 HT FLOW CONVERGENCE VALUE= .5039E-01 CRITERION= .2334 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 368
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8875E-05 OSCILLATION LIMIT = 7.002
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7528E-01
 HT FLOW CONVERGENCE VALUE= .4989E-01 CRITERION= .2332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 369
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8837E-05 OSCILLATION LIMIT = 6.972
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7563E-01
 HT FLOW CONVERGENCE VALUE= .5022E-01 CRITERION= .2330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 370
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8883E-05 OSCILLATION LIMIT = 7.008
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7544E-01
 HT FLOW CONVERGENCE VALUE= .4990E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 371
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8831E-05 OSCILLATION LIMIT = 6.967
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7556E-01
 HT FLOW CONVERGENCE VALUE= .5009E-01 CRITERION= .2327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 372
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8889E-05 OSCILLATION LIMIT = 7.013
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2329
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7554E-01
 HT FLOW CONVERGENCE VALUE= .4988E-01 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 373
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8826E-05 OSCILLATION LIMIT = 6.963
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7553E-01
 HT FLOW CONVERGENCE VALUE= .4999E-01 CRITERION= .2324 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 374
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8893E-05 OSCILLATION LIMIT = 7.016
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2326
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7560E-01
 HT FLOW CONVERGENCE VALUE= .4984E-01 CRITERION= .2322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 375
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8823E-05 OSCILLATION LIMIT = 6.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2324
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7552E-01
 HT FLOW CONVERGENCE VALUE= .4990E-01 CRITERION= .2320 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 376
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8897E-05 OSCILLATION LIMIT = 7.019
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7564E-01
 HT FLOW CONVERGENCE VALUE= .4979E-01 CRITERION= .2319 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 377
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8820E-05 OSCILLATION LIMIT = 6.958
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7553E-01
 HT FLOW CONVERGENCE VALUE= .4981E-01 CRITERION= .2317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 378
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8900E-05 OSCILLATION LIMIT = 7.021
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2319
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7567E-01
 HT FLOW CONVERGENCE VALUE= .4970E-01 CRITERION= .2316 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 379
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8817E-05 OSCILLATION LIMIT = 6.956
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7555E-01
 HT FLOW CONVERGENCE VALUE= .4971E-01 CRITERION= .2314 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 380
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8903E-05 OSCILLATION LIMIT = 7.024
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.34 CRITERION= .2316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7570E-01
 HT FLOW CONVERGENCE VALUE= .4962E-01 CRITERION= .2312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 381
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8815E-05 OSCILLATION LIMIT = 6.955
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7558E-01
 HT FLOW CONVERGENCE VALUE= .4960E-01 CRITERION= .2310 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 382
 *** TIME = .110452E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8905E-05  OSCILLATION LIMIT = 7.026
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2313
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7572E-01
  HT FLOW CONVERGENCE VALUE= .4952E-01 CRITERION= .2309  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED.  CUM ITER = 383
*** TIME = .111241E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8813E-05  OSCILLATION LIMIT = 6.953
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2311
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7560E-01
  HT FLOW CONVERGENCE VALUE= .4950E-01 CRITERION= .2307  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED.  CUM ITER = 384
*** TIME = .112030E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8907E-05  OSCILLATION LIMIT = 7.027
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2309
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7575E-01
  HT FLOW CONVERGENCE VALUE= .4945E-01 CRITERION= .2306  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED.  CUM ITER = 385
*** TIME = .112818E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8811E-05  OSCILLATION LIMIT = 6.952
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2308
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7563E-01
  HT FLOW CONVERGENCE VALUE= .4941E-01 CRITERION= .2304  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED.  CUM ITER = 386
*** TIME = .113607E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8910E-05  OSCILLATION LIMIT = 7.029
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2306
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7577E-01
  HT FLOW CONVERGENCE VALUE= .4938E-01 CRITERION= .2302  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED.  CUM ITER = 387
*** TIME = .114396E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8810E-05  OSCILLATION LIMIT = 6.950
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2304
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7566E-01
  HT FLOW CONVERGENCE VALUE= .4934E-01 CRITERION= .2301  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED.  CUM ITER = 388
*** TIME = .115185E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8912E-05  OSCILLATION LIMIT = 7.031
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2303
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7579E-01
  HT FLOW CONVERGENCE VALUE= .4931E-01 CRITERION= .2299  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED.  CUM ITER = 389
*** TIME = .115974E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8808E-05  OSCILLATION LIMIT = 6.949
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.35  CRITERION= .2301
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7569E-01
  HT FLOW CONVERGENCE VALUE= .4927E-01 CRITERION= .2297  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 390
*** TIME = .116763E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8914E-05 OSCILLATION LIMIT = 7.032
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2299
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7581E-01
HT FLOW CONVERGENCE VALUE= .4925E-01 CRITERION= .2296 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 391.
*** TIME = .117552E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8806E-05 OSCILLATION LIMIT = 6.948
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2298
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7571E-01
HT FLOW CONVERGENCE VALUE= .4921E-01 CRITERION= .2294 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 392
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8916E-05 OSCILLATION LIMIT = 7.034
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2296
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7583E-01
HT FLOW CONVERGENCE VALUE= .4920E-01 CRITERION= .2292 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 393
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8805E-05 OSCILLATION LIMIT = 6.946
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2294
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7574E-01
HT FLOW CONVERGENCE VALUE= .4915E-01 CRITERION= .2291 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 394
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8917E-05 OSCILLATION LIMIT = 7.035
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2293
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7585E-01
HT FLOW CONVERGENCE VALUE= .4914E-01 CRITERION= .2289 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 395
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8803E-05 OSCILLATION LIMIT = 6.945
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2291
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7577E-01
HT FLOW CONVERGENCE VALUE= .4909E-01 CRITERION= .2287 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 396
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8919E-05 OSCILLATION LIMIT = 7.037
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7587E-01
HT FLOW CONVERGENCE VALUE= .4908E-01 CRITERION= .2286 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 397
*** TIME = .122286E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8802E-05 OSCILLATION LIMIT = 6.944
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7579E-01

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HT FLOW CONVERGENCE VALUE= .4903E-01 CRITERION= .2284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 398
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8921E-05 OSCILLATION LIMIT = 7.038
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7589E-01
 HT FLOW CONVERGENCE VALUE= .4902E-01 CRITERION= .2282 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 399
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8800E-05 OSCILLATION LIMIT = 6.943
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7582E-01
 HT FLOW CONVERGENCE VALUE= .4895E-01 CRITERION= .2281 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 400
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8922E-05 OSCILLATION LIMIT = 7.039
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.35 CRITERION= .2283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7591E-01
 HT FLOW CONVERGENCE VALUE= .4895E-01 CRITERION= .2279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 401
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8799E-05 OSCILLATION LIMIT = 6.942
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.36 CRITERION= .2281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7585E-01
 HT FLOW CONVERGENCE VALUE= .4888E-01 CRITERION= .2277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 402
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8923E-05 OSCILLATION LIMIT = 7.040

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:26:15 APR 09, 1995 CP= 35481.360
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 6.825 CRITERION= .2278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7039E-01
 HT FLOW CONVERGENCE VALUE= .4506E-01 CRITERION= .2276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 403
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7469E-05 OSCILLATION LIMIT = 5.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.832 CRITERION= .2277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6780E-01
 HT FLOW CONVERGENCE VALUE= .4270E-01 CRITERION= .2274 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 404
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8087E-05 OSCILLATION LIMIT = 6.380
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.826 CRITERION= .2275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6834E-01
 HT FLOW CONVERGENCE VALUE= .4278E-01 CRITERION= .2273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 405
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7995E-05 OSCILLATION LIMIT = 6.307
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.832 CRITERION= .2274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6820E-01
 HT FLOW CONVERGENCE VALUE= .4281E-01 CRITERION= .2271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 406
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8090E-05 OSCILLATION LIMIT = 6.382
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.826 CRITERION= .2272
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6836E-01
 HT FLOW CONVERGENCE VALUE= .4277E-01 CRITERION= .2270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 407
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7982E-05 OSCILLATION LIMIT = 6.297
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.832 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6823E-01
 HT FLOW CONVERGENCE VALUE= .4277E-01 CRITERION= .2269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 408
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8091E-05 OSCILLATION LIMIT = 6.383
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.827 CRITERION= .2269
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6837E-01
 HT FLOW CONVERGENCE VALUE= .4274E-01 CRITERION= .2267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 409
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7979E-05 OSCILLATION LIMIT = 6.295
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.833 CRITERION= .2268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6825E-01
 HT FLOW CONVERGENCE VALUE= .4272E-01 CRITERION= .2266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 410
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8092E-05 OSCILLATION LIMIT = 6.384
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.827 CRITERION= .2267
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6839E-01
 HT FLOW CONVERGENCE VALUE= .4270E-01 CRITERION= .2264 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 411
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7976E-05 OSCILLATION LIMIT = 6.293
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.833 CRITERION= .2265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6828E-01
 HT FLOW CONVERGENCE VALUE= .4268E-01 CRITERION= .2263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 412
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8093E-05 OSCILLATION LIMIT = 6.385


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

HT FLOW CONVERGENCE VALUE= 6.827 CRITERION= .2264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6841E-01
HT FLOW CONVERGENCE VALUE= .4266E-01 CRITERION= .2262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 413
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7974E-05 OSCILLATION LIMIT = 6.291
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.833 CRITERION= .2262
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6831E-01
HT FLOW CONVERGENCE VALUE= .4264E-01 CRITERION= .2260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 414
*** TIME = .135698E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8094E-05 OSCILLATION LIMIT = 6.385
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.828 CRITERION= .2261
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6843E-01
HT FLOW CONVERGENCE VALUE= .4261E-01 CRITERION= .2259 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 415
*** TIME = .136487E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7971E-05 OSCILLATION LIMIT = 6.289
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.834 CRITERION= .2260
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6833E-01
HT FLOW CONVERGENCE VALUE= .4259E-01 CRITERION= .2257 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 416
*** TIME = .137276E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8094E-05 OSCILLATION LIMIT = 6.386
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.828 CRITERION= .2258
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6844E-01
HT FLOW CONVERGENCE VALUE= .4257E-01 CRITERION= .2256 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 417
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7969E-05 OSCILLATION LIMIT = 6.287
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.834 CRITERION= .2257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6836E-01
HT FLOW CONVERGENCE VALUE= .4255E-01 CRITERION= .2254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 418
*** TIME = .138853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8095E-05 OSCILLATION LIMIT = 6.386
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.828 CRITERION= .2255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6846E-01
HT FLOW CONVERGENCE VALUE= .4253E-01 CRITERION= .2253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 419
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7966E-05 OSCILLATION LIMIT = 6.285
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.835 CRITERION= .2254
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6839E-01
HT FLOW CONVERGENCE VALUE= .4250E-01 CRITERION= .2251 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 420

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*** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8096E-05 OSCILLATION LIMIT = 6.387
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .2252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6848E-01
 HT FLOW CONVERGENCE VALUE= .4249E-01 CRITERION= .2250 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 421
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7964E-05 OSCILLATION LIMIT = 6.283
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.835 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6841E-01
 HT FLOW CONVERGENCE VALUE= .4247E-01 CRITERION= .2249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 422
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8096E-05 OSCILLATION LIMIT = 6.387
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.829 CRITERION= .2249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6850E-01
 HT FLOW CONVERGENCE VALUE= .4247E-01 CRITERION= .2247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 423
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7961E-05 OSCILLATION LIMIT = 6.281
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.835 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6844E-01
 HT FLOW CONVERGENCE VALUE= .4244E-01 CRITERION= .2246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 424
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8097E-05 OSCILLATION LIMIT = 6.388
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .2247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6852E-01
 HT FLOW CONVERGENCE VALUE= .4244E-01 CRITERION= .2244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 425
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7959E-05 OSCILLATION LIMIT = 6.279
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.836 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6846E-01
 HT FLOW CONVERGENCE VALUE= .4240E-01 CRITERION= .2243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 426
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8097E-05 OSCILLATION LIMIT = 6.388
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .2244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6854E-01
 HT FLOW CONVERGENCE VALUE= .4240E-01 CRITERION= .2241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 427
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7957E-05 OSCILLATION LIMIT = 6.277
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.836 CRITERION= .2242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6848E-01
 HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .2240 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 428
*** TIME = .146743E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8097E-05 OSCILLATION LIMIT = 6.388
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.830 CRITERION= .2241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6856E-01
HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .2239 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 429
*** TIME = .147532E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7955E-05 OSCILLATION LIMIT = 6.276
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.837 CRITERION= .2240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6851E-01
HT FLOW CONVERGENCE VALUE= .4231E-01 CRITERION= .2237 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 430
*** TIME = .148321E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8097E-05 OSCILLATION LIMIT = 6.388
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .2238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6858E-01
HT FLOW CONVERGENCE VALUE= .4232E-01 CRITERION= .2236 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 431
*** TIME = .149110E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7952E-05 OSCILLATION LIMIT = 6.274
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.837 CRITERION= .2237
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6853E-01
HT FLOW CONVERGENCE VALUE= .4226E-01 CRITERION= .2234 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 432
*** TIME = .149899E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .2235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6860E-01
HT FLOW CONVERGENCE VALUE= .4228E-01 CRITERION= .2233 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 433
*** TIME = .150688E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7950E-05 OSCILLATION LIMIT = 6.272
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.837 CRITERION= .2234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6856E-01
HT FLOW CONVERGENCE VALUE= .4222E-01 CRITERION= .2231 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 434
*** TIME = .151477E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.831 CRITERION= .2232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6862E-01
HT FLOW CONVERGENCE VALUE= .4223E-01 CRITERION= .2230 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 435
*** TIME = .152265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7949E-05 OSCILLATION LIMIT = 6.271
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.838 CRITERION= .2231

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6858E-01
 HT FLOW CONVERGENCE VALUE= .4218E-01 CRITERION= .2228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 436
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.832 CRITERION= .2229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6864E-01
 HT FLOW CONVERGENCE VALUE= .4219E-01 CRITERION= .2227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 437
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7947E-05 OSCILLATION LIMIT = 6.270
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.838 CRITERION= .2228
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6860E-01
 HT FLOW CONVERGENCE VALUE= .4213E-01 CRITERION= .2226 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 438
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.832 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6866E-01
 HT FLOW CONVERGENCE VALUE= .4216E-01 CRITERION= .2224 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 439
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7945E-05 OSCILLATION LIMIT = 6.268
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.838 CRITERION= .2225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6863E-01
 HT FLOW CONVERGENCE VALUE= .4209E-01 CRITERION= .2223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 440
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.833 CRITERION= .2224
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6868E-01
 HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .2221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 441
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7943E-05 OSCILLATION LIMIT = 6.267
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.839 CRITERION= .2222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6865E-01
 HT FLOW CONVERGENCE VALUE= .4204E-01 CRITERION= .2220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 442
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-05 OSCILLATION LIMIT = 6.389

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:27:53 APR 09, 1995 CP= 39110.890
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 4.639 CRITERION= .2220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7459E-01
 HT FLOW CONVERGENCE VALUE= .4514E-01 CRITERION= .2219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 443
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6926E-05 OSCILLATION LIMIT = 5.464
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.644 CRITERION= .2219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7479E-01
 HT FLOW CONVERGENCE VALUE= .4507E-01 CRITERION= .2217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 444
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7157E-05 OSCILLATION LIMIT = 5.646
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.639 CRITERION= .2217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7322E-01
 HT FLOW CONVERGENCE VALUE= .4408E-01 CRITERION= .2216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 445
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7075E-05 OSCILLATION LIMIT = 5.582
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .2216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7450E-01
 HT FLOW CONVERGENCE VALUE= .4479E-01 CRITERION= .2214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 446
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7182E-05 OSCILLATION LIMIT = 5.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.639 CRITERION= .2214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7360E-01
 HT FLOW CONVERGENCE VALUE= .4424E-01 CRITERION= .2213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 447
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7067E-05 OSCILLATION LIMIT = 5.575
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .2213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7428E-01
 HT FLOW CONVERGENCE VALUE= .4460E-01 CRITERION= .2211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 448
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7184E-05 OSCILLATION LIMIT = 5.667
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.639 CRITERION= .2211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7382E-01
 HT FLOW CONVERGENCE VALUE= .4430E-01 CRITERION= .2210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 449
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7063E-05 OSCILLATION LIMIT = 5.572
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.645 CRITERION= .2210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7417E-01
 HT FLOW CONVERGENCE VALUE= .4448E-01 CRITERION= .2208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 450
 *** TIME = .164100E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7184E-05  OSCILLATION LIMIT = 5.668
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.639  CRITERION= .2208
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7395E-01
  HT FLOW CONVERGENCE VALUE= .4431E-01 CRITERION= .2207  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 451
*** TIME = .164888E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7059E-05  OSCILLATION LIMIT = 5.569
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.645  CRITERION= .2207
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7413E-01
  HT FLOW CONVERGENCE VALUE= .4439E-01 CRITERION= .2205  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 452
*** TIME = .165677E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7184E-05  OSCILLATION LIMIT = 5.668
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.639  CRITERION= .2205
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7403E-01
  HT FLOW CONVERGENCE VALUE= .4430E-01 CRITERION= .2204  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 453
*** TIME = .166466E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7056E-05  OSCILLATION LIMIT = 5.567
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.645  CRITERION= .2204
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7411E-01
  HT FLOW CONVERGENCE VALUE= .4432E-01 CRITERION= .2202  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 454
*** TIME = .167255E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7184E-05  OSCILLATION LIMIT = 5.668
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.640  CRITERION= .2203
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7409E-01
  HT FLOW CONVERGENCE VALUE= .4427E-01 CRITERION= .2201  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 455
*** TIME = .168044E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7054E-05  OSCILLATION LIMIT = 5.565
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.645  CRITERION= .2201
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7412E-01
  HT FLOW CONVERGENCE VALUE= .4426E-01 CRITERION= .2199  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 456
*** TIME = .168833E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7184E-05  OSCILLATION LIMIT = 5.668
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.640  CRITERION= .2200
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7413E-01
  HT FLOW CONVERGENCE VALUE= .4423E-01 CRITERION= .2198  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 457
*** TIME = .169622E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7052E-05  OSCILLATION LIMIT = 5.563
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.646  CRITERION= .2198
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7414E-01
  HT FLOW CONVERGENCE VALUE= .4420E-01 CRITERION= .2196  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 458
*** TIME = .170411E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7184E-05 OSCILLATION LIMIT = 5.667
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.640 CRITERION= .2197
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7417E-01
HT FLOW CONVERGENCE VALUE= .4419E-01 CRITERION= .2195 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 459
*** TIME = .171200E+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= 4.646 CRITERION= .2195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7416E-01
HT FLOW CONVERGENCE VALUE= .4414E-01 CRITERION= .2193 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 460
*** TIME = .171989E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7183E-05 OSCILLATION LIMIT = 5.667
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.640 CRITERION= .2194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7420E-01
HT FLOW CONVERGENCE VALUE= .4414E-01 CRITERION= .2192 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 461
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7047E-05 OSCILLATION LIMIT = 5.560
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .2192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7419E-01
HT FLOW CONVERGENCE VALUE= .4408E-01 CRITERION= .2190 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 462
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7183E-05 OSCILLATION LIMIT = 5.667
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.640 CRITERION= .2191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7423E-01
HT FLOW CONVERGENCE VALUE= .4408E-01 CRITERION= .2189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 463
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7045E-05 OSCILLATION LIMIT = 5.558
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .2189
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7421E-01
HT FLOW CONVERGENCE VALUE= .4403E-01 CRITERION= .2187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 464
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7182E-05 OSCILLATION LIMIT = 5.666
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.640 CRITERION= .2188
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7426E-01
HT FLOW CONVERGENCE VALUE= .4404E-01 CRITERION= .2186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 465
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7043E-05 OSCILLATION LIMIT = 5.556
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .2186
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7424E-01

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HT FLOW CONVERGENCE VALUE= .4398E-01 CRITERION= .2184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 466
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7181E-05 OSCILLATION LIMIT = 5.665
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7429E-01
 HT FLOW CONVERGENCE VALUE= .4399E-01 CRITERION= .2183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 467
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7041E-05 OSCILLATION LIMIT = 5.555
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.646 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7427E-01
 HT FLOW CONVERGENCE VALUE= .4394E-01 CRITERION= .2181 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 468
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7180E-05 OSCILLATION LIMIT = 5.665
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7432E-01
 HT FLOW CONVERGENCE VALUE= .4396E-01 CRITERION= .2180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 469
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7039E-05 OSCILLATION LIMIT = 5.553
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.647 CRITERION= .2180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7430E-01
 HT FLOW CONVERGENCE VALUE= .4390E-01 CRITERION= .2179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 470
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7179E-05 OSCILLATION LIMIT = 5.664
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7434E-01
 HT FLOW CONVERGENCE VALUE= .4392E-01 CRITERION= .2177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 471
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7036E-05 OSCILLATION LIMIT = 5.551
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.647 CRITERION= .2178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7433E-01
 HT FLOW CONVERGENCE VALUE= .4387E-01 CRITERION= .2176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 472
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7178E-05 OSCILLATION LIMIT = 5.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7437E-01
 HT FLOW CONVERGENCE VALUE= .4390E-01 CRITERION= .2174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 473
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7034E-05 OSCILLATION LIMIT = 5.549
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.647 CRITERION= .2175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7436E-01
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .2173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 474
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7176E-05 OSCILLATION LIMIT = 5.662
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7440E-01
 HT FLOW CONVERGENCE VALUE= .4385E-01 CRITERION= .2171 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 475
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7032E-05 OSCILLATION LIMIT = 5.548
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.647 CRITERION= .2172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7439E-01
 HT FLOW CONVERGENCE VALUE= .4379E-01 CRITERION= .2170 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 476
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7175E-05 OSCILLATION LIMIT = 5.661
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.641 CRITERION= .2170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7442E-01
 HT FLOW CONVERGENCE VALUE= .4382E-01 CRITERION= .2168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 477
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7030E-05 OSCILLATION LIMIT = 5.546
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.647 CRITERION= .2169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7442E-01
 HT FLOW CONVERGENCE VALUE= .4375E-01 CRITERION= .2167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 478
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7174E-05 OSCILLATION LIMIT = 5.660
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.642 CRITERION= .2167
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7445E-01
 HT FLOW CONVERGENCE VALUE= .4378E-01 CRITERION= .2165 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 479
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7028E-05 OSCILLATION LIMIT = 5.545
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.648 CRITERION= .2166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7445E-01
 HT FLOW CONVERGENCE VALUE= .4371E-01 CRITERION= .2164 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 480
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7173E-05 OSCILLATION LIMIT = 5.659
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.642 CRITERION= .2164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7448E-01
 HT FLOW CONVERGENCE VALUE= .4374E-01 CRITERION= .2162 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 481
 *** TIME = .188557E+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= 4.648 CRITERION= .2163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7447E-01
 HT FLOW CONVERGENCE VALUE= .4367E-01 CRITERION= .2161 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 482
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7172E-05 OSCILLATION LIMIT = 5.658

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:29:37 APR 09, 1995 CP= 42740.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6645E-01
 HT FLOW CONVERGENCE VALUE= .3941E-01 CRITERION= .2160 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 483
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6538E-05 OSCILLATION LIMIT = 5.158
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.449 CRITERION= .2160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6441E-01
 HT FLOW CONVERGENCE VALUE= .3768E-01 CRITERION= .2158 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 484
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6953E-05 OSCILLATION LIMIT = 5.486
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6585E-01
 HT FLOW CONVERGENCE VALUE= .3842E-01 CRITERION= .2157 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 485
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6784E-05 OSCILLATION LIMIT = 5.352
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.449 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6492E-01
 HT FLOW CONVERGENCE VALUE= .3791E-01 CRITERION= .2156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 486
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6939E-05 OSCILLATION LIMIT = 5.475
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6564E-01
 HT FLOW CONVERGENCE VALUE= .3826E-01 CRITERION= .2154 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 487
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6779E-05 OSCILLATION LIMIT = 5.348
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.449 CRITERION= .2155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6511E-01
 HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .2153 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 488

*** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6937E-05 OSCILLATION LIMIT = 5.473
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6553E-01
 HT FLOW CONVERGENCE VALUE= .3816E-01 CRITERION= .2152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 489
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6778E-05 OSCILLATION LIMIT = 5.347
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.449 CRITERION= .2152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6523E-01
 HT FLOW CONVERGENCE VALUE= .3796E-01 CRITERION= .2151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 490
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6935E-05 OSCILLATION LIMIT = 5.472
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6548E-01
 HT FLOW CONVERGENCE VALUE= .3809E-01 CRITERION= .2149 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 491
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6776E-05 OSCILLATION LIMIT = 5.346
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6531E-01
 HT FLOW CONVERGENCE VALUE= .3795E-01 CRITERION= .2148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 492
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6934E-05 OSCILLATION LIMIT = 5.470
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2148
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6547E-01
 HT FLOW CONVERGENCE VALUE= .3804E-01 CRITERION= .2147 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 493
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 5.345
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6536E-01
 HT FLOW CONVERGENCE VALUE= .3793E-01 CRITERION= .2145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 494
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6933E-05 OSCILLATION LIMIT = 5.470
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6547E-01
 HT FLOW CONVERGENCE VALUE= .3798E-01 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 495
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6772E-05 OSCILLATION LIMIT = 5.343
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6540E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .2143 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 496
*** TIME = .200391E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6932E-05 OSCILLATION LIMIT = 5.469
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6548E-01
HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .2142 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 497
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6771E-05 OSCILLATION LIMIT = 5.342
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6543E-01
HT FLOW CONVERGENCE VALUE= .3787E-01 CRITERION= .2140 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 498
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6931E-05 OSCILLATION LIMIT = 5.468
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2140
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6549E-01
HT FLOW CONVERGENCE VALUE= .3791E-01 CRITERION= .2139 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 499
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6769E-05 OSCILLATION LIMIT = 5.340
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2139
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6546E-01
HT FLOW CONVERGENCE VALUE= .3784E-01 CRITERION= .2138 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 500
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6929E-05 OSCILLATION LIMIT = 5.467
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2138
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6551E-01
HT FLOW CONVERGENCE VALUE= .3788E-01 CRITERION= .2137 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 501
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6767E-05 OSCILLATION LIMIT = 5.338
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2137
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6549E-01
HT FLOW CONVERGENCE VALUE= .3782E-01 CRITERION= .2135 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 502
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6928E-05 OSCILLATION LIMIT = 5.466
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.444 CRITERION= .2135
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6553E-01
HT FLOW CONVERGENCE VALUE= .3785E-01 CRITERION= .2134 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 503
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6765E-05 OSCILLATION LIMIT = 5.337
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2134

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6551E-01
 HT FLOW CONVERGENCE VALUE= .3778E-01 CRITERION= .2133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 504
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6927E-05 OSCILLATION LIMIT = 5.465
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6555E-01
 HT FLOW CONVERGENCE VALUE= .3781E-01 CRITERION= .2131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 505
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6763E-05 OSCILLATION LIMIT = 5.335
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6554E-01
 HT FLOW CONVERGENCE VALUE= .3774E-01 CRITERION= .2130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 506
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6926E-05 OSCILLATION LIMIT = 5.464
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6557E-01
 HT FLOW CONVERGENCE VALUE= .3777E-01 CRITERION= .2129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 507
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6761E-05 OSCILLATION LIMIT = 5.334
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6556E-01
 HT FLOW CONVERGENCE VALUE= .3770E-01 CRITERION= .2127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 508
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6924E-05 OSCILLATION LIMIT = 5.463
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6559E-01
 HT FLOW CONVERGENCE VALUE= .3772E-01 CRITERION= .2126 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 509
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6759E-05 OSCILLATION LIMIT = 5.332
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.450 CRITERION= .2126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6558E-01
 HT FLOW CONVERGENCE VALUE= .3765E-01 CRITERION= .2125 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 510
 *** TIME = .211436E+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= 3.445 CRITERION= .2125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6561E-01
 HT FLOW CONVERGENCE VALUE= .3769E-01 CRITERION= .2124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 511
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6757E-05 OSCILLATION LIMIT = 5.331
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.451 CRITERION= .2124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6561E-01
 HT FLOW CONVERGENCE VALUE= .3762E-01 CRITERION= .2122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 512
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6922E-05 OSCILLATION LIMIT = 5.461
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6563E-01
 HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .2121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 513
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6755E-05 OSCILLATION LIMIT = 5.329
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.451 CRITERION= .2121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6563E-01
 HT FLOW CONVERGENCE VALUE= .3759E-01 CRITERION= .2120 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 514
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6921E-05 OSCILLATION LIMIT = 5.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6566E-01
 HT FLOW CONVERGENCE VALUE= .3763E-01 CRITERION= .2119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 515
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6753E-05 OSCILLATION LIMIT = 5.328
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.451 CRITERION= .2119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6565E-01
 HT FLOW CONVERGENCE VALUE= .3756E-01 CRITERION= .2117 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 516
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6919E-05 OSCILLATION LIMIT = 5.459
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6568E-01
 HT FLOW CONVERGENCE VALUE= .3760E-01 CRITERION= .2116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 517
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6752E-05 OSCILLATION LIMIT = 5.327
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.451 CRITERION= .2116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6568E-01
 HT FLOW CONVERGENCE VALUE= .3753E-01 CRITERION= .2115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 518
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6918E-05 OSCILLATION LIMIT = 5.458
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6570E-01
 HT FLOW CONVERGENCE VALUE= .3757E-01 CRITERION= .2113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 519
 *** TIME = .218536E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .6750E-05  OSCILLATION LIMIT = 5.325
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.451  CRITERION= .2114
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6570E-01
HT FLOW CONVERGENCE VALUE= .3749E-01 CRITERION= .2112  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED.  CUM ITER = 520
*** TIME = .219325E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6917E-05  OSCILLATION LIMIT = 5.457
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.445  CRITERION= .2112
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6572E-01
HT FLOW CONVERGENCE VALUE= .3753E-01 CRITERION= .2111  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED.  CUM ITER = 521
*** TIME = .220114E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6748E-05  OSCILLATION LIMIT = 5.324
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.451  CRITERION= .2111
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6572E-01
HT FLOW CONVERGENCE VALUE= .3746E-01 CRITERION= .2110  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED.  CUM ITER = 522
*** TIME = .220903E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6916E-05  OSCILLATION LIMIT = 5.456
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX 09:31:18 APR 09, 1995 CP= 46370.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 3.868  CRITERION= .2110
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6055E-01
HT FLOW CONVERGENCE VALUE= .3476E-01 CRITERION= .2108  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED.  CUM ITER = 523
*** TIME = .221692E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6990E-05  OSCILLATION LIMIT = 5.515
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.874  CRITERION= .2109
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5971E-01
HT FLOW CONVERGENCE VALUE= .3408E-01 CRITERION= .2107  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED.  CUM ITER = 524
*** TIME = .222481E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7241E-05  OSCILLATION LIMIT = 5.713
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.868  CRITERION= .2107
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6087E-01
HT FLOW CONVERGENCE VALUE= .3475E-01 CRITERION= .2106  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED.  CUM ITER = 525
*** TIME = .223270E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7022E-05  OSCILLATION LIMIT = 5.540
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.874  CRITERION= .2106
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6003E-01
HT FLOW CONVERGENCE VALUE= .3424E-01 CRITERION= .2105  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
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*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 526
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7222E-05 OSCILLATION LIMIT = 5.698
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.868 CRITERION= .2105
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6067E-01
HT FLOW CONVERGENCE VALUE= .3461E-01 CRITERION= .2104 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 527
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7023E-05 OSCILLATION LIMIT = 5.541
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2104
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6021E-01
HT FLOW CONVERGENCE VALUE= .3429E-01 CRITERION= .2102 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 528
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7219E-05 OSCILLATION LIMIT = 5.695
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.868 CRITERION= .2103
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6057E-01
HT FLOW CONVERGENCE VALUE= .3452E-01 CRITERION= .2101 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 529
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7023E-05 OSCILLATION LIMIT = 5.541
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2102
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6032E-01
HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .2100 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 530
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7217E-05 OSCILLATION LIMIT = 5.693
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.868 CRITERION= .2100
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6052E-01
HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .2099 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 531
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7022E-05 OSCILLATION LIMIT = 5.540
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2099
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6039E-01
HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .2098 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 532
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7215E-05 OSCILLATION LIMIT = 5.692
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.868 CRITERION= .2098
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6050E-01
HT FLOW CONVERGENCE VALUE= .3442E-01 CRITERION= .2097 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 533
*** TIME = .229582E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7022E-05 OSCILLATION LIMIT = 5.540
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2097
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6043E-01

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HT FLOW CONVERGENCE VALUE= .3429E-01 CRITERION= .2095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 534
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7213E-05 OSCILLATION LIMIT = 5.691
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.868 CRITERION= .2096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6050E-01
 HT FLOW CONVERGENCE VALUE= .3438E-01 CRITERION= .2094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 535
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7021E-05 OSCILLATION LIMIT = 5.539
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2094
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6047E-01
 HT FLOW CONVERGENCE VALUE= .3427E-01 CRITERION= .2093 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 536
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7212E-05 OSCILLATION LIMIT = 5.690
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2093
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6051E-01
 HT FLOW CONVERGENCE VALUE= .3434E-01 CRITERION= .2092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 537
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7019E-05 OSCILLATION LIMIT = 5.538
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.874 CRITERION= .2092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6049E-01
 HT FLOW CONVERGENCE VALUE= .3425E-01 CRITERION= .2090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 538
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7211E-05 OSCILLATION LIMIT = 5.689
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6052E-01
 HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .2089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 539
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7018E-05 OSCILLATION LIMIT = 5.537
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6052E-01
 HT FLOW CONVERGENCE VALUE= .3422E-01 CRITERION= .2088 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 540
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7209E-05 OSCILLATION LIMIT = 5.688
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6054E-01
 HT FLOW CONVERGENCE VALUE= .3428E-01 CRITERION= .2087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 541
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7017E-05 OSCILLATION LIMIT = 5.536
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6054E-01
 HT FLOW CONVERGENCE VALUE= .3420E-01 CRITERION= .2086 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 542
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7208E-05 OSCILLATION LIMIT = 5.687
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2086
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6055E-01
 HT FLOW CONVERGENCE VALUE= .3427E-01 CRITERION= .2085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 543
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7016E-05 OSCILLATION LIMIT = 5.535
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2085
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6056E-01
 HT FLOW CONVERGENCE VALUE= .3419E-01 CRITERION= .2083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 544
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7207E-05 OSCILLATION LIMIT = 5.686
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6057E-01
 HT FLOW CONVERGENCE VALUE= .3427E-01 CRITERION= .2082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 545
 *** TIME = .239049E+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= 3.875 CRITERION= .2082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6058E-01
 HT FLOW CONVERGENCE VALUE= .3418E-01 CRITERION= .2081 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 546
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7206E-05 OSCILLATION LIMIT = 5.685
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2081
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6059E-01
 HT FLOW CONVERGENCE VALUE= .3434E-01 CRITERION= .2080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 547
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7014E-05 OSCILLATION LIMIT = 5.534
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6060E-01
 HT FLOW CONVERGENCE VALUE= .3439E-01 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 548
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7204E-05 OSCILLATION LIMIT = 5.684
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6061E-01
 HT FLOW CONVERGENCE VALUE= .3445E-01 CRITERION= .2077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 549
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7012E-05 OSCILLATION LIMIT = 5.532

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

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6061E-01
 HT FLOW CONVERGENCE VALUE= .3443E-01 CRITERION= .2076 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 550
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7203E-05 OSCILLATION LIMIT = 5.682
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.869 CRITERION= .2076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6063E-01
 HT FLOW CONVERGENCE VALUE= .3449E-01 CRITERION= .2075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 551
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7011E-05 OSCILLATION LIMIT = 5.531
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6063E-01
 HT FLOW CONVERGENCE VALUE= .3440E-01 CRITERION= .2074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 552
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7201E-05 OSCILLATION LIMIT = 5.681
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.870 CRITERION= .2074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6064E-01
 HT FLOW CONVERGENCE VALUE= .3448E-01 CRITERION= .2073 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 553
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7010E-05 OSCILLATION LIMIT = 5.530
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.875 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6065E-01
 HT FLOW CONVERGENCE VALUE= .3440E-01 CRITERION= .2071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 554
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7200E-05 OSCILLATION LIMIT = 5.680
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.870 CRITERION= .2072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6066E-01
 HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .2070 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 555
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7009E-05 OSCILLATION LIMIT = 5.530
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.876 CRITERION= .2071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6067E-01
 HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .2069 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 556
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7199E-05 OSCILLATION LIMIT = 5.680
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.870 CRITERION= .2069
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6068E-01
 HT FLOW CONVERGENCE VALUE= .3442E-01 CRITERION= .2068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 557

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*** TIME = .248516E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7008E-05    OSCILLATION LIMIT = 5.529
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.876    CRITERION= .2068
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6069E-01
    HT FLOW CONVERGENCE VALUE= .3432E-01    CRITERION= .2067    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED.    CUM ITER = 558
*** TIME = .249305E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7198E-05    OSCILLATION LIMIT = 5.679
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.870    CRITERION= .2067
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6070E-01
    HT FLOW CONVERGENCE VALUE= .3438E-01    CRITERION= .2066    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED.    CUM ITER = 559
*** TIME = .250094E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7007E-05    OSCILLATION LIMIT = 5.528
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.876    CRITERION= .2066
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6071E-01
    HT FLOW CONVERGENCE VALUE= .3452E-01    CRITERION= .2064    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED.    CUM ITER = 560
*** TIME = .250883E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7196E-05    OSCILLATION LIMIT = 5.678
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.870    CRITERION= .2065
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6072E-01
    HT FLOW CONVERGENCE VALUE= .3458E-01    CRITERION= .2063    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED.    CUM ITER = 561
*** TIME = .251672E+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= 3.876    CRITERION= .2063
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6073E-01
    HT FLOW CONVERGENCE VALUE= .3454E-01    CRITERION= .2062    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED.    CUM ITER = 562
*** TIME = .252461E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7195E-05    OSCILLATION LIMIT = 5.676

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    10:32:56 APR 09, 1995 CP= 50000.040
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 3.447    CRITERION= .2062
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6954E-01
    HT FLOW CONVERGENCE VALUE= .4145E-01    CRITERION= .2061    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED.    CUM ITER = 563
*** TIME = .253250E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3902E-05    OSCILLATION LIMIT = 3.079
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.442    CRITERION= .2061
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6847E-01
    HT FLOW CONVERGENCE VALUE= .4008E-01    CRITERION= .2060    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 564
*** TIME = .254039E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4348E-05 OSCILLATION LIMIT = 3.431
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6530E-01
HT FLOW CONVERGENCE VALUE= .3811E-01 CRITERION= .2059 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 565
*** TIME = .254828E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4228E-05 OSCILLATION LIMIT = 3.335
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6802E-01
HT FLOW CONVERGENCE VALUE= .3971E-01 CRITERION= .2057 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 566
*** TIME = .255617E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4372E-05 OSCILLATION LIMIT = 3.449
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2057
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6608E-01
HT FLOW CONVERGENCE VALUE= .3857E-01 CRITERION= .2056 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 567
*** TIME = .256406E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4237E-05 OSCILLATION LIMIT = 3.343
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2056
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6750E-01
HT FLOW CONVERGENCE VALUE= .3946E-01 CRITERION= .2055 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 568
*** TIME = .257194E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4359E-05 OSCILLATION LIMIT = 3.439
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2055
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6651E-01
HT FLOW CONVERGENCE VALUE= .3896E-01 CRITERION= .2054 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 569
*** TIME = .257983E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4245E-05 OSCILLATION LIMIT = 3.349
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2054
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6724E-01
HT FLOW CONVERGENCE VALUE= .3947E-01 CRITERION= .2053 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 570
*** TIME = .258772E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4352E-05 OSCILLATION LIMIT = 3.433
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2053
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6675E-01
HT FLOW CONVERGENCE VALUE= .3910E-01 CRITERION= .2052 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 571
*** TIME = .259561E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4248E-05 OSCILLATION LIMIT = 3.352
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2052

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6710E-01
 HT FLOW CONVERGENCE VALUE= .3939E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 572
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4347E-05 OSCILLATION LIMIT = 3.430
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6689E-01
 HT FLOW CONVERGENCE VALUE= .3917E-01 CRITERION= .2050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 573
 *** TIME = .261139E+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= 3.442 CRITERION= .2050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6704E-01
 HT FLOW CONVERGENCE VALUE= .3940E-01 CRITERION= .2048 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 574
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4345E-05 OSCILLATION LIMIT = 3.428
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6698E-01
 HT FLOW CONVERGENCE VALUE= .3935E-01 CRITERION= .2047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 575
 *** TIME = .262717E+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= 3.442 CRITERION= .2047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6703E-01
 HT FLOW CONVERGENCE VALUE= .3947E-01 CRITERION= .2046 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 576
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4343E-05 OSCILLATION LIMIT = 3.427
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.447 CRITERION= .2046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6704E-01
 HT FLOW CONVERGENCE VALUE= .3938E-01 CRITERION= .2045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 577
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4247E-05 OSCILLATION LIMIT = 3.350
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6703E-01
 HT FLOW CONVERGENCE VALUE= .3947E-01 CRITERION= .2044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 578
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4342E-05 OSCILLATION LIMIT = 3.426
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2044
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6709E-01
 HT FLOW CONVERGENCE VALUE= .3940E-01 CRITERION= .2043 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 579
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4245E-05 OSCILLATION LIMIT = 3.349
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6705E-01
 HT FLOW CONVERGENCE VALUE= .3949E-01 CRITERION= .2042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 580
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4342E-05 OSCILLATION LIMIT = 3.425
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2042
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6713E-01
 HT FLOW CONVERGENCE VALUE= .3942E-01 CRITERION= .2041 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 581
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4243E-05 OSCILLATION LIMIT = 3.348
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.442 CRITERION= .2041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6707E-01
 HT FLOW CONVERGENCE VALUE= .3947E-01 CRITERION= .2039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 582
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4341E-05 OSCILLATION LIMIT = 3.425
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6716E-01
 HT FLOW CONVERGENCE VALUE= .3941E-01 CRITERION= .2038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 583
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4241E-05 OSCILLATION LIMIT = 3.346
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6711E-01
 HT FLOW CONVERGENCE VALUE= .3944E-01 CRITERION= .2037 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 584
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4340E-05 OSCILLATION LIMIT = 3.424
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6719E-01
 HT FLOW CONVERGENCE VALUE= .3940E-01 CRITERION= .2036 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 585
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4239E-05 OSCILLATION LIMIT = 3.345
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6713E-01
 HT FLOW CONVERGENCE VALUE= .3946E-01 CRITERION= .2035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 586
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4340E-05 OSCILLATION LIMIT = 3.424
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6722E-01
 HT FLOW CONVERGENCE VALUE= .3941E-01 CRITERION= .2034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 587
 *** TIME = .272184E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4237E-05 OSCILLATION LIMIT = 3.343
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2034
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6717E-01
 HT FLOW CONVERGENCE VALUE= .3943E-01 CRITERION= .2033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 588
 *** TIME = .272973E+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= 3.446 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6726E-01
 HT FLOW CONVERGENCE VALUE= .3940E-01 CRITERION= .2032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 589
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4236E-05 OSCILLATION LIMIT = 3.342
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6720E-01
 HT FLOW CONVERGENCE VALUE= .3943E-01 CRITERION= .2030 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 590
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4338E-05 OSCILLATION LIMIT = 3.423
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6728E-01
 HT FLOW CONVERGENCE VALUE= .3942E-01 CRITERION= .2029 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 591
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4234E-05 OSCILLATION LIMIT = 3.340
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6724E-01
 HT FLOW CONVERGENCE VALUE= .3945E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 592
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4338E-05 OSCILLATION LIMIT = 3.422
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6731E-01
 HT FLOW CONVERGENCE VALUE= .3941E-01 CRITERION= .2027 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 593
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4232E-05 OSCILLATION LIMIT = 3.339
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6727E-01
 HT FLOW CONVERGENCE VALUE= .3943E-01 CRITERION= .2026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 594
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4337E-05 OSCILLATION LIMIT = 3.422
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.446 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6734E-01
 HT FLOW CONVERGENCE VALUE= .3939E-01 CRITERION= .2025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 595
*** TIME = .278496E+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= 3.441 CRITERION= .2025
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6730E-01
HT FLOW CONVERGENCE VALUE= .3942E-01 CRITERION= .2024 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 596
*** TIME = .279285E+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= 3.446 CRITERION= .2024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6737E-01
HT FLOW CONVERGENCE VALUE= .3939E-01 CRITERION= .2023 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 597
*** TIME = .280074E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4228E-05 OSCILLATION LIMIT = 3.336
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2023
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6733E-01
HT FLOW CONVERGENCE VALUE= .3940E-01 CRITERION= .2021 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 598
*** TIME = .280863E+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= 3.445 CRITERION= .2021
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6740E-01
HT FLOW CONVERGENCE VALUE= .3936E-01 CRITERION= .2020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 599
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4227E-05 OSCILLATION LIMIT = 3.335
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2020
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6737E-01
HT FLOW CONVERGENCE VALUE= .3937E-01 CRITERION= .2019 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 600
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4335E-05 OSCILLATION LIMIT = 3.420
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.445 CRITERION= .2019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6744E-01
HT FLOW CONVERGENCE VALUE= .3934E-01 CRITERION= .2018 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 601
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4225E-05 OSCILLATION LIMIT = 3.333
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.441 CRITERION= .2018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6741E-01
HT FLOW CONVERGENCE VALUE= .3935E-01 CRITERION= .2017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 602
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4334E-05 OSCILLATION LIMIT = 3.419
Apply loads and solve for 10 to 90 years

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*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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
4913.36056 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 115.63 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 116.58 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 118.80 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 53628.410 TIME= 11:34:33
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 11:34:33 APR 09, 1995 CP= 53628.410
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= 1.952 CRITERION= .2017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5540E-01
 HT FLOW CONVERGENCE VALUE= .3215E-01 CRITERION= .2016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 603
 *** TIME = .284807E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4557E-05 OSCILLATION LIMIT = 3.595
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5352E-01
 HT FLOW CONVERGENCE VALUE= .3091E-01 CRITERION= .2015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 604
 *** TIME = .285596E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4701E-05 OSCILLATION LIMIT = 3.709
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5634E-01
 HT FLOW CONVERGENCE VALUE= .3243E-01 CRITERION= .2014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 605
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4589E-05 OSCILLATION LIMIT = 3.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5425E-01
 HT FLOW CONVERGENCE VALUE= .3134E-01 CRITERION= .2013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 606
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4690E-05 OSCILLATION LIMIT = 3.701
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5580E-01
 HT FLOW CONVERGENCE VALUE= .3213E-01 CRITERION= .2012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 607
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4574E-05 OSCILLATION LIMIT = 3.609
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5467E-01
 HT FLOW CONVERGENCE VALUE= .3153E-01 CRITERION= .2011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 608
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4699E-05 OSCILLATION LIMIT = 3.707
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5552E-01
 HT FLOW CONVERGENCE VALUE= .3196E-01 CRITERION= .2010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 609
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4565E-05 OSCILLATION LIMIT = 3.602
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5491E-01
 HT FLOW CONVERGENCE VALUE= .3163E-01 CRITERION= .2009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 610
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4703E-05 OSCILLATION LIMIT = 3.710
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5539E-01
 HT FLOW CONVERGENCE VALUE= .3187E-01 CRITERION= .2008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 611
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4560E-05 OSCILLATION LIMIT = 3.597
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5505E-01
 HT FLOW CONVERGENCE VALUE= .3168E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 612
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4704E-05 OSCILLATION LIMIT = 3.711
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5532E-01
 HT FLOW CONVERGENCE VALUE= .3181E-01 CRITERION= .2007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 613
 *** TIME = .292697E+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= 1.946 CRITERION= .2007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5513E-01
 HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 614
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4705E-05 OSCILLATION LIMIT = 3.712
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5530E-01
 HT FLOW CONVERGENCE VALUE= .3177E-01 CRITERION= .2005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 615
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4553E-05 OSCILLATION LIMIT = 3.592
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .2005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5519E-01
 HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .2004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 616
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4704E-05 OSCILLATION LIMIT = 3.712
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .2004
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5529E-01
 HT FLOW CONVERGENCE VALUE= .3174E-01 CRITERION= .2003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 617
 *** TIME = .295853E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4551E-05  OSCILLATION LIMIT = 3.591
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.946  CRITERION= .2003
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5523E-01
  HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .2002  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 618
*** TIME = .296641E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4704E-05  OSCILLATION LIMIT = 3.711
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.951  CRITERION= .2002
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5530E-01
  HT FLOW CONVERGENCE VALUE= .3173E-01 CRITERION= .2001  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 619
*** TIME = .297430E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4550E-05  OSCILLATION LIMIT = 3.589
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.946  CRITERION= .2001
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5526E-01
  HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .2000  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 620
*** TIME = .298219E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4703E-05  OSCILLATION LIMIT = 3.710
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.951  CRITERION= .2000
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5531E-01
  HT FLOW CONVERGENCE VALUE= .3176E-01 CRITERION= .1999  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 621
*** TIME = .299008E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4548E-05  OSCILLATION LIMIT = 3.588
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.946  CRITERION= .1999
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5529E-01
  HT FLOW CONVERGENCE VALUE= .3173E-01 CRITERION= .1998  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 622
*** TIME = .299797E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4702E-05  OSCILLATION LIMIT = 3.709
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.951  CRITERION= .1998
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5532E-01
  HT FLOW CONVERGENCE VALUE= .3175E-01 CRITERION= .1997  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 623
*** TIME = .300586E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4547E-05  OSCILLATION LIMIT = 3.587
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.946  CRITERION= .1997
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5531E-01
  HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .1996  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 624
*** TIME = .301375E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4701E-05  OSCILLATION LIMIT = 3.709
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.951  CRITERION= .1996
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5533E-01
  HT FLOW CONVERGENCE VALUE= .3173E-01 CRITERION= .1995  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 625
*** TIME = .302164E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4545E-05 OSCILLATION LIMIT = 3.586
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1995
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5533E-01
HT FLOW CONVERGENCE VALUE= .3171E-01 CRITERION= .1994 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 626
*** TIME = .302953E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4700E-05 OSCILLATION LIMIT = 3.708
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5535E-01
HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .1993 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 627
*** TIME = .303742E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4544E-05 OSCILLATION LIMIT = 3.585
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1993
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5535E-01
HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .1992 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 628
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4698E-05 OSCILLATION LIMIT = 3.707
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1992
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5537E-01
HT FLOW CONVERGENCE VALUE= .3171E-01 CRITERION= .1991 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 629
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4543E-05 OSCILLATION LIMIT = 3.584
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1991
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5537E-01
HT FLOW CONVERGENCE VALUE= .3169E-01 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 630
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4697E-05 OSCILLATION LIMIT = 3.706
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5539E-01
HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 631
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4541E-05 OSCILLATION LIMIT = 3.583
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5539E-01
HT FLOW CONVERGENCE VALUE= .3168E-01 CRITERION= .1989 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 632
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4696E-05 OSCILLATION LIMIT = 3.705
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1989
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5540E-01

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HT FLOW CONVERGENCE VALUE= .3169E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 633
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4540E-05 OSCILLATION LIMIT = 3.582
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5540E-01
 HT FLOW CONVERGENCE VALUE= .3166E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 634
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4695E-05 OSCILLATION LIMIT = 3.704
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5542E-01
 HT FLOW CONVERGENCE VALUE= .3167E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 635
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4539E-05 OSCILLATION LIMIT = 3.581
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5542E-01
 HT FLOW CONVERGENCE VALUE= .3165E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 636
 *** TIME = .310842E+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= 1.951 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5544E-01
 HT FLOW CONVERGENCE VALUE= .3167E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 637
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4538E-05 OSCILLATION LIMIT = 3.580
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5544E-01
 HT FLOW CONVERGENCE VALUE= .3166E-01 CRITERION= .1983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 638
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4693E-05 OSCILLATION LIMIT = 3.702
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5546E-01
 HT FLOW CONVERGENCE VALUE= .3167E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 639
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4537E-05 OSCILLATION LIMIT = 3.579
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5547E-01
 HT FLOW CONVERGENCE VALUE= .3165E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 640
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4691E-05 OSCILLATION LIMIT = 3.701
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.951 CRITERION= .1981
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5549E-01
HT FLOW CONVERGENCE VALUE= .3166E-01 CRITERION= .1980 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 641
*** TIME = .314787E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4535E-05 OSCILLATION LIMIT = 3.578
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.946 CRITERION= .1980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5549E-01
HT FLOW CONVERGENCE VALUE= .3163E-01 CRITERION= .1979 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 642
*** TIME = .315576E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4690E-05 OSCILLATION LIMIT = 3.700

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*ENDDO INDEX= TM

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 12:37:00 APR 09, 1995 CP= 57264.910
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .1990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5581
HT FLOW CONVERGENCE VALUE= .3055 CRITERION= .1972
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3911E-01
HT FLOW CONVERGENCE VALUE= .1340E-01 CRITERION= .1970 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 644
*** TIME = .323465E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4366E-05 OSCILLATION LIMIT = 34.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .1981
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5604
HT FLOW CONVERGENCE VALUE= .3031 CRITERION= .1963
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3848E-01
HT FLOW CONVERGENCE VALUE= .1309E-01 CRITERION= .1961 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 646
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4480E-05 OSCILLATION LIMIT = 35.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .1972
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5622
HT FLOW CONVERGENCE VALUE= .3033 CRITERION= .1954
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3828E-01
HT FLOW CONVERGENCE VALUE= .1303E-01 CRITERION= .1953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 648
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4457E-05 OSCILLATION LIMIT = 35.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1963
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5620
HT FLOW CONVERGENCE VALUE= .3025 CRITERION= .1945
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3814E-01
HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 650
*** TIME = .347134E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .4469E-05 OSCILLATION LIMIT = 35.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .1955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5637
HT FLOW CONVERGENCE VALUE= .3030 CRITERION= .1937
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3806E-01
HT FLOW CONVERGENCE VALUE= .1293E-01 CRITERION= .1935 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 652
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4446E-05 OSCILLATION LIMIT = 35.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5636
HT FLOW CONVERGENCE VALUE= .3036 CRITERION= .1928
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3788E-01
HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .1926 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 654
*** TIME = .362912E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4457E-05 OSCILLATION LIMIT = 35.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1937
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5652
HT FLOW CONVERGENCE VALUE= .3050 CRITERION= .1919
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3774E-01
HT FLOW CONVERGENCE VALUE= .1294E-01 CRITERION= .1918 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 656
*** TIME = .370802E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4434E-05 OSCILLATION LIMIT = 34.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5652
HT FLOW CONVERGENCE VALUE= .3054 CRITERION= .1910
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3759E-01
HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .1909 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 658
*** TIME = .378691E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4446E-05 OSCILLATION LIMIT = 35.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1920
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5668
HT FLOW CONVERGENCE VALUE= .3067 CRITERION= .1902
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3750E-01
HT FLOW CONVERGENCE VALUE= .1293E-01 CRITERION= .1900 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 660
*** TIME = .386581E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4423E-05 OSCILLATION LIMIT = 34.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15 CRITERION= .1911
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5668
HT FLOW CONVERGENCE VALUE= .3058 CRITERION= .1893
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3745E-01
HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1891 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 662
*** TIME = .394470E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4435E-05 OSCILLATION LIMIT = 34.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .1902

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5684
HT FLOW CONVERGENCE VALUE= .3056 CRITERION= .1884
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3740E-01
HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .1883 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 664
*** TIME = .402359E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = 34.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15 CRITERION= .1894
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5684
HT FLOW CONVERGENCE VALUE= .3052 CRITERION= .1875
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3736E-01
HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .1874 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 666
*** TIME = .410249E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4424E-05 OSCILLATION LIMIT = 34.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15 CRITERION= .1885
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5700
HT FLOW CONVERGENCE VALUE= .3068 CRITERION= .1867
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .1865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 668
*** TIME = .418138E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4402E-05 OSCILLATION LIMIT = 34.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1876
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5701
HT FLOW CONVERGENCE VALUE= .3071 CRITERION= .1858
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730E-01
HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 670
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = 34.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15 CRITERION= .1868
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5716
HT FLOW CONVERGENCE VALUE= .3070 CRITERION= .1849
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3726E-01
HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .1848 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 672
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4391E-05 OSCILLATION LIMIT = 34.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1859
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5717
HT FLOW CONVERGENCE VALUE= .3060 CRITERION= .1840
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3722E-01
HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .1839 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 674
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4402E-05 OSCILLATION LIMIT = 34.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1850
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5732
HT FLOW CONVERGENCE VALUE= .3057 CRITERION= .1832
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3717E-01
HT FLOW CONVERGENCE VALUE= .1253E-01 CRITERION= .1830 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 676
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4380E-05 OSCILLATION LIMIT = 34.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1842
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5734
HT FLOW CONVERGENCE VALUE= .3050 CRITERION= .1823
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3714E-01
HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .1821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 678
*** TIME = .457585E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4392E-05 OSCILLATION LIMIT = 34.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1833
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5749
HT FLOW CONVERGENCE VALUE= .3052 CRITERION= .1814
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3709E-01
HT FLOW CONVERGENCE VALUE= .1244E-01 CRITERION= .1813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 680
*** TIME = .465475E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4370E-05 OSCILLATION LIMIT = 34.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1824
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5751
HT FLOW CONVERGENCE VALUE= .3046 CRITERION= .1805
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3706E-01
HT FLOW CONVERGENCE VALUE= .1238E-01 CRITERION= .1804 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 682
*** TIME = .473364E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4381E-05 OSCILLATION LIMIT = 34.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .1815
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5765
HT FLOW CONVERGENCE VALUE= .3044 CRITERION= .1797
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3701E-01
HT FLOW CONVERGENCE VALUE= .1230E-01 CRITERION= .1795 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 684
*** TIME = .481253E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4360E-05 OSCILLATION LIMIT = 34.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1807
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5768
HT FLOW CONVERGENCE VALUE= .3033 CRITERION= .1788
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3697E-01
HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .1786 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 686
*** TIME = .489143E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4371E-05 OSCILLATION LIMIT = 34.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1798
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5782
HT FLOW CONVERGENCE VALUE= .3033 CRITERION= .1779
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3692E-01
HT FLOW CONVERGENCE VALUE= .1216E-01 CRITERION= .1778 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 688
*** TIME = .497032E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4350E-05 OSCILLATION LIMIT = 34.32

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5785
 HT FLOW CONVERGENCE VALUE= .3027 CRITERION= .1770
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3690E-01
 HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .1769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 690
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4361E-05 OSCILLATION LIMIT = 34.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5799
 HT FLOW CONVERGENCE VALUE= .3027 CRITERION= .1762
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3685E-01
 HT FLOW CONVERGENCE VALUE= .1205E-01 CRITERION= .1760 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 692
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4340E-05 OSCILLATION LIMIT = 34.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .1772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5802
 HT FLOW CONVERGENCE VALUE= .3016 CRITERION= .1753
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3682E-01
 HT FLOW CONVERGENCE VALUE= .1197E-01 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 694
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4351E-05 OSCILLATION LIMIT = 34.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.13 CRITERION= .1763
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5816
 HT FLOW CONVERGENCE VALUE= .3011 CRITERION= .1744
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3676E-01
 HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 696
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4330E-05 OSCILLATION LIMIT = 34.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5819
 HT FLOW CONVERGENCE VALUE= .3000 CRITERION= .1735
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3674E-01
 HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 698
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4341E-05 OSCILLATION LIMIT = 34.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .1746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5833
 HT FLOW CONVERGENCE VALUE= .2995 CRITERION= .1727
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3667E-01
 HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 700
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4320E-05 OSCILLATION LIMIT = 34.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1737
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5837

HT FLOW CONVERGENCE VALUE= .2984 CRITERION= .1718
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3662E-01
 HT FLOW CONVERGENCE VALUE= .1167E-01 CRITERION= .1716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 702
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4331E-05 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.12 CRITERION= .1729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5850
 HT FLOW CONVERGENCE VALUE= .2979 CRITERION= .1709
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3654E-01
 HT FLOW CONVERGENCE VALUE= .1159E-01 CRITERION= .1708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 704
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4310E-05 OSCILLATION LIMIT = 34.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5855
 HT FLOW CONVERGENCE VALUE= .2968 CRITERION= .1700
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3650E-01
 HT FLOW CONVERGENCE VALUE= .1152E-01 CRITERION= .1699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 706
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4321E-05 OSCILLATION LIMIT = 34.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1711
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5868
 HT FLOW CONVERGENCE VALUE= .2962 CRITERION= .1692
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3642E-01
 HT FLOW CONVERGENCE VALUE= .1144E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 708
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4300E-05 OSCILLATION LIMIT = 33.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5872
 HT FLOW CONVERGENCE VALUE= .2951 CRITERION= .1683
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3639E-01
 HT FLOW CONVERGENCE VALUE= .1137E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 710
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4311E-05 OSCILLATION LIMIT = 34.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5885
 HT FLOW CONVERGENCE VALUE= .2943 CRITERION= .1674
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3631E-01
 HT FLOW CONVERGENCE VALUE= .1129E-01 CRITERION= .1673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 712
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4291E-05 OSCILLATION LIMIT = 33.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.10 CRITERION= .1685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5890
 HT FLOW CONVERGENCE VALUE= .2932 CRITERION= .1665
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3627E-01
 HT FLOW CONVERGENCE VALUE= .1122E-01 CRITERION= .1664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 714
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4301E-05 OSCILLATION LIMIT = 33.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.11 CRITERION= .1676
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5903
HT FLOW CONVERGENCE VALUE= .2922 CRITERION= .1657
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3617E-01
HT FLOW CONVERGENCE VALUE= .1113E-01 CRITERION= .1655 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 716
*** TIME = .607484E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4281E-05 OSCILLATION LIMIT = 33.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.10 CRITERION= .1668
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5908
HT FLOW CONVERGENCE VALUE= .2910 CRITERION= .1648
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3611E-01
HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .1646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 718
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4292E-05 OSCILLATION LIMIT = 33.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.10 CRITERION= .1659
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5921
HT FLOW CONVERGENCE VALUE= .2905 CRITERION= .1639
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3602E-01
HT FLOW CONVERGENCE VALUE= .1096E-01 CRITERION= .1638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 720
*** TIME = .623263E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4272E-05 OSCILLATION LIMIT = 33.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.10 CRITERION= .1650
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5927
HT FLOW CONVERGENCE VALUE= .2894 CRITERION= .1630
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3598E-01
HT FLOW CONVERGENCE VALUE= .1089E-01 CRITERION= .1629 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 722
*** TIME = .631152E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4283E-05 OSCILLATION LIMIT = 33.79

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 14:11:06 APR 09, 1995 CP= 62762.770
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .1656
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4749
HT FLOW CONVERGENCE VALUE= .2381 CRITERION= .1623
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3550E-01
HT FLOW CONVERGENCE VALUE= .1152E-01 CRITERION= .1622 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 724
*** TIME = .639041E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3594E-05 OSCILLATION LIMIT = 28.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .1649

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4725
HT FLOW CONVERGENCE VALUE= .2361 CRITERION= .1617
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3532E-01
HT FLOW CONVERGENCE VALUE= .1143E-01 CRITERION= .1616 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 726
*** TIME = .646931E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3600E-05 OSCILLATION LIMIT = 28.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .1643
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4769
HT FLOW CONVERGENCE VALUE= .2373 CRITERION= .1610
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3540E-01
HT FLOW CONVERGENCE VALUE= .1137E-01 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 728
*** TIME = .654820E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3585E-05 OSCILLATION LIMIT = 28.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .1637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4738
HT FLOW CONVERGENCE VALUE= .2350 CRITERION= .1604
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3522E-01
HT FLOW CONVERGENCE VALUE= .1130E-01 CRITERION= .1603 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 730
*** TIME = .662710E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3594E-05 OSCILLATION LIMIT = 28.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .1630
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4779
HT FLOW CONVERGENCE VALUE= .2362 CRITERION= .1597
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3530E-01
HT FLOW CONVERGENCE VALUE= .1125E-01 CRITERION= .1596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 732
*** TIME = .670599E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3579E-05 OSCILLATION LIMIT = 28.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.13 CRITERION= .1624
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4750
HT FLOW CONVERGENCE VALUE= .2341 CRITERION= .1590
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3513E-01
HT FLOW CONVERGENCE VALUE= .1118E-01 CRITERION= .1590 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 734
*** TIME = .678488E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3588E-05 OSCILLATION LIMIT = 28.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.13 CRITERION= .1617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4789
HT FLOW CONVERGENCE VALUE= .2352 CRITERION= .1584
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3519E-01
HT FLOW CONVERGENCE VALUE= .1112E-01 CRITERION= .1583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 736
*** TIME = .686378E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3573E-05 OSCILLATION LIMIT = 28.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .1611
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4763
HT FLOW CONVERGENCE VALUE= .2331 CRITERION= .1577
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3502E-01
HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .1576 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 738
*** TIME = .694267E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3582E-05 OSCILLATION LIMIT = 28.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .1604
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4800
HT FLOW CONVERGENCE VALUE= .2341 CRITERION= .1571
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3508E-01
HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .1570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 740
*** TIME = .702157E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3567E-05 OSCILLATION LIMIT = 28.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .1598
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4775
HT FLOW CONVERGENCE VALUE= .2321 CRITERION= .1564
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3493E-01
HT FLOW CONVERGENCE VALUE= .1093E-01 CRITERION= .1563 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 742
*** TIME = .710046E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3576E-05 OSCILLATION LIMIT = 28.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .1592
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4810
HT FLOW CONVERGENCE VALUE= .2330 CRITERION= .1558
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3498E-01
HT FLOW CONVERGENCE VALUE= .1088E-01 CRITERION= .1557 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 744
*** TIME = .717935E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3561E-05 OSCILLATION LIMIT = 28.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .1585
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4788
HT FLOW CONVERGENCE VALUE= .2311 CRITERION= .1551
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3483E-01
HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .1550 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 746
*** TIME = .725825E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3570E-05 OSCILLATION LIMIT = 28.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .1579
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4821
HT FLOW CONVERGENCE VALUE= .2318 CRITERION= .1545
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3487E-01
HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .1544 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 748
*** TIME = .733714E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3555E-05 OSCILLATION LIMIT = 28.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.10 CRITERION= .1572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4800
HT FLOW CONVERGENCE VALUE= .2299 CRITERION= .1538
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3474E-01
HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .1537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 750
*** TIME = .741604E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3564E-05 OSCILLATION LIMIT = 28.12

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.10 CRITERION= .1566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4832
 HT FLOW CONVERGENCE VALUE= .2306 CRITERION= .1532
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3477E-01
 HT FLOW CONVERGENCE VALUE= .1062E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 752
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3548E-05 OSCILLATION LIMIT = 27.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4813
 HT FLOW CONVERGENCE VALUE= .2288 CRITERION= .1525
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3464E-01
 HT FLOW CONVERGENCE VALUE= .1055E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 754
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3558E-05 OSCILLATION LIMIT = 28.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4843
 HT FLOW CONVERGENCE VALUE= .2293 CRITERION= .1519
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3466E-01
 HT FLOW CONVERGENCE VALUE= .1049E-01 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 756
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3542E-05 OSCILLATION LIMIT = 27.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.08 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4825
 HT FLOW CONVERGENCE VALUE= .2277 CRITERION= .1512
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3454E-01
 HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .1511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 758
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3553E-05 OSCILLATION LIMIT = 28.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .1540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4855
 HT FLOW CONVERGENCE VALUE= .2283 CRITERION= .1505
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3454E-01
 HT FLOW CONVERGENCE VALUE= .1036E-01 CRITERION= .1504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 760
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3537E-05 OSCILLATION LIMIT = 27.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.08 CRITERION= .1534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4838
 HT FLOW CONVERGENCE VALUE= .2267 CRITERION= .1499
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3442E-01
 HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .1498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 762
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3547E-05 OSCILLATION LIMIT = 27.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.08 CRITERION= .1527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4866

HT FLOW CONVERGENCE VALUE= .2271 CRITERION= .1492
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3442E-01
 HT FLOW CONVERGENCE VALUE= .1022E-01 CRITERION= .1491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 764
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3531E-05 OSCILLATION LIMIT = 27.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.07 CRITERION= .1521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4851
 HT FLOW CONVERGENCE VALUE= .2256 CRITERION= .1486
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3431E-01
 HT FLOW CONVERGENCE VALUE= .1016E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 766
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3542E-05 OSCILLATION LIMIT = 27.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.07 CRITERION= .1514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4877
 HT FLOW CONVERGENCE VALUE= .2259 CRITERION= .1479
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3431E-01
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .1478 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 768
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3526E-05 OSCILLATION LIMIT = 27.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .1508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4864
 HT FLOW CONVERGENCE VALUE= .2244 CRITERION= .1473
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3422E-01
 HT FLOW CONVERGENCE VALUE= .1004E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 770
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3536E-05 OSCILLATION LIMIT = 27.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .1502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4889
 HT FLOW CONVERGENCE VALUE= .2247 CRITERION= .1466
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3419E-01
 HT FLOW CONVERGENCE VALUE= .9971E-02 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 772
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3520E-05 OSCILLATION LIMIT = 27.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.05 CRITERION= .1495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4876
 HT FLOW CONVERGENCE VALUE= .2233 CRITERION= .1460
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3408E-01
 HT FLOW CONVERGENCE VALUE= .9907E-02 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 774
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3531E-05 OSCILLATION LIMIT = 27.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .1489
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4901
 HT FLOW CONVERGENCE VALUE= .2232 CRITERION= .1453
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3407E-01
 HT FLOW CONVERGENCE VALUE= .9821E-02 CRITERION= .1452 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 776
*** TIME = .844166E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3515E-05 OSCILLATION LIMIT = 27.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.05 CRITERION= .1482
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4889
HT FLOW CONVERGENCE VALUE= .2215 CRITERION= .1446
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3397E-01
HT FLOW CONVERGENCE VALUE= .9730E-02 CRITERION= .1446 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 778
*** TIME = .852055E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3525E-05 OSCILLATION LIMIT = 27.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.05 CRITERION= .1476
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4912
HT FLOW CONVERGENCE VALUE= .2213 CRITERION= .1440
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3396E-01
HT FLOW CONVERGENCE VALUE= .9640E-02 CRITERION= .1439 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 780
*** TIME = .859945E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3509E-05 OSCILLATION LIMIT = 27.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .1469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4902
HT FLOW CONVERGENCE VALUE= .2196 CRITERION= .1433
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3387E-01
HT FLOW CONVERGENCE VALUE= .9543E-02 CRITERION= .1432 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 782
*** TIME = .867834E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3519E-05 OSCILLATION LIMIT = 27.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .1463
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4924
HT FLOW CONVERGENCE VALUE= .2191 CRITERION= .1427
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3385E-01
HT FLOW CONVERGENCE VALUE= .9459E-02 CRITERION= .1426 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 784
*** TIME = .875723E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3503E-05 OSCILLATION LIMIT = 27.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .1457
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4915
HT FLOW CONVERGENCE VALUE= .2176 CRITERION= .1420
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3377E-01
HT FLOW CONVERGENCE VALUE= .9397E-02 CRITERION= .1419 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 786
*** TIME = .883613E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3513E-05 OSCILLATION LIMIT = 27.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4937
HT FLOW CONVERGENCE VALUE= .2177 CRITERION= .1414
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3374E-01
HT FLOW CONVERGENCE VALUE= .9329E-02 CRITERION= .1413 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 788
*** TIME = .891502E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3497E-05 OSCILLATION LIMIT = 27.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .1444
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4928
 HT FLOW CONVERGENCE VALUE= .2166 CRITERION= .1407
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3366E-01
 HT FLOW CONVERGENCE VALUE= .9269E-02 CRITERION= .1406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 790
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3508E-05 OSCILLATION LIMIT = 27.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .1437
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4949
 HT FLOW CONVERGENCE VALUE= .2166 CRITERION= .1401
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3362E-01
 HT FLOW CONVERGENCE VALUE= .9198E-02 CRITERION= .1400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 792
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3492E-05 OSCILLATION LIMIT = 27.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .1431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4941
 HT FLOW CONVERGENCE VALUE= .2156 CRITERION= .1394
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3355E-01
 HT FLOW CONVERGENCE VALUE= .9152E-02 CRITERION= .1393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 794
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3502E-05 OSCILLATION LIMIT = 27.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4961
 HT FLOW CONVERGENCE VALUE= .2159 CRITERION= .1388
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3351E-01
 HT FLOW CONVERGENCE VALUE= .9088E-02 CRITERION= .1387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 796
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3486E-05 OSCILLATION LIMIT = 27.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.01 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4955
 HT FLOW CONVERGENCE VALUE= .2148 CRITERION= .1381
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3344E-01
 HT FLOW CONVERGENCE VALUE= .9039E-02 CRITERION= .1380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 798
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3497E-05 OSCILLATION LIMIT = 27.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.01 CRITERION= .1412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4973
 HT FLOW CONVERGENCE VALUE= .2148 CRITERION= .1374
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3341E-01
 HT FLOW CONVERGENCE VALUE= .8970E-02 CRITERION= .1374 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 800
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3480E-05 OSCILLATION LIMIT = 27.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.00 CRITERION= .1405
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4968
 HT FLOW CONVERGENCE VALUE= .2137 CRITERION= .1368

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3336E-01
HT FLOW CONVERGENCE VALUE= .8921E-02 CRITERION= .1367 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 802
*** TIME = .946728E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3491E-05 OSCILLATION LIMIT = 27.54

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:49:17 APR 09, 1995 CP= 68264.580
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 38.17 CRITERION= .1419
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4123
HT FLOW CONVERGENCE VALUE= .1838 CRITERION= .1363
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3378E-01
HT FLOW CONVERGENCE VALUE= .1044E-01 CRITERION= .1362 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 804
*** TIME = .954617E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2765E-05 OSCILLATION LIMIT = 21.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.16 CRITERION= .1414
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4095
HT FLOW CONVERGENCE VALUE= .1820 CRITERION= .1358
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3363E-01
HT FLOW CONVERGENCE VALUE= .1038E-01 CRITERION= .1357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 806
*** TIME = .962507E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2768E-05 OSCILLATION LIMIT = 21.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.16 CRITERION= .1409
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4136
HT FLOW CONVERGENCE VALUE= .1830 CRITERION= .1353
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3370E-01
HT FLOW CONVERGENCE VALUE= .1030E-01 CRITERION= .1352 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 808
*** TIME = .970396E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2763E-05 OSCILLATION LIMIT = 21.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.15 CRITERION= .1404
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4104
HT FLOW CONVERGENCE VALUE= .1810 CRITERION= .1348
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3354E-01
HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .1347 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 810
*** TIME = .978286E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2766E-05 OSCILLATION LIMIT = 21.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.15 CRITERION= .1400
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4143
HT FLOW CONVERGENCE VALUE= .1822 CRITERION= .1343
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3361E-01
HT FLOW CONVERGENCE VALUE= .1019E-01 CRITERION= .1342 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 812
*** TIME = .986175E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2760E-05 OSCILLATION LIMIT = 21.77

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.14 CRITERION= .1395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4114
 HT FLOW CONVERGENCE VALUE= .1805 CRITERION= .1338
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3347E-01
 HT FLOW CONVERGENCE VALUE= .1015E-01 CRITERION= .1337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 814
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2764E-05 OSCILLATION LIMIT = 21.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.14 CRITERION= .1390
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151
 HT FLOW CONVERGENCE VALUE= .1815 CRITERION= .1333
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3354E-01
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .1332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 816
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2756E-05 OSCILLATION LIMIT = 21.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.13 CRITERION= .1385
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4123
 HT FLOW CONVERGENCE VALUE= .1798 CRITERION= .1328
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3340E-01
 HT FLOW CONVERGENCE VALUE= .1003E-01 CRITERION= .1327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 818
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2761E-05 OSCILLATION LIMIT = 21.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.12 CRITERION= .1380
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4158
 HT FLOW CONVERGENCE VALUE= .1807 CRITERION= .1323
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3345E-01
 HT FLOW CONVERGENCE VALUE= .9968E-02 CRITERION= .1322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 820
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2753E-05 OSCILLATION LIMIT = 21.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.11 CRITERION= .1376
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4133
 HT FLOW CONVERGENCE VALUE= .1792 CRITERION= .1318
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3332E-01
 HT FLOW CONVERGENCE VALUE= .9929E-02 CRITERION= .1317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 822
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2759E-05 OSCILLATION LIMIT = 21.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.11 CRITERION= .1371
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4166
 HT FLOW CONVERGENCE VALUE= .1800 CRITERION= .1313
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3336E-01
 HT FLOW CONVERGENCE VALUE= .9862E-02 CRITERION= .1312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 824
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2751E-05 OSCILLATION LIMIT = 21.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.10 CRITERION= .1366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4143

HT FLOW CONVERGENCE VALUE= .1785 CRITERION= .1308
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3324E-01
 HT FLOW CONVERGENCE VALUE= .9820E-02 CRITERION= .1307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 826
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2757E-05 OSCILLATION LIMIT = 21.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.10 CRITERION= .1361
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4174
 HT FLOW CONVERGENCE VALUE= .1792 CRITERION= .1303
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3328E-01
 HT FLOW CONVERGENCE VALUE= .9754E-02 CRITERION= .1302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 828
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2748E-05 OSCILLATION LIMIT = 21.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.09 CRITERION= .1357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152
 HT FLOW CONVERGENCE VALUE= .1778 CRITERION= .1298
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3317E-01
 HT FLOW CONVERGENCE VALUE= .9718E-02 CRITERION= .1297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 830
 *** TIME = .105718E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2755E-05 OSCILLATION LIMIT = 21.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.09 CRITERION= .1352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4182
 HT FLOW CONVERGENCE VALUE= .1784 CRITERION= .1293
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3320E-01
 HT FLOW CONVERGENCE VALUE= .9646E-02 CRITERION= .1292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 832
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2746E-05 OSCILLATION LIMIT = 21.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.08 CRITERION= .1347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4162
 HT FLOW CONVERGENCE VALUE= .1771 CRITERION= .1288
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3310E-01
 HT FLOW CONVERGENCE VALUE= .9612E-02 CRITERION= .1287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 834
 *** TIME = .107296E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2752E-05 OSCILLATION LIMIT = 21.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.08 CRITERION= .1342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4190
 HT FLOW CONVERGENCE VALUE= .1776 CRITERION= .1283
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3312E-01
 HT FLOW CONVERGENCE VALUE= .9543E-02 CRITERION= .1283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 836
 *** TIME = .108085E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2743E-05 OSCILLATION LIMIT = 21.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .1337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4172
 HT FLOW CONVERGENCE VALUE= .1763 CRITERION= .1278
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3302E-01
 HT FLOW CONVERGENCE VALUE= .9505E-02 CRITERION= .1277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 838
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2750E-05 OSCILLATION LIMIT = 21.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .1333
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198
HT FLOW CONVERGENCE VALUE= .1767 CRITERION= .1273
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3304E-01
HT FLOW CONVERGENCE VALUE= .9431E-02 CRITERION= .1273 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 840
*** TIME = .109663E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2740E-05 OSCILLATION LIMIT = 21.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.05 CRITERION= .1328
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4181
HT FLOW CONVERGENCE VALUE= .1754 CRITERION= .1268
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3295E-01
HT FLOW CONVERGENCE VALUE= .9394E-02 CRITERION= .1268 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 842
*** TIME = .110452E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2747E-05 OSCILLATION LIMIT = 21.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.05 CRITERION= .1323
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4207
HT FLOW CONVERGENCE VALUE= .1758 CRITERION= .1263
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3296E-01
HT FLOW CONVERGENCE VALUE= .9330E-02 CRITERION= .1263 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 844
*** TIME = .111241E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2738E-05 OSCILLATION LIMIT = 21.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.04 CRITERION= .1318
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4191
HT FLOW CONVERGENCE VALUE= .1746 CRITERION= .1258
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3285E-01
HT FLOW CONVERGENCE VALUE= .9297E-02 CRITERION= .1258 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 846
*** TIME = .112029E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2746E-05 OSCILLATION LIMIT = 21.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.04 CRITERION= .1313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4215
HT FLOW CONVERGENCE VALUE= .1749 CRITERION= .1253
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3284E-01
HT FLOW CONVERGENCE VALUE= .9234E-02 CRITERION= .1253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 848
*** TIME = .112818E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2735E-05 OSCILLATION LIMIT = 21.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.03 CRITERION= .1309
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4200
HT FLOW CONVERGENCE VALUE= .1737 CRITERION= .1248
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3271E-01
HT FLOW CONVERGENCE VALUE= .9198E-02 CRITERION= .1248 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 850
*** TIME = .113607E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2743E-05 OSCILLATION LIMIT = 21.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 38.03 CRITERION= .1304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4223
 HT FLOW CONVERGENCE VALUE= .1740 CRITERION= .1243
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3262E-01
 HT FLOW CONVERGENCE VALUE= .9135E-02 CRITERION= .1243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 852
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2732E-05 OSCILLATION LIMIT = 21.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.02 CRITERION= .1299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210
 HT FLOW CONVERGENCE VALUE= .1729 CRITERION= .1238
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3244E-01
 HT FLOW CONVERGENCE VALUE= .9104E-02 CRITERION= .1238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 854
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2741E-05 OSCILLATION LIMIT = 21.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.01 CRITERION= .1294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4232
 HT FLOW CONVERGENCE VALUE= .1732 CRITERION= .1233
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3230E-01
 HT FLOW CONVERGENCE VALUE= .9052E-02 CRITERION= .1233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 856
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2730E-05 OSCILLATION LIMIT = 21.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.00 CRITERION= .1290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4219
 HT FLOW CONVERGENCE VALUE= .1722 CRITERION= .1228
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3216E-01
 HT FLOW CONVERGENCE VALUE= .9027E-02 CRITERION= .1228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 858
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2738E-05 OSCILLATION LIMIT = 21.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.00 CRITERION= .1285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4240
 HT FLOW CONVERGENCE VALUE= .1723 CRITERION= .1223
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3211E-01
 HT FLOW CONVERGENCE VALUE= .8959E-02 CRITERION= .1223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 860
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2727E-05 OSCILLATION LIMIT = 21.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.99 CRITERION= .1280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4229
 HT FLOW CONVERGENCE VALUE= .1713 CRITERION= .1218
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3203E-01
 HT FLOW CONVERGENCE VALUE= .8922E-02 CRITERION= .1218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 862
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2735E-05 OSCILLATION LIMIT = 21.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.99 CRITERION= .1275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4249
 HT FLOW CONVERGENCE VALUE= .1714 CRITERION= .1214

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3195E-01
 HT FLOW CONVERGENCE VALUE= .8863E-02 CRITERION= .1213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 864
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2723E-05 OSCILLATION LIMIT = 21.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.98 CRITERION= .1271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4239
 HT FLOW CONVERGENCE VALUE= .1705 CRITERION= .1208
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3180E-01
 HT FLOW CONVERGENCE VALUE= .8839E-02 CRITERION= .1208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 866
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2732E-05 OSCILLATION LIMIT = 21.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.98 CRITERION= .1266
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4257
 HT FLOW CONVERGENCE VALUE= .1706 CRITERION= .1204
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3165E-01
 HT FLOW CONVERGENCE VALUE= .8774E-02 CRITERION= .1203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 868
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2720E-05 OSCILLATION LIMIT = 21.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.97 CRITERION= .1261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4248
 HT FLOW CONVERGENCE VALUE= .1697 CRITERION= .1199
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3154E-01
 HT FLOW CONVERGENCE VALUE= .8738E-02 CRITERION= .1198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 870
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2729E-05 OSCILLATION LIMIT = 21.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.97 CRITERION= .1256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4266
 HT FLOW CONVERGENCE VALUE= .1697 CRITERION= .1194
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3147E-01
 HT FLOW CONVERGENCE VALUE= .8675E-02 CRITERION= .1193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 872
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2717E-05 OSCILLATION LIMIT = 21.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.96 CRITERION= .1252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4258
 HT FLOW CONVERGENCE VALUE= .1687 CRITERION= .1189
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3133E-01
 HT FLOW CONVERGENCE VALUE= .8644E-02 CRITERION= .1188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 874
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2726E-05 OSCILLATION LIMIT = 21.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .1247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4275
 HT FLOW CONVERGENCE VALUE= .1686 CRITERION= .1184
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3122E-01
 HT FLOW CONVERGENCE VALUE= .8584E-02 CRITERION= .1183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 876

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*** TIME = .123864E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2713E-05    OSCILLATION LIMIT = 21.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.94    CRITERION= .1242
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4268
    HT FLOW CONVERGENCE VALUE= .1676    CRITERION= .1179
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3110E-01
    HT FLOW CONVERGENCE VALUE= .8551E-02    CRITERION= .1178    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 878
*** TIME = .124653E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2722E-05    OSCILLATION LIMIT = 21.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.94    CRITERION= .1237
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4284
    HT FLOW CONVERGENCE VALUE= .1674    CRITERION= .1174
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3104E-01
    HT FLOW CONVERGENCE VALUE= .8485E-02    CRITERION= .1173    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 880
*** TIME = .125441E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2709E-05    OSCILLATION LIMIT = 21.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.93    CRITERION= .1233
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4278
    HT FLOW CONVERGENCE VALUE= .1664    CRITERION= .1169
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3098E-01
    HT FLOW CONVERGENCE VALUE= .8454E-02    CRITERION= .1168    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 882
*** TIME = .126230E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2719E-05    OSCILLATION LIMIT = 21.45

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:32:20 APR 09, 1995 CP= 73823.360
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

    HT FLOW CONVERGENCE VALUE= 32.28    CRITERION= .1212
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3541
    HT FLOW CONVERGENCE VALUE= .1377    CRITERION= .1165
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2596E-01
    HT FLOW CONVERGENCE VALUE= .7142E-02    CRITERION= .1164    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 884
*** TIME = .127019E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2651E-05    OSCILLATION LIMIT = 20.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .1208
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3509
    HT FLOW CONVERGENCE VALUE= .1363    CRITERION= .1160
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2585E-01
    HT FLOW CONVERGENCE VALUE= .7131E-02    CRITERION= .1160    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 886
*** TIME = .127808E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2649E-05    OSCILLATION LIMIT = 20.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .1204
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3546

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HT FLOW CONVERGENCE VALUE= .1373 CRITERION= .1157
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2592E-01
 HT FLOW CONVERGENCE VALUE= .7097E-02 CRITERION= .1156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 888
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2642E-05 OSCILLATION LIMIT = 20.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .1200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3517
 HT FLOW CONVERGENCE VALUE= .1358 CRITERION= .1152
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2580E-01
 HT FLOW CONVERGENCE VALUE= .7069E-02 CRITERION= .1152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 890
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2647E-05 OSCILLATION LIMIT = 20.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .1196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3552
 HT FLOW CONVERGENCE VALUE= .1367 CRITERION= .1148
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2586E-01
 HT FLOW CONVERGENCE VALUE= .7028E-02 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 892
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2639E-05 OSCILLATION LIMIT = 20.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.25 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3524
 HT FLOW CONVERGENCE VALUE= .1354 CRITERION= .1144
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2575E-01
 HT FLOW CONVERGENCE VALUE= .7010E-02 CRITERION= .1144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 894
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2644E-05 OSCILLATION LIMIT = 20.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.25 CRITERION= .1188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3557
 HT FLOW CONVERGENCE VALUE= .1362 CRITERION= .1140
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2580E-01
 HT FLOW CONVERGENCE VALUE= .6967E-02 CRITERION= .1140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 896
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2636E-05 OSCILLATION LIMIT = 20.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.24 CRITERION= .1184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3532
 HT FLOW CONVERGENCE VALUE= .1349 CRITERION= .1136
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2569E-01
 HT FLOW CONVERGENCE VALUE= .6947E-02 CRITERION= .1136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 898
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2642E-05 OSCILLATION LIMIT = 20.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.24 CRITERION= .1180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
 HT FLOW CONVERGENCE VALUE= .1356 CRITERION= .1132
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2572E-01
 HT FLOW CONVERGENCE VALUE= .6904E-02 CRITERION= .1132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 900
*** TIME = .133331E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2633E-05 OSCILLATION LIMIT = 20.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.23 CRITERION= .1176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3539
HT FLOW CONVERGENCE VALUE= .1344 CRITERION= .1128
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2562E-01
HT FLOW CONVERGENCE VALUE= .6882E-02 CRITERION= .1128 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 902
*** TIME = .134120E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2640E-05 OSCILLATION LIMIT = 20.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.23 CRITERION= .1172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3568
HT FLOW CONVERGENCE VALUE= .1350 CRITERION= .1124
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2565E-01
HT FLOW CONVERGENCE VALUE= .6839E-02 CRITERION= .1124 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 904
*** TIME = .134909E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2630E-05 OSCILLATION LIMIT = 20.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.22 CRITERION= .1169
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3547
HT FLOW CONVERGENCE VALUE= .1338 CRITERION= .1120
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2556E-01
HT FLOW CONVERGENCE VALUE= .6821E-02 CRITERION= .1120 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 906
*** TIME = .135698E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2637E-05 OSCILLATION LIMIT = 20.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.23 CRITERION= .1165
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3574
HT FLOW CONVERGENCE VALUE= .1344 CRITERION= .1116
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2557E-01
HT FLOW CONVERGENCE VALUE= .6779E-02 CRITERION= .1116 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 908
*** TIME = .136487E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2627E-05 OSCILLATION LIMIT = 20.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.22 CRITERION= .1161
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3554
HT FLOW CONVERGENCE VALUE= .1333 CRITERION= .1112
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2548E-01
HT FLOW CONVERGENCE VALUE= .6760E-02 CRITERION= .1111 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 910
*** TIME = .137276E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2636E-05 OSCILLATION LIMIT = 20.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.22 CRITERION= .1157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3580
HT FLOW CONVERGENCE VALUE= .1339 CRITERION= .1108
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2548E-01
HT FLOW CONVERGENCE VALUE= .6718E-02 CRITERION= .1107 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 912
*** TIME = .138065E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2625E-05 OSCILLATION LIMIT = 20.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.21 CRITERION= .1153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3562
 HT FLOW CONVERGENCE VALUE= .1329 CRITERION= .1104
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2540E-01
 HT FLOW CONVERGENCE VALUE= .6698E-02 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 914
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2633E-05 OSCILLATION LIMIT = 20.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.21 CRITERION= .1149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3586
 HT FLOW CONVERGENCE VALUE= .1334 CRITERION= .1100
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2540E-01
 HT FLOW CONVERGENCE VALUE= .6659E-02 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 916
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2623E-05 OSCILLATION LIMIT = 20.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.20 CRITERION= .1145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3569
 HT FLOW CONVERGENCE VALUE= .1325 CRITERION= .1096
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2532E-01
 HT FLOW CONVERGENCE VALUE= .6640E-02 CRITERION= .1095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 918
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2631E-05 OSCILLATION LIMIT = 20.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.20 CRITERION= .1141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3592
 HT FLOW CONVERGENCE VALUE= .1329 CRITERION= .1092
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2532E-01
 HT FLOW CONVERGENCE VALUE= .6596E-02 CRITERION= .1091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 920
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2620E-05 OSCILLATION LIMIT = 20.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.19 CRITERION= .1137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3576
 HT FLOW CONVERGENCE VALUE= .1317 CRITERION= .1088
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2525E-01
 HT FLOW CONVERGENCE VALUE= .6514E-02 CRITERION= .1087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 922
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2629E-05 OSCILLATION LIMIT = 20.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.19 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3598
 HT FLOW CONVERGENCE VALUE= .1311 CRITERION= .1084
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2523E-01
 HT FLOW CONVERGENCE VALUE= .6439E-02 CRITERION= .1083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 924
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2618E-05 OSCILLATION LIMIT = 20.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.18 CRITERION= .1130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3584
 HT FLOW CONVERGENCE VALUE= .1292 CRITERION= .1079

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2515E-01
 HT FLOW CONVERGENCE VALUE= .6335E-02 CRITERION= .1079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 926
 *** TIME = .143587E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2628E-05 OSCILLATION LIMIT = 20.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.18 CRITERION= .1126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3604
 HT FLOW CONVERGENCE VALUE= .1283 CRITERION= .1076
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2513E-01
 HT FLOW CONVERGENCE VALUE= .6180E-02 CRITERION= .1075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 928
 *** TIME = .144376E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2616E-05 OSCILLATION LIMIT = 20.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .1122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3591
 HT FLOW CONVERGENCE VALUE= .1267 CRITERION= .1071
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2506E-01
 HT FLOW CONVERGENCE VALUE= .6145E-02 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 930
 *** TIME = .145165E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2626E-05 OSCILLATION LIMIT = 20.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .1118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3611
 HT FLOW CONVERGENCE VALUE= .1267 CRITERION= .1067
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2505E-01
 HT FLOW CONVERGENCE VALUE= .6091E-02 CRITERION= .1067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 932
 *** TIME = .145954E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2613E-05 OSCILLATION LIMIT = 20.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .1114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3598
 HT FLOW CONVERGENCE VALUE= .1258 CRITERION= .1063
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2499E-01
 HT FLOW CONVERGENCE VALUE= .6071E-02 CRITERION= .1063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 934
 *** TIME = .146743E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2623E-05 OSCILLATION LIMIT = 20.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .1110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3617
 HT FLOW CONVERGENCE VALUE= .1260 CRITERION= .1059
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2497E-01
 HT FLOW CONVERGENCE VALUE= .6026E-02 CRITERION= .1059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 936
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2611E-05 OSCILLATION LIMIT = 20.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .1106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3606
 HT FLOW CONVERGENCE VALUE= .1251 CRITERION= .1055
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2491E-01
 HT FLOW CONVERGENCE VALUE= .5990E-02 CRITERION= .1055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 938

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*** TIME = .148321E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2621E-05    OSCILLATION LIMIT = 20.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.15    CRITERION= .1102
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3623
    HT FLOW CONVERGENCE VALUE= .1251    CRITERION= .1051
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2488E-01
    HT FLOW CONVERGENCE VALUE= .5946E-02    CRITERION= .1051    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 940
*** TIME = .149110E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2608E-05    OSCILLATION LIMIT = 20.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.15    CRITERION= .1098
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3613
    HT FLOW CONVERGENCE VALUE= .1244    CRITERION= .1047
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2483E-01
    HT FLOW CONVERGENCE VALUE= .5932E-02    CRITERION= .1047    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 942
*** TIME = .149899E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2619E-05    OSCILLATION LIMIT = 20.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.15    CRITERION= .1095
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3630
    HT FLOW CONVERGENCE VALUE= .1246    CRITERION= .1043
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2481E-01
    HT FLOW CONVERGENCE VALUE= .5890E-02    CRITERION= .1043    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 944
*** TIME = .150688E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2606E-05    OSCILLATION LIMIT = 20.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.14    CRITERION= .1091
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3621
    HT FLOW CONVERGENCE VALUE= .1239    CRITERION= .1039
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2475E-01
    HT FLOW CONVERGENCE VALUE= .5874E-02    CRITERION= .1039    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 946
*** TIME = .151476E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2616E-05    OSCILLATION LIMIT = 20.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.14    CRITERION= .1087
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3636
    HT FLOW CONVERGENCE VALUE= .1238    CRITERION= .1035
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2473E-01
    HT FLOW CONVERGENCE VALUE= .5821E-02    CRITERION= .1035    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 948
*** TIME = .152265E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2603E-05    OSCILLATION LIMIT = 20.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.13    CRITERION= .1083
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3628
    HT FLOW CONVERGENCE VALUE= .1227    CRITERION= .1031
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2469E-01
    HT FLOW CONVERGENCE VALUE= .5754E-02    CRITERION= .1030    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 950
*** TIME = .153054E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2614E-05    OSCILLATION LIMIT = 20.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.13 CRITERION= .1079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3643
 HT FLOW CONVERGENCE VALUE= .1220 CRITERION= .1027
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2465E-01
 HT FLOW CONVERGENCE VALUE= .5674E-02 CRITERION= .1026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 952
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2600E-05 OSCILLATION LIMIT = 20.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.12 CRITERION= .1075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3636
 HT FLOW CONVERGENCE VALUE= .1207 CRITERION= .1023
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2460E-01
 HT FLOW CONVERGENCE VALUE= .5603E-02 CRITERION= .1022 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 954
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2612E-05 OSCILLATION LIMIT = 20.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.12 CRITERION= .1071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3650
 HT FLOW CONVERGENCE VALUE= .1202 CRITERION= .1019
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2457E-01
 HT FLOW CONVERGENCE VALUE= .5551E-02 CRITERION= .1018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 956
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2597E-05 OSCILLATION LIMIT = 20.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.11 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3643
 HT FLOW CONVERGENCE VALUE= .1195 CRITERION= .1015
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2453E-01
 HT FLOW CONVERGENCE VALUE= .5538E-02 CRITERION= .1014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 958
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2609E-05 OSCILLATION LIMIT = 20.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.11 CRITERION= .1064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3656
 HT FLOW CONVERGENCE VALUE= .1193 CRITERION= .1011
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2449E-01
 HT FLOW CONVERGENCE VALUE= .5456E-02 CRITERION= .1010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 960
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2595E-05 OSCILLATION LIMIT = 20.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.10 CRITERION= .1060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3650
 HT FLOW CONVERGENCE VALUE= .1180 CRITERION= .1007
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2444E-01
 HT FLOW CONVERGENCE VALUE= .5399E-02 CRITERION= .1006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 962
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2606E-05 OSCILLATION LIMIT = 20.56

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:15:59 APR 09, 1995 CP= 79371.320

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.06 CRITERION= .1042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2907
HT FLOW CONVERGENCE VALUE= .9391E-01 CRITERION= .1003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 963
*** TIME = .158577E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2736E-05 OSCILLATION LIMIT = 21.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.05 CRITERION= .1039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2680
HT FLOW CONVERGENCE VALUE= .8902E-01 CRITERION= .1000 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 964
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2459E-05 OSCILLATION LIMIT = 19.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.06 CRITERION= .1036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2705
HT FLOW CONVERGENCE VALUE= .8923E-01 CRITERION= .9971E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 965
*** TIME = .160155E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2477E-05 OSCILLATION LIMIT = 19.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.05 CRITERION= .1033
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2686
HT FLOW CONVERGENCE VALUE= .8845E-01 CRITERION= .9939E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 966
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2482E-05 OSCILLATION LIMIT = 19.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.05 CRITERION= .1030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2710
HT FLOW CONVERGENCE VALUE= .8877E-01 CRITERION= .9908E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 967
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2475E-05 OSCILLATION LIMIT = 19.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.04 CRITERION= .1027
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2692
HT FLOW CONVERGENCE VALUE= .8787E-01 CRITERION= .9876E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 968
*** TIME = .162522E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2481E-05 OSCILLATION LIMIT = 19.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.04 CRITERION= .1024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2714
HT FLOW CONVERGENCE VALUE= .8809E-01 CRITERION= .9845E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 969
*** TIME = .163311E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2473E-05 OSCILLATION LIMIT = 19.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.04 CRITERION= .1021
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2698

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HT FLOW CONVERGENCE VALUE= .8732E-01 CRITERION= .9813E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 970
*** TIME = .164100E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2479E-05 OSCILLATION LIMIT = 19.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.04 CRITERION= .1018
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718
HT FLOW CONVERGENCE VALUE= .8764E-01 CRITERION= .9782E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 971
*** TIME = .164888E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2471E-05 OSCILLATION LIMIT = 19.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.03 CRITERION= .1015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2704
HT FLOW CONVERGENCE VALUE= .8696E-01 CRITERION= .9750E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 972
*** TIME = .165677E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2478E-05 OSCILLATION LIMIT = 19.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.03 CRITERION= .1011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2723
HT FLOW CONVERGENCE VALUE= .8718E-01 CRITERION= .9719E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 973
*** TIME = .166466E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2468E-05 OSCILLATION LIMIT = 19.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .1008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2709
HT FLOW CONVERGENCE VALUE= .8643E-01 CRITERION= .9687E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 974
*** TIME = .167255E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2476E-05 OSCILLATION LIMIT = 19.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .1005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2727
HT FLOW CONVERGENCE VALUE= .8660E-01 CRITERION= .9656E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 975
*** TIME = .168044E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2466E-05 OSCILLATION LIMIT = 19.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .1002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2715
HT FLOW CONVERGENCE VALUE= .8596E-01 CRITERION= .9624E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 976
*** TIME = .168833E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2475E-05 OSCILLATION LIMIT = 19.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .9993E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2732
HT FLOW CONVERGENCE VALUE= .8616E-01 CRITERION= .9593E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 977
*** TIME = .169622E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2464E-05 OSCILLATION LIMIT = 19.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 27.01 CRITERION= .9963E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721
 HT FLOW CONVERGENCE VALUE= .8552E-01 CRITERION= .9561E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 978
 *** TIME = .170411E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2473E-05 OSCILLATION LIMIT = 19.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.01 CRITERION= .9932E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2737
 HT FLOW CONVERGENCE VALUE= .8570E-01 CRITERION= .9530E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 979
 *** TIME = .171200E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2461E-05 OSCILLATION LIMIT = 19.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .9903E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2726
 HT FLOW CONVERGENCE VALUE= .8517E-01 CRITERION= .9498E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 980
 *** TIME = .171989E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2471E-05 OSCILLATION LIMIT = 19.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.01 CRITERION= .9872E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2741
 HT FLOW CONVERGENCE VALUE= .8533E-01 CRITERION= .9467E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 981
 *** TIME = .172778E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2459E-05 OSCILLATION LIMIT = 19.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .9842E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2732
 HT FLOW CONVERGENCE VALUE= .8483E-01 CRITERION= .9435E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 982
 *** TIME = .173567E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2469E-05 OSCILLATION LIMIT = 19.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .9811E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2746
 HT FLOW CONVERGENCE VALUE= .8498E-01 CRITERION= .9404E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 983
 *** TIME = .174356E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2457E-05 OSCILLATION LIMIT = 19.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .9781E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2737
 HT FLOW CONVERGENCE VALUE= .8450E-01 CRITERION= .9372E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 984
 *** TIME = .175145E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2467E-05 OSCILLATION LIMIT = 19.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .9750E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2751
 HT FLOW CONVERGENCE VALUE= .8459E-01 CRITERION= .9341E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 985
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2454E-05 OSCILLATION LIMIT = 19.36

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .9721E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2743
 HT FLOW CONVERGENCE VALUE= .8414E-01 CRITERION= .9309E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 986
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2465E-05 OSCILLATION LIMIT = 19.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .9690E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2756
 HT FLOW CONVERGENCE VALUE= .8422E-01 CRITERION= .9279E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 987
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2452E-05 OSCILLATION LIMIT = 19.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.98 CRITERION= .9660E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2749
 HT FLOW CONVERGENCE VALUE= .8375E-01 CRITERION= .9246E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 988
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2464E-05 OSCILLATION LIMIT = 19.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.98 CRITERION= .9629E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2760
 HT FLOW CONVERGENCE VALUE= .8378E-01 CRITERION= .9216E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 989
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2449E-05 OSCILLATION LIMIT = 19.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.97 CRITERION= .9599E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2754
 HT FLOW CONVERGENCE VALUE= .8334E-01 CRITERION= .9183E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 990
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2462E-05 OSCILLATION LIMIT = 19.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.97 CRITERION= .9569E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2765
 HT FLOW CONVERGENCE VALUE= .8340E-01 CRITERION= .9153E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 991
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2447E-05 OSCILLATION LIMIT = 19.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.97 CRITERION= .9539E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2760
 HT FLOW CONVERGENCE VALUE= .8299E-01 CRITERION= .9120E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 992
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2460E-05 OSCILLATION LIMIT = 19.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.97 CRITERION= .9508E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2770
 HT FLOW CONVERGENCE VALUE= .8295E-01 CRITERION= .9090E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 993

*** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2445E-05 OSCILLATION LIMIT = 19.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.96 CRITERION= .9478E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2765
 HT FLOW CONVERGENCE VALUE= .8252E-01 CRITERION= .9058E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 994
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2458E-05 OSCILLATION LIMIT = 19.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.96 CRITERION= .9448E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2775
 HT FLOW CONVERGENCE VALUE= .8236E-01 CRITERION= .9027E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 995
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2443E-05 OSCILLATION LIMIT = 19.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.95 CRITERION= .9418E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2771
 HT FLOW CONVERGENCE VALUE= .8183E-01 CRITERION= .8995E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 996
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2456E-05 OSCILLATION LIMIT = 19.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.96 CRITERION= .9387E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2781
 HT FLOW CONVERGENCE VALUE= .8179E-01 CRITERION= .8964E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 997
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2440E-05 OSCILLATION LIMIT = 19.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.95 CRITERION= .9357E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2776
 HT FLOW CONVERGENCE VALUE= .8141E-01 CRITERION= .8932E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 998
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2454E-05 OSCILLATION LIMIT = 19.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.95 CRITERION= .9327E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2786
 HT FLOW CONVERGENCE VALUE= .8136E-01 CRITERION= .8901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 999
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2438E-05 OSCILLATION LIMIT = 19.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.94 CRITERION= .9297E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2782
 HT FLOW CONVERGENCE VALUE= .8097E-01 CRITERION= .8869E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 1000
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2452E-05 OSCILLATION LIMIT = 19.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.94 CRITERION= .9266E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2791
 HT FLOW CONVERGENCE VALUE= .8092E-01 CRITERION= .8838E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 1001
*** TIME = .188557E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2436E-05 OSCILLATION LIMIT = 19.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.93 CRITERION= .9237E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2788
HT FLOW CONVERGENCE VALUE= .8057E-01 CRITERION= .8806E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 1002
*** TIME = .189346E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2450E-05 OSCILLATION LIMIT = 19.33
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:24:44 APR 09, 1995 CP= 83030.300
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 23.03 CRITERION= .9100E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2255
HT FLOW CONVERGENCE VALUE= .6570E-01 CRITERION= .8780E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 1003
*** TIME = .190135E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2305E-05 OSCILLATION LIMIT = 18.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 23.03 CRITERION= .9075E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2262
HT FLOW CONVERGENCE VALUE= .6527E-01 CRITERION= .8755E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 1004
*** TIME = .190923E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2362E-05 OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 23.03 CRITERION= .9050E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2290
HT FLOW CONVERGENCE VALUE= .6572E-01 CRITERION= .8730E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 1005
*** TIME = .191712E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2355E-05 OSCILLATION LIMIT = 18.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 23.02 CRITERION= .9026E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2266
HT FLOW CONVERGENCE VALUE= .6493E-01 CRITERION= .8704E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 1006
*** TIME = .192501E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2357E-05 OSCILLATION LIMIT = 18.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 23.02 CRITERION= .9001E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2292
HT FLOW CONVERGENCE VALUE= .6538E-01 CRITERION= .8679E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 1007
*** TIME = .193290E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2352E-05 OSCILLATION LIMIT = 18.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 23.02 CRITERION= .8977E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2271
HT FLOW CONVERGENCE VALUE= .6460E-01 CRITERION= .8653E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 1008
*** TIME = .194079E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2357E-05 OSCILLATION LIMIT = 18.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.02 CRITERION= .8952E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2295
HT FLOW CONVERGENCE VALUE= .6497E-01 CRITERION= .8629E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 1009
*** TIME = .194868E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2350E-05 OSCILLATION LIMIT = 18.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.01 CRITERION= .8928E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2275
HT FLOW CONVERGENCE VALUE= .6421E-01 CRITERION= .8603E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 1010
*** TIME = .195657E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2356E-05 OSCILLATION LIMIT = 18.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.01 CRITERION= .8903E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2298
HT FLOW CONVERGENCE VALUE= .6452E-01 CRITERION= .8578E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 1011
*** TIME = .196446E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2348E-05 OSCILLATION LIMIT = 18.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.01 CRITERION= .8879E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2280
HT FLOW CONVERGENCE VALUE= .6388E-01 CRITERION= .8552E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 1012
*** TIME = .197235E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2355E-05 OSCILLATION LIMIT = 18.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.01 CRITERION= .8854E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2301
HT FLOW CONVERGENCE VALUE= .6419E-01 CRITERION= .8527E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 1013
*** TIME = .198024E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2346E-05 OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.00 CRITERION= .8830E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2284
HT FLOW CONVERGENCE VALUE= .6357E-01 CRITERION= .8501E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 1014
*** TIME = .198813E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2354E-05 OSCILLATION LIMIT = 18.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.01 CRITERION= .8805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2304
HT FLOW CONVERGENCE VALUE= .6380E-01 CRITERION= .8477E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 1015
*** TIME = .199602E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-05 OSCILLATION LIMIT = 18.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 23.00 CRITERION= .8781E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2288
 HT FLOW CONVERGENCE VALUE= .6321E-01 CRITERION= .8451E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 1016
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2353E-05 OSCILLATION LIMIT = 18.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.00 CRITERION= .8756E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2307
 HT FLOW CONVERGENCE VALUE= .6341E-01 CRITERION= .8426E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 1017
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2342E-05 OSCILLATION LIMIT = 18.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.99 CRITERION= .8732E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2293
 HT FLOW CONVERGENCE VALUE= .6287E-01 CRITERION= .8400E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 1018
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2352E-05 OSCILLATION LIMIT = 18.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.00 CRITERION= .8707E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2310
 HT FLOW CONVERGENCE VALUE= .6310E-01 CRITERION= .8375E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 1019
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2340E-05 OSCILLATION LIMIT = 18.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.99 CRITERION= .8683E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2297
 HT FLOW CONVERGENCE VALUE= .6260E-01 CRITERION= .8349E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 1020
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2351E-05 OSCILLATION LIMIT = 18.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.99 CRITERION= .8658E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2313
 HT FLOW CONVERGENCE VALUE= .6281E-01 CRITERION= .8325E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 1021
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2338E-05 OSCILLATION LIMIT = 18.45
 *** 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= -.2301
 HT FLOW CONVERGENCE VALUE= .6234E-01 CRITERION= .8299E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 1022
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2350E-05 OSCILLATION LIMIT = 18.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.99 CRITERION= .8609E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2317
 HT FLOW CONVERGENCE VALUE= .6256E-01 CRITERION= .8274E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 1023
 *** TIME = .205913E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2337E-05  OSCILLATION LIMIT = 18.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8585E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2306
  HT FLOW CONVERGENCE VALUE= .6216E-01 CRITERION= .8248E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 1024
*** TIME = .206702E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2349E-05  OSCILLATION LIMIT = 18.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8560E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2320
  HT FLOW CONVERGENCE VALUE= .6235E-01 CRITERION= .8223E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 1025
*** TIME = .207491E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2335E-05  OSCILLATION LIMIT = 18.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8536E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2310
  HT FLOW CONVERGENCE VALUE= .6191E-01 CRITERION= .8197E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 1026
*** TIME = .208280E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2348E-05  OSCILLATION LIMIT = 18.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8511E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2323
  HT FLOW CONVERGENCE VALUE= .6202E-01 CRITERION= .8173E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 1027
*** TIME = .209069E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2333E-05  OSCILLATION LIMIT = 18.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.97  CRITERION= .8487E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2314
  HT FLOW CONVERGENCE VALUE= .6163E-01 CRITERION= .8147E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 1028
*** TIME = .209858E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2347E-05  OSCILLATION LIMIT = 18.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8462E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2327
  HT FLOW CONVERGENCE VALUE= .6172E-01 CRITERION= .8122E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 1029
*** TIME = .210647E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2332E-05  OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.97  CRITERION= .8439E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2319
  HT FLOW CONVERGENCE VALUE= .6128E-01 CRITERION= .8096E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 1030
*** TIME = .211436E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2346E-05  OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.98  CRITERION= .8414E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2330
  HT FLOW CONVERGENCE VALUE= .6130E-01 CRITERION= .8072E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 1031
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2330E-05 OSCILLATION LIMIT = 18.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8390E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2323
HT FLOW CONVERGENCE VALUE= .6090E-01 CRITERION= .8046E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 1032
*** TIME = .213014E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2345E-05 OSCILLATION LIMIT = 18.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8365E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2334
HT FLOW CONVERGENCE VALUE= .6092E-01 CRITERION= .8021E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 1033
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2329E-05 OSCILLATION LIMIT = 18.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8341E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2327
HT FLOW CONVERGENCE VALUE= .6052E-01 CRITERION= .7995E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 1034
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2345E-05 OSCILLATION LIMIT = 18.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8316E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2337
HT FLOW CONVERGENCE VALUE= .6048E-01 CRITERION= .7970E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 1035
*** TIME = .215381E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2328E-05 OSCILLATION LIMIT = 18.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8292E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2331
HT FLOW CONVERGENCE VALUE= .6012E-01 CRITERION= .7944E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 1036
*** TIME = .216170E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-05 OSCILLATION LIMIT = 18.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8268E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2341
HT FLOW CONVERGENCE VALUE= .6014E-01 CRITERION= .7920E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 1037
*** TIME = .216959E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2327E-05 OSCILLATION LIMIT = 18.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.96 CRITERION= .8244E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2336
HT FLOW CONVERGENCE VALUE= .5981E-01 CRITERION= .7894E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 1038
*** TIME = .217747E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2343E-05 OSCILLATION LIMIT = 18.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8219E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2345

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HT FLOW CONVERGENCE VALUE= .5980E-01 CRITERION= .7869E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 1039
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-05 OSCILLATION LIMIT = 18.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.96 CRITERION= .8195E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2340
 HT FLOW CONVERGENCE VALUE= .5948E-01 CRITERION= .7843E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 1040
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2341E-05 OSCILLATION LIMIT = 18.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.97 CRITERION= .8170E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2348
 HT FLOW CONVERGENCE VALUE= .5951E-01 CRITERION= .7819E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 1041
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-05 OSCILLATION LIMIT = 18.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.96 CRITERION= .8147E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2344
 HT FLOW CONVERGENCE VALUE= .5926E-01 CRITERION= .7793E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 1042
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2340E-05 OSCILLATION LIMIT = 18.46

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:25:56 APR 09, 1995 CP= 86663.280
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8137E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1995
 HT FLOW CONVERGENCE VALUE= .5183E-01 CRITERION= .7772E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 1043
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1953E-05 OSCILLATION LIMIT = 15.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8118E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1986
 HT FLOW CONVERGENCE VALUE= .5120E-01 CRITERION= .7751E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 1044
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2009E-05 OSCILLATION LIMIT = 15.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8098E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2007
 HT FLOW CONVERGENCE VALUE= .5153E-01 CRITERION= .7731E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 1045
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2002E-05 OSCILLATION LIMIT = 15.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8078E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1990
 HT FLOW CONVERGENCE VALUE= .5107E-01 CRITERION= .7710E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 1046
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2008E-05 OSCILLATION LIMIT = 15.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8058E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2009
 HT FLOW CONVERGENCE VALUE= .5134E-01 CRITERION= .7690E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 1047
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2000E-05 OSCILLATION LIMIT = 15.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8039E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1994
 HT FLOW CONVERGENCE VALUE= .5085E-01 CRITERION= .7669E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 1048
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2008E-05 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8019E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2011
 HT FLOW CONVERGENCE VALUE= .5105E-01 CRITERION= .7649E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 1049
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1999E-05 OSCILLATION LIMIT = 15.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .8000E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1997
 HT FLOW CONVERGENCE VALUE= .5058E-01 CRITERION= .7628E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 1050
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2008E-05 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7980E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2013
 HT FLOW CONVERGENCE VALUE= .5076E-01 CRITERION= .7608E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 1051
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1997E-05 OSCILLATION LIMIT = 15.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7961E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2000
 HT FLOW CONVERGENCE VALUE= .5031E-01 CRITERION= .7587E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 1052
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2008E-05 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7941E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2016
 HT FLOW CONVERGENCE VALUE= .5047E-01 CRITERION= .7567E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 1053
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1996E-05 OSCILLATION LIMIT = 15.75

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7922E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2004
  HT FLOW CONVERGENCE VALUE= .5007E-01 CRITERION= .7546E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 1054
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2007E-05 OSCILLATION LIMIT = 15.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7901E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2018
  HT FLOW CONVERGENCE VALUE= .5016E-01 CRITERION= .7526E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 1055
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1995E-05 OSCILLATION LIMIT = 15.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7882E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2007
  HT FLOW CONVERGENCE VALUE= .4977E-01 CRITERION= .7505E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 1056
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2006E-05 OSCILLATION LIMIT = 15.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7862E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2020
  HT FLOW CONVERGENCE VALUE= .4988E-01 CRITERION= .7485E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 1057
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1993E-05 OSCILLATION LIMIT = 15.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7843E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2010
  HT FLOW CONVERGENCE VALUE= .4952E-01 CRITERION= .7464E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 1058
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2006E-05 OSCILLATION LIMIT = 15.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7823E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2023
  HT FLOW CONVERGENCE VALUE= .4962E-01 CRITERION= .7444E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 1059
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1992E-05 OSCILLATION LIMIT = 15.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7804E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2014
  HT FLOW CONVERGENCE VALUE= .4933E-01 CRITERION= .7423E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 1060
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2005E-05 OSCILLATION LIMIT = 15.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 23.50    CRITERION= .7784E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2025
  HT FLOW CONVERGENCE VALUE= .4945E-01 CRITERION= .7403E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 1061

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*** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1991E-05 OSCILLATION LIMIT = 15.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7765E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2017
 HT FLOW CONVERGENCE VALUE= .4918E-01 CRITERION= .7382E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 1062
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2005E-05 OSCILLATION LIMIT = 15.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7745E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2028
 HT FLOW CONVERGENCE VALUE= .4916E-01 CRITERION= .7362E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 1063
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1989E-05 OSCILLATION LIMIT = 15.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7726E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2020
 HT FLOW CONVERGENCE VALUE= .4885E-01 CRITERION= .7341E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 1064
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2004E-05 OSCILLATION LIMIT = 15.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7706E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2030
 HT FLOW CONVERGENCE VALUE= .4870E-01 CRITERION= .7321E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 1065
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1988E-05 OSCILLATION LIMIT = 15.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7687E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2023
 HT FLOW CONVERGENCE VALUE= .4820E-01 CRITERION= .7300E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 1066
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2003E-05 OSCILLATION LIMIT = 15.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7667E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2033
 HT FLOW CONVERGENCE VALUE= .4796E-01 CRITERION= .7280E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 1067
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1986E-05 OSCILLATION LIMIT = 15.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7648E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2027
 HT FLOW CONVERGENCE VALUE= .4741E-01 CRITERION= .7258E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 1068
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2002E-05 OSCILLATION LIMIT = 15.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7628E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2035
 HT FLOW CONVERGENCE VALUE= .4731E-01 CRITERION= .7239E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 1069
*** TIME = .242205E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1984E-05 OSCILLATION LIMIT = 15.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7609E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2030
HT FLOW CONVERGENCE VALUE= .4704E-01 CRITERION= .7217E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 1070
*** TIME = .242994E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2000E-05 OSCILLATION LIMIT = 15.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7589E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2038
HT FLOW CONVERGENCE VALUE= .4734E-01 CRITERION= .7198E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 1071
*** TIME = .243782E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1983E-05 OSCILLATION LIMIT = 15.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7570E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2033
HT FLOW CONVERGENCE VALUE= .4726E-01 CRITERION= .7176E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 1072
*** TIME = .244571E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1999E-05 OSCILLATION LIMIT = 15.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7550E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2041
HT FLOW CONVERGENCE VALUE= .4751E-01 CRITERION= .7157E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 1073
*** TIME = .245360E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1981E-05 OSCILLATION LIMIT = 15.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7531E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2036
HT FLOW CONVERGENCE VALUE= .4751E-01 CRITERION= .7135E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 1074
*** TIME = .246149E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1998E-05 OSCILLATION LIMIT = 15.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7511E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2043
HT FLOW CONVERGENCE VALUE= .4765E-01 CRITERION= .7116E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 1075
*** TIME = .246938E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1979E-05 OSCILLATION LIMIT = 15.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7492E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2039
HT FLOW CONVERGENCE VALUE= .4749E-01 CRITERION= .7094E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 1076
*** TIME = .247727E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1996E-05 OSCILLATION LIMIT = 15.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7472E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2046
 HT FLOW CONVERGENCE VALUE= .4750E-01 CRITERION= .7074E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 1077
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1978E-05 OSCILLATION LIMIT = 15.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7453E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2042
 HT FLOW CONVERGENCE VALUE= .4730E-01 CRITERION= .7033E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 1078
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1995E-05 OSCILLATION LIMIT = 15.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7433E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2049
 HT FLOW CONVERGENCE VALUE= .4725E-01 CRITERION= .7033E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 1079
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1976E-05 OSCILLATION LIMIT = 15.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7414E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2045
 HT FLOW CONVERGENCE VALUE= .4704E-01 CRITERION= .7012E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1080
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1994E-05 OSCILLATION LIMIT = 15.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7394E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2051
 HT FLOW CONVERGENCE VALUE= .4698E-01 CRITERION= .6992E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1081
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1975E-05 OSCILLATION LIMIT = 15.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .7375E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2048
 HT FLOW CONVERGENCE VALUE= .4657E-01 CRITERION= .6971E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1082
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1993E-05 OSCILLATION LIMIT = 15.73

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:27:11 APR 09, 1995 CP= 90300.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7191E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1568
 HT FLOW CONVERGENCE VALUE= .3556E-01 CRITERION= .6955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1083
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1980E-05 OSCILLATION LIMIT = 15.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.71 CRITERION= .7176E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1577
 HT FLOW CONVERGENCE VALUE= .3548E-01 CRITERION= .6939E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1084
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2036E-05 OSCILLATION LIMIT = 16.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7160E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
 HT FLOW CONVERGENCE VALUE= .3593E-01 CRITERION= .6923E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1085
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2027E-05 OSCILLATION LIMIT = 15.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7145E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1579
 HT FLOW CONVERGENCE VALUE= .3541E-01 CRITERION= .6907E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1086
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2031E-05 OSCILLATION LIMIT = 16.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7129E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
 HT FLOW CONVERGENCE VALUE= .3584E-01 CRITERION= .6891E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1087
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2025E-05 OSCILLATION LIMIT = 15.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7114E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1582
 HT FLOW CONVERGENCE VALUE= .3537E-01 CRITERION= .6875E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1088
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2032E-05 OSCILLATION LIMIT = 16.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7098E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .3576E-01 CRITERION= .6859E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1089
 *** TIME = .257983E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2023E-05 OSCILLATION LIMIT = 15.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7083E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .3540E-01 CRITERION= .6843E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1090
 *** TIME = .258772E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2032E-05 OSCILLATION LIMIT = 16.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .7067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1604
 HT FLOW CONVERGENCE VALUE= .3574E-01 CRITERION= .6827E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1091
 *** TIME = .259561E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2022E-05  OSCILLATION LIMIT = 15.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .7052E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1587
  HT FLOW CONVERGENCE VALUE= .3533E-01 CRITERION= .6811E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1092
*** TIME = .260350E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2032E-05  OSCILLATION LIMIT = 16.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .7036E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
  HT FLOW CONVERGENCE VALUE= .3558E-01 CRITERION= .6795E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1093
*** TIME = .261139E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2020E-05  OSCILLATION LIMIT = 15.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .7021E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1589
  HT FLOW CONVERGENCE VALUE= .3520E-01 CRITERION= .6779E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1094
*** TIME = .261928E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2032E-05  OSCILLATION LIMIT = 16.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .7005E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
  HT FLOW CONVERGENCE VALUE= .3558E-01 CRITERION= .6763E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1095
*** TIME = .262717E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2019E-05  OSCILLATION LIMIT = 15.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .6990E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1592
  HT FLOW CONVERGENCE VALUE= .3525E-01 CRITERION= .6747E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1096
*** TIME = .263506E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2033E-05  OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .6974E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1608
  HT FLOW CONVERGENCE VALUE= .3548E-01 CRITERION= .6731E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1097
*** TIME = .264295E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2018E-05  OSCILLATION LIMIT = 15.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .6959E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
  HT FLOW CONVERGENCE VALUE= .3512E-01 CRITERION= .6715E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1098
*** TIME = .265084E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2033E-05  OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.72  CRITERION= .6943E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1609
  HT FLOW CONVERGENCE VALUE= .3531E-01 CRITERION= .6699E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1099
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2017E-05 OSCILLATION LIMIT = 15.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6928E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1596
 HT FLOW CONVERGENCE VALUE= .3498E-01 CRITERION= .6683E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1100
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2033E-05 OSCILLATION LIMIT = 16.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6912E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1610
 HT FLOW CONVERGENCE VALUE= .3517E-01 CRITERION= .6667E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1101
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2016E-05 OSCILLATION LIMIT = 15.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6897E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
 HT FLOW CONVERGENCE VALUE= .3488E-01 CRITERION= .6651E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1102
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2033E-05 OSCILLATION LIMIT = 16.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6881E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1611
 HT FLOW CONVERGENCE VALUE= .3504E-01 CRITERION= .6635E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1103
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = 15.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6867E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
 HT FLOW CONVERGENCE VALUE= .3478E-01 CRITERION= .6619E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1104
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2033E-05 OSCILLATION LIMIT = 16.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6850E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1613
 HT FLOW CONVERGENCE VALUE= .3491E-01 CRITERION= .6603E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1105
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = 15.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6836E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .3462E-01 CRITERION= .6587E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1106
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2033E-05 OSCILLATION LIMIT = 16.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6820E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1614

HT FLOW CONVERGENCE VALUE= .3476E-01 CRITERION= .6571E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1107
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2014E-05 OSCILLATION LIMIT = 15.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6805E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .3452E-01 CRITERION= .6555E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1108
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6789E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1616
 HT FLOW CONVERGENCE VALUE= .3467E-01 CRITERION= .6539E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1109
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2014E-05 OSCILLATION LIMIT = 15.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6774E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1608
 HT FLOW CONVERGENCE VALUE= .3445E-01 CRITERION= .6523E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1110
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6758E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1618
 HT FLOW CONVERGENCE VALUE= .3453E-01 CRITERION= .6507E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1111
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2013E-05 OSCILLATION LIMIT = 15.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6743E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1611
 HT FLOW CONVERGENCE VALUE= .3431E-01 CRITERION= .6491E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1112
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6727E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1620
 HT FLOW CONVERGENCE VALUE= .3439E-01 CRITERION= .6475E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1113
 *** TIME = .276918E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2013E-05 OSCILLATION LIMIT = 15.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6712E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1613
 HT FLOW CONVERGENCE VALUE= .3419E-01 CRITERION= .6459E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1114
 *** TIME = .277707E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6696E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1622
 HT FLOW CONVERGENCE VALUE= .3426E-01 CRITERION= .6443E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1115
 *** TIME = .278496E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2012E-05 OSCILLATION LIMIT = 15.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6681E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1616
 HT FLOW CONVERGENCE VALUE= .3408E-01 CRITERION= .6427E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1116
 *** TIME = .279285E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6665E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1623
 HT FLOW CONVERGENCE VALUE= .3414E-01 CRITERION= .6412E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1117
 *** TIME = .280074E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2012E-05 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6650E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1618
 HT FLOW CONVERGENCE VALUE= .3396E-01 CRITERION= .6395E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1118
 *** TIME = .280863E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6634E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1625
 HT FLOW CONVERGENCE VALUE= .3402E-01 CRITERION= .6380E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1119
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2011E-05 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6620E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1621
 HT FLOW CONVERGENCE VALUE= .3385E-01 CRITERION= .6363E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1120
 *** TIME = .282441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6604E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1627
 HT FLOW CONVERGENCE VALUE= .3390E-01 CRITERION= .6348E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1121
 *** TIME = .283229E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2011E-05 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.72 CRITERION= .6589E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1623
 HT FLOW CONVERGENCE VALUE= .3374E-01 CRITERION= .6331E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1122
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2034E-05 OSCILLATION LIMIT = 16.05

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
1429.42469 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 92.923 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 93.292 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 94.113 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 93974.010 TIME= 23:29:53
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 23:29:53 APR 09, 1995 CP= 93974.010
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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	4
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= 15.20 CRITERION= .6509E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1436
 HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .6317E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1123
 *** TIME = .284807E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2051E-05 OSCILLATION LIMIT = 16.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6496E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1437
 HT FLOW CONVERGENCE VALUE= .2961E-01 CRITERION= .6302E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1124
 *** TIME = .285596E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2090E-05 OSCILLATION LIMIT = 16.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6481E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1450
 HT FLOW CONVERGENCE VALUE= .2982E-01 CRITERION= .6288E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1125
 *** TIME = .286385E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2068E-05 OSCILLATION LIMIT = 16.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6468E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1439
 HT FLOW CONVERGENCE VALUE= .2954E-01 CRITERION= .6273E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1126
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6454E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1452
 HT FLOW CONVERGENCE VALUE= .2971E-01 CRITERION= .6260E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1127
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2067E-05 OSCILLATION LIMIT = 16.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6440E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1441
 HT FLOW CONVERGENCE VALUE= .2945E-01 CRITERION= .6245E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1128
 *** TIME = .288752E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6426E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1453
 HT FLOW CONVERGENCE VALUE= .2961E-01 CRITERION= .6231E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1129
*** TIME = .289541E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2066E-05 OSCILLATION LIMIT = 16.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6412E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1443
HT FLOW CONVERGENCE VALUE= .2937E-01 CRITERION= .6216E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1130
*** TIME = .290330E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6398E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1454
HT FLOW CONVERGENCE VALUE= .2951E-01 CRITERION= .6203E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1131
*** TIME = .291119E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2066E-05 OSCILLATION LIMIT = 16.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6385E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1445
HT FLOW CONVERGENCE VALUE= .2929E-01 CRITERION= .6188E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1132
*** TIME = .291908E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6370E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1455
HT FLOW CONVERGENCE VALUE= .2941E-01 CRITERION= .6174E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1133
*** TIME = .292697E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2065E-05 OSCILLATION LIMIT = 16.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6357E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1447
HT FLOW CONVERGENCE VALUE= .2920E-01 CRITERION= .6159E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1134
*** TIME = .293486E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6342E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1457
HT FLOW CONVERGENCE VALUE= .2931E-01 CRITERION= .6145E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1135
*** TIME = .294275E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2064E-05 OSCILLATION LIMIT = 16.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6329E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1449
HT FLOW CONVERGENCE VALUE= .2911E-01 CRITERION= .6130E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1136
*** TIME = .295064E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6315E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1458

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HT FLOW CONVERGENCE VALUE= .2921E-01 CRITERION= .6117E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1137
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2063E-05 OSCILLATION LIMIT = 16.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6301E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1451
 HT FLOW CONVERGENCE VALUE= .2903E-01 CRITERION= .6102E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1138
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6287E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1459
 HT FLOW CONVERGENCE VALUE= .2911E-01 CRITERION= .6088E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1139
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2062E-05 OSCILLATION LIMIT = 16.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6274E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1453
 HT FLOW CONVERGENCE VALUE= .2894E-01 CRITERION= .6073E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1140
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6259E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1461
 HT FLOW CONVERGENCE VALUE= .2901E-01 CRITERION= .6060E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1141
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2062E-05 OSCILLATION LIMIT = 16.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6246E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1455
 HT FLOW CONVERGENCE VALUE= .2885E-01 CRITERION= .6045E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1142
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6231E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1462
 HT FLOW CONVERGENCE VALUE= .2892E-01 CRITERION= .6031E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1143
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2061E-05 OSCILLATION LIMIT = 16.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6218E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1457
 HT FLOW CONVERGENCE VALUE= .2876E-01 CRITERION= .6016E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1144
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6204E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1463
 HT FLOW CONVERGENCE VALUE= .2882E-01 CRITERION= .6002E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1145
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2060E-05 OSCILLATION LIMIT = 16.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6190E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1459
 HT FLOW CONVERGENCE VALUE= .2867E-01 CRITERION= .5987E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1146
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6176E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1465
 HT FLOW CONVERGENCE VALUE= .2872E-01 CRITERION= .5974E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1147
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2059E-05 OSCILLATION LIMIT = 16.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6163E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1460
 HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .5959E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1148
 *** TIME = .304531E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2086E-05 OSCILLATION LIMIT = 16.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6148E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1466
 HT FLOW CONVERGENCE VALUE= .2862E-01 CRITERION= .5945E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1149
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2059E-05 OSCILLATION LIMIT = 16.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6135E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1462
 HT FLOW CONVERGENCE VALUE= .2849E-01 CRITERION= .5930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1150
 *** TIME = .306109E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2086E-05 OSCILLATION LIMIT = 16.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6120E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1467
 HT FLOW CONVERGENCE VALUE= .2852E-01 CRITERION= .5916E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1151
 *** TIME = .306898E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2058E-05 OSCILLATION LIMIT = 16.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6107E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1464
 HT FLOW CONVERGENCE VALUE= .2840E-01 CRITERION= .5901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1152
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2086E-05 OSCILLATION LIMIT = 16.46

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6093E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
HT FLOW CONVERGENCE VALUE= .2842E-01 CRITERION= .5888E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1153
*** TIME = .308476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2058E-05 OSCILLATION LIMIT = 16.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6079E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1466
HT FLOW CONVERGENCE VALUE= .2830E-01 CRITERION= .5873E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1154
*** TIME = .309264E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2085E-05 OSCILLATION LIMIT = 16.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6065E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1470
HT FLOW CONVERGENCE VALUE= .2832E-01 CRITERION= .5859E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1155
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2057E-05 OSCILLATION LIMIT = 16.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6052E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1468
HT FLOW CONVERGENCE VALUE= .2821E-01 CRITERION= .5844E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1156
*** TIME = .310842E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2085E-05 OSCILLATION LIMIT = 16.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6037E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1472
HT FLOW CONVERGENCE VALUE= .2823E-01 CRITERION= .5831E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1157
*** TIME = .311631E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2056E-05 OSCILLATION LIMIT = 16.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .6024E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1469
HT FLOW CONVERGENCE VALUE= .2812E-01 CRITERION= .5816E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1158
*** TIME = .312420E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2085E-05 OSCILLATION LIMIT = 16.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .6010E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
HT FLOW CONVERGENCE VALUE= .2813E-01 CRITERION= .5802E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1159
*** TIME = .313209E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2056E-05 OSCILLATION LIMIT = 16.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .5996E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1471
HT FLOW CONVERGENCE VALUE= .2802E-01 CRITERION= .5787E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1160

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*** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2084E-05 OSCILLATION LIMIT = 16.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.20 CRITERION= .5982E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1475
 HT FLOW CONVERGENCE VALUE= .2803E-01 CRITERION= .5773E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1161
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2055E-05 OSCILLATION LIMIT = 16.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.19 CRITERION= .5969E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1473
 HT FLOW CONVERGENCE VALUE= .2793E-01 CRITERION= .5758E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1162
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2084E-05 OSCILLATION LIMIT = 16.44

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:33:22 APR 10, 1995 CP= 97656.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .1002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7036
 HT FLOW CONVERGENCE VALUE= .1326 CRITERION= .5701E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4015E-01
 HT FLOW CONVERGENCE VALUE= .5606E-02 CRITERION= .5695E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1164
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1729E-05 OSCILLATION LIMIT = 136.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .9985E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7098
 HT FLOW CONVERGENCE VALUE= .1316 CRITERION= .5639E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3981E-01
 HT FLOW CONVERGENCE VALUE= .5479E-02 CRITERION= .5633E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1166
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1772E-05 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .9950E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7150
 HT FLOW CONVERGENCE VALUE= .1325 CRITERION= .5578E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3961E-01
 HT FLOW CONVERGENCE VALUE= .5371E-02 CRITERION= .5572E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1168
 *** TIME = .339244E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1772E-05 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .9915E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7127
 HT FLOW CONVERGENCE VALUE= .1331 CRITERION= .5516E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3926E-01

HT FLOW CONVERGENCE VALUE= .5275E-02 CRITERION= .5510E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1170
 *** TIME = .347134E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1772E-05 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .9881E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7179
 HT FLOW CONVERGENCE VALUE= .1332 CRITERION= .5454E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3906E-01
 HT FLOW CONVERGENCE VALUE= .5175E-02 CRITERION= .5449E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1172
 *** TIME = .355023E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1771E-05 OSCILLATION LIMIT = 139.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .9847E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7156
 HT FLOW CONVERGENCE VALUE= .1326 CRITERION= .5392E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3871E-01
 HT FLOW CONVERGENCE VALUE= .5083E-02 CRITERION= .5386E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1174
 *** TIME = .362912E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1771E-05 OSCILLATION LIMIT = 139.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .9813E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7209
 HT FLOW CONVERGENCE VALUE= .1328 CRITERION= .5331E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3851E-01
 HT FLOW CONVERGENCE VALUE= .4984E-02 CRITERION= .5325E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1176
 *** TIME = .370802E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1771E-05 OSCILLATION LIMIT = 139.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .9779E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7186
 HT FLOW CONVERGENCE VALUE= .1317 CRITERION= .5269E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3817E-01
 HT FLOW CONVERGENCE VALUE= .4897E-02 CRITERION= .5263E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1178
 *** TIME = .378691E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1771E-05 OSCILLATION LIMIT = 139.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .9746E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7239
 HT FLOW CONVERGENCE VALUE= .1311 CRITERION= .5207E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3797E-01
 HT FLOW CONVERGENCE VALUE= .4803E-02 CRITERION= .5202E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 9 COMPLETED. CUM ITER = 1180
 *** TIME = .386581E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1770E-05 OSCILLATION LIMIT = 139.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .9713E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7217
 HT FLOW CONVERGENCE VALUE= .1293 CRITERION= .5145E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3762E-01
 HT FLOW CONVERGENCE VALUE= .4717E-02 CRITERION= .5140E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 10 COMPLETED. CUM ITER = 1182
 *** TIME = .394470E+10 TIME INC = .788940E+08

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*** RESPONSE EIGENVALUE = .1770E-05  OSCILLATION LIMIT = 139.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.07  CRITERION= .9680E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7269
  HT FLOW CONVERGENCE VALUE= .1287  CRITERION= .5084E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3742E-01
  HT FLOW CONVERGENCE VALUE= .4624E-02  CRITERION= .5078E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 11 COMPLETED.  CUM ITER = 1184
*** TIME = .402359E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1769E-05  OSCILLATION LIMIT = 139.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.06  CRITERION= .9648E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7247
  HT FLOW CONVERGENCE VALUE= .1270  CRITERION= .5022E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3707E-01
  HT FLOW CONVERGENCE VALUE= .4539E-02  CRITERION= .5016E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 12 COMPLETED.  CUM ITER = 1186
*** TIME = .410249E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1769E-05  OSCILLATION LIMIT = 139.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.07  CRITERION= .9615E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7300
  HT FLOW CONVERGENCE VALUE= .1264  CRITERION= .4960E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3685E-01
  HT FLOW CONVERGENCE VALUE= .4447E-02  CRITERION= .4955E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 13 COMPLETED.  CUM ITER = 1188
*** TIME = .418138E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1768E-05  OSCILLATION LIMIT = 139.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.06  CRITERION= .9584E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7278
  HT FLOW CONVERGENCE VALUE= .1246  CRITERION= .4898E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3650E-01
  HT FLOW CONVERGENCE VALUE= .4363E-02  CRITERION= .4893E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 14 COMPLETED.  CUM ITER = 1190
*** TIME = .426028E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1768E-05  OSCILLATION LIMIT = 139.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.07  CRITERION= .9552E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7331
  HT FLOW CONVERGENCE VALUE= .1240  CRITERION= .4837E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3628E-01
  HT FLOW CONVERGENCE VALUE= .4272E-02  CRITERION= .4832E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 15 COMPLETED.  CUM ITER = 1192
*** TIME = .433917E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1767E-05  OSCILLATION LIMIT = 139.4
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.07  CRITERION= .9521E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7310
  HT FLOW CONVERGENCE VALUE= .1222  CRITERION= .4775E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3592E-01
  HT FLOW CONVERGENCE VALUE= .4188E-02  CRITERION= .4769E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 16 COMPLETED.  CUM ITER = 1194
*** TIME = .441806E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1767E-05  OSCILLATION LIMIT = 139.4
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.07  CRITERION= .9490E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7363
HT FLOW CONVERGENCE VALUE= .1215 CRITERION= .4713E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3569E-01
HT FLOW CONVERGENCE VALUE= .4098E-02 CRITERION= .4708E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 17 COMPLETED. CUM ITER = 1196
*** TIME = .449696E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 139.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.07 CRITERION= .9459E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7342
HT FLOW CONVERGENCE VALUE= .1198 CRITERION= .4651E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3532E-01
HT FLOW CONVERGENCE VALUE= .4015E-02 CRITERION= .4646E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 18 COMPLETED. CUM ITER = 1198
*** TIME = .457585E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 139.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9428E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7395
HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .4590E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3509E-01
HT FLOW CONVERGENCE VALUE= .3926E-02 CRITERION= .4585E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 19 COMPLETED. CUM ITER = 1200
*** TIME = .465475E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1765E-05 OSCILLATION LIMIT = 139.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.07 CRITERION= .9398E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7375
HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .4528E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3472E-01
HT FLOW CONVERGENCE VALUE= .3844E-02 CRITERION= .4523E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 20 COMPLETED. CUM ITER = 1202
*** TIME = .473364E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1765E-05 OSCILLATION LIMIT = 139.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9369E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7427
HT FLOW CONVERGENCE VALUE= .1166 CRITERION= .4466E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
HT FLOW CONVERGENCE VALUE= .3756E-02 CRITERION= .4461E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 21 COMPLETED. CUM ITER = 1204
*** TIME = .481253E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1764E-05 OSCILLATION LIMIT = 139.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.07 CRITERION= .9339E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7407
HT FLOW CONVERGENCE VALUE= .1148 CRITERION= .4404E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3410E-01
HT FLOW CONVERGENCE VALUE= .3675E-02 CRITERION= .4399E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 22 COMPLETED. CUM ITER = 1206
*** TIME = .489143E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1764E-05 OSCILLATION LIMIT = 139.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9310E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7460
HT FLOW CONVERGENCE VALUE= .1141 CRITERION= .4343E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3385E-01
HT FLOW CONVERGENCE VALUE= .3589E-02 CRITERION= .4338E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 23 COMPLETED. CUM ITER = 1208
*** TIME = .497032E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1763E-05 OSCILLATION LIMIT = 139.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9281E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7441
HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .4281E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3347E-01
HT FLOW CONVERGENCE VALUE= .3508E-02 CRITERION= .4276E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 24 COMPLETED. CUM ITER = 1210
*** TIME = .504922E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1763E-05 OSCILLATION LIMIT = 139.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9253E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7494
HT FLOW CONVERGENCE VALUE= .1115 CRITERION= .4219E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3321E-01
HT FLOW CONVERGENCE VALUE= .3423E-02 CRITERION= .4214E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 25 COMPLETED. CUM ITER = 1212
*** TIME = .512811E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1762E-05 OSCILLATION LIMIT = 139.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9224E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7475
HT FLOW CONVERGENCE VALUE= .1098 CRITERION= .4157E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3282E-01
HT FLOW CONVERGENCE VALUE= .3343E-02 CRITERION= .4152E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 26 COMPLETED. CUM ITER = 1214
*** TIME = .520700E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1762E-05 OSCILLATION LIMIT = 139.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9196E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7528
HT FLOW CONVERGENCE VALUE= .1089 CRITERION= .4096E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3255E-01
HT FLOW CONVERGENCE VALUE= .3259E-02 CRITERION= .4091E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 27 COMPLETED. CUM ITER = 1216
*** TIME = .528590E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1761E-05 OSCILLATION LIMIT = 138.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9169E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7509
HT FLOW CONVERGENCE VALUE= .1072 CRITERION= .4034E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3216E-01
HT FLOW CONVERGENCE VALUE= .3181E-02 CRITERION= .4029E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 28 COMPLETED. CUM ITER = 1218
*** TIME = .536479E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1761E-05 OSCILLATION LIMIT = 138.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9142E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7562
HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .3972E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3188E-01
HT FLOW CONVERGENCE VALUE= .3098E-02 CRITERION= .3968E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 29 COMPLETED. CUM ITER = 1220
*** TIME = .544369E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1760E-05 OSCILLATION LIMIT = 138.8

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .9115E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7544
 HT FLOW CONVERGENCE VALUE= .1046 CRITERION= .3910E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3149E-01
 HT FLOW CONVERGENCE VALUE= .3020E-02 CRITERION= .3905E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 30 COMPLETED. CUM ITER = 1222
 *** TIME = .552258E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1760E-05 OSCILLATION LIMIT = 138.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9088E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7597
 HT FLOW CONVERGENCE VALUE= .1037 CRITERION= .3849E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3120E-01
 HT FLOW CONVERGENCE VALUE= .2939E-02 CRITERION= .3844E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 31 COMPLETED. CUM ITER = 1224
 *** TIME = .560147E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1759E-05 OSCILLATION LIMIT = 138.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9062E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7579
 HT FLOW CONVERGENCE VALUE= .1019 CRITERION= .3787E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3080E-01
 HT FLOW CONVERGENCE VALUE= .2863E-02 CRITERION= .3782E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 32 COMPLETED. CUM ITER = 1226
 *** TIME = .568037E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1759E-05 OSCILLATION LIMIT = 138.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9036E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7633
 HT FLOW CONVERGENCE VALUE= .1010 CRITERION= .3725E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3050E-01
 HT FLOW CONVERGENCE VALUE= .2782E-02 CRITERION= .3721E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 33 COMPLETED. CUM ITER = 1228
 *** TIME = .575926E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1758E-05 OSCILLATION LIMIT = 138.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .9011E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7615
 HT FLOW CONVERGENCE VALUE= .9923E-01 CRITERION= .3663E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3009E-01
 HT FLOW CONVERGENCE VALUE= .2707E-02 CRITERION= .3659E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 34 COMPLETED. CUM ITER = 1230
 *** TIME = .583816E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1758E-05 OSCILLATION LIMIT = 138.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.10 CRITERION= .8986E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7669
 HT FLOW CONVERGENCE VALUE= .9828E-01 CRITERION= .3602E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2978E-01
 HT FLOW CONVERGENCE VALUE= .2628E-02 CRITERION= .3597E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 35 COMPLETED. CUM ITER = 1232
 *** TIME = .591705E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1757E-05 OSCILLATION LIMIT = 138.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .8961E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7651

HT FLOW CONVERGENCE VALUE= .9652E-01 CRITERION= .3539E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2937E-01
 HT FLOW CONVERGENCE VALUE= .2554E-02 CRITERION= .3535E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 36 COMPLETED. CUM ITER = 1234
 *** TIME = .599594E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1757E-05 OSCILLATION LIMIT = 138.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.10 CRITERION= .8936E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7705
 HT FLOW CONVERGENCE VALUE= .9553E-01 CRITERION= .3478E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2905E-01
 HT FLOW CONVERGENCE VALUE= .2477E-02 CRITERION= .3474E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 37 COMPLETED. CUM ITER = 1236
 *** TIME = .607484E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = 138.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.10 CRITERION= .8912E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7688
 HT FLOW CONVERGENCE VALUE= .9376E-01 CRITERION= .3416E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2863E-01
 HT FLOW CONVERGENCE VALUE= .2404E-02 CRITERION= .3412E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 38 COMPLETED. CUM ITER = 1238
 *** TIME = .615373E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = 138.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.10 CRITERION= .8889E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7742
 HT FLOW CONVERGENCE VALUE= .9275E-01 CRITERION= .3355E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2831E-01
 HT FLOW CONVERGENCE VALUE= .2328E-02 CRITERION= .3351E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 39 COMPLETED. CUM ITER = 1240
 *** TIME = .623263E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1755E-05 OSCILLATION LIMIT = 138.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.10 CRITERION= .8865E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7726
 HT FLOW CONVERGENCE VALUE= .9098E-01 CRITERION= .3292E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2788E-01
 HT FLOW CONVERGENCE VALUE= .2257E-02 CRITERION= .3288E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 40 COMPLETED. CUM ITER = 1242
 *** TIME = .631152E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1755E-05 OSCILLATION LIMIT = 138.5

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:07:34 APR 10, 1995 CP= 103138.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 35.44 CRITERION= .4833E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2784
 HT FLOW CONVERGENCE VALUE= .3399E-01 CRITERION= .3270E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1128E-01
 HT FLOW CONVERGENCE VALUE= .9865E-03 CRITERION= .3269E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1244
 *** TIME = .639041E+10 TIME INC = .788940E+08

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.43 CRITERION= .4819E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2727
HT FLOW CONVERGENCE VALUE= .3325E-01 CRITERION= .3249E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1115E-01
HT FLOW CONVERGENCE VALUE= .9787E-03 CRITERION= .3248E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1246
*** TIME = .646931E+10 TIME INC = .788940E+08
*** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 106.3 CRITERION= .1111
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8304
HT FLOW CONVERGENCE VALUE= .9844E-01 CRITERION= .3191E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3269E-01
HT FLOW CONVERGENCE VALUE= .2778E-02 CRITERION= .3187E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1248
*** TIME = .670599E+10 TIME INC = .236682E+09
*** AUTO TIME STEP: NEXT TIME INC = .71005E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 318.9 CRITERION= .3205
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.486
HT FLOW CONVERGENCE VALUE= .2718 CRITERION= .3016E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8880E-01
HT FLOW CONVERGENCE VALUE= .6951E-02 CRITERION= .3004E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1250
*** TIME = .741604E+10 TIME INC = .710046E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 354.4 CRITERION= .3556
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.790
HT FLOW CONVERGENCE VALUE= .2834 CRITERION= .2814E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9236E-01
HT FLOW CONVERGENCE VALUE= .6685E-02 CRITERION= .2802E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1252
*** TIME = .820498E+10 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 354.4 CRITERION= .3555
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.808
HT FLOW CONVERGENCE VALUE= .2651 CRITERION= .2611E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8670E-01
HT FLOW CONVERGENCE VALUE= .5815E-02 CRITERION= .2599E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 6 COMPLETED. CUM ITER = 1254
*** TIME = .899392E+10 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 212.7 CRITERION= .2142
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.705
HT FLOW CONVERGENCE VALUE= .1580 CRITERION= .2485E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5224E-01
HT FLOW CONVERGENCE VALUE= .3411E-02 CRITERION= .2478E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 7 COMPLETED. CUM ITER = 1256
*** TIME = .946728E+10 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:24:09 APR 10, 1995 CP= 104104.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 123.0 CRITERION= .1255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9630
 HT FLOW CONVERGENCE VALUE= .8906E-01 CRITERION= .2413E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3008E-01
 HT FLOW CONVERGENCE VALUE= .1961E-02 CRITERION= .2410E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1258
 *** TIME = .994064E+10 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.1 CRITERION= .1254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9713
 HT FLOW CONVERGENCE VALUE= .8737E-01 CRITERION= .2346E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2948E-01
 HT FLOW CONVERGENCE VALUE= .1855E-02 CRITERION= .2342E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1260
 *** TIME = .104140E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 205.1 CRITERION= .2064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.616
 HT FLOW CONVERGENCE VALUE= .1321 CRITERION= .2235E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4607E-01
 HT FLOW CONVERGENCE VALUE= .2510E-02 CRITERION= .2229E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1262
 *** TIME = .112029E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 205.1 CRITERION= .2063
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.630
 HT FLOW CONVERGENCE VALUE= .1203 CRITERION= .2122E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4470E-01
 HT FLOW CONVERGENCE VALUE= .2087E-02 CRITERION= .2116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1264
 *** TIME = .119919E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 164.1 CRITERION= .1654
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.306
 HT FLOW CONVERGENCE VALUE= .9284E-01 CRITERION= .2030E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3452E-01
 HT FLOW CONVERGENCE VALUE= .1599E-02 CRITERION= .2025E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1266
 *** TIME = .126230E+11 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:36:04 APR 10, 1995 CP= 104797.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 121.4 CRITERION= .1230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8867
 HT FLOW CONVERGENCE VALUE= .6424E-01 CRITERION= .1970E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2432E-01
 HT FLOW CONVERGENCE VALUE= .1184E-02 CRITERION= .1968E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1268
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 121.4    CRITERION= .1230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8834
HT FLOW CONVERGENCE VALUE= .6265E-01 CRITERION= .1912E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2366E-01
HT FLOW CONVERGENCE VALUE= .1136E-02 CRITERION= .1909E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1270
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

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HT FLOW CONVERGENCE VALUE= 151.7    CRITERION= .1529
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.114
HT FLOW CONVERGENCE VALUE= .7603E-01 CRITERION= .1840E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2834E-01
HT FLOW CONVERGENCE VALUE= .1309E-02 CRITERION= .1837E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1272
*** TIME = .146743E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 151.7    CRITERION= .1528
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.112
HT FLOW CONVERGENCE VALUE= .7378E-01 CRITERION= .1767E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2730E-01
HT FLOW CONVERGENCE VALUE= .1226E-02 CRITERION= .1764E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1274
*** TIME = .154632E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

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HT FLOW CONVERGENCE VALUE= 60.70    CRITERION= .6320E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4505
HT FLOW CONVERGENCE VALUE= .2995E-01 CRITERION= .1736E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1113E-01
HT FLOW CONVERGENCE VALUE= .4994E-03 CRITERION= .1735E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1276
*** TIME = .157788E+11 TIME INC = .315576E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 02:47:57 APR 10, 1995 CP= 105490.970
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 60.15    CRITERION= .6260E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3775
HT FLOW CONVERGENCE VALUE= .2602E-01 CRITERION= .1713E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1033E-01
HT FLOW CONVERGENCE VALUE= .4946E-03 CRITERION= .1712E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1278
*** TIME = .160944E+11 TIME INC = .315576E+09
*** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 60.15    CRITERION= .6254E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3837
HT FLOW CONVERGENCE VALUE= .2598E-01 CRITERION= .1691E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1026E-01
HT FLOW CONVERGENCE VALUE= .4810E-03 CRITERION= .1690E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1280
*** TIME = .164100E+11 TIME INC = .315576E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

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HT FLOW CONVERGENCE VALUE= 150.4 CRITERION= .1513

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9502
 HT FLOW CONVERGENCE VALUE= .6142E-01 CRITERION= .1635E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2424E-01
 HT FLOW CONVERGENCE VALUE= .1095E-02 CRITERION= .1633E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1282
 *** TIME = .171989E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 150.4 CRITERION= .1513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9589
 HT FLOW CONVERGENCE VALUE= .5975E-01 CRITERION= .1579E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2355E-01
 HT FLOW CONVERGENCE VALUE= .1024E-02 CRITERION= .1577E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1284
 *** TIME = .179878E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 90.23 CRITERION= .9160E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5724
 HT FLOW CONVERGENCE VALUE= .3539E-01 CRITERION= .1544E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1410E-01
 HT FLOW CONVERGENCE VALUE= .6077E-03 CRITERION= .1543E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1286
 *** TIME = .184612E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.24 CRITERION= .9154E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5792
 HT FLOW CONVERGENCE VALUE= .3494E-01 CRITERION= .1511E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1387E-01
 HT FLOW CONVERGENCE VALUE= .5820E-03 CRITERION= .1510E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 6 COMPLETED. CUM ITER = 1288
 *** TIME = .189346E+11 TIME INC = .473364E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:02:08 APR 10, 1995 CP= 106320.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 77.59 CRITERION= .7904E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4564
 HT FLOW CONVERGENCE VALUE= .2796E-01 CRITERION= .1485E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1151E-01
 HT FLOW CONVERGENCE VALUE= .4955E-03 CRITERION= .1484E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1290
 *** TIME = .194079E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.59 CRITERION= .7899E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4628
 HT FLOW CONVERGENCE VALUE= .2776E-01 CRITERION= .1460E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139E-01
 HT FLOW CONVERGENCE VALUE= .4788E-03 CRITERION= .1459E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1292
 *** TIME = .198813E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 129.3 CRITERION= .1301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7647

HT FLOW CONVERGENCE VALUE= .4426E-01 CRITERION= .1417E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1821E-01
 HT FLOW CONVERGENCE VALUE= .7430E-03 CRITERION= .1416E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1294
 *** TIME = .206702E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.3 CRITERION= .1301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7722
 HT FLOW CONVERGENCE VALUE= .4325E-01 CRITERION= .1375E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1777E-01
 HT FLOW CONVERGENCE VALUE= .7006E-03 CRITERION= .1374E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1296
 *** TIME = .214592E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1044
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6140
 HT FLOW CONVERGENCE VALUE= .3380E-01 CRITERION= .1340E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1399E-01
 HT FLOW CONVERGENCE VALUE= .5426E-03 CRITERION= .1339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1298
 *** TIME = .220903E+11 TIME INC = .631152E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:13:58 APR 10, 1995 CP= 107012.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 91.66 CRITERION= .9263E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5363
 HT FLOW CONVERGENCE VALUE= .2914E-01 CRITERION= .1312E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1216E-01
 HT FLOW CONVERGENCE VALUE= .4650E-03 CRITERION= .1311E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1300
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 91.65 CRITERION= .9258E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5313
 HT FLOW CONVERGENCE VALUE= .2834E-01 CRITERION= .1282E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1190E-01
 HT FLOW CONVERGENCE VALUE= .4478E-03 CRITERION= .1282E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1302
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 114.6 CRITERION= .1153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6718
 HT FLOW CONVERGENCE VALUE= .3455E-01 CRITERION= .1247E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1445E-01
 HT FLOW CONVERGENCE VALUE= .5245E-03 CRITERION= .1246E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1304
 *** TIME = .241416E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 114.6 CRITERION= .1152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6673
 HT FLOW CONVERGENCE VALUE= .3343E-01 CRITERION= .1211E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1406E-01
 HT FLOW CONVERGENCE VALUE= .4981E-03 CRITERION= .1210E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1306
 *** TIME = .249305E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 45.83 CRITERION= .4740E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2716
 HT FLOW CONVERGENCE VALUE= .1358E-01 CRITERION= .1196E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5708E-02
 HT FLOW CONVERGENCE VALUE= .2002E-03 CRITERION= .1196E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1308
 *** TIME = .252461E+11 TIME INC = .315576E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:25:47 APR 10, 1995 CP= 107704.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 40.52 CRITERION= .4224E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2213
 HT FLOW CONVERGENCE VALUE= .1128E-01 CRITERION= .1184E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1309
 *** TIME = .255617E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.53 CRITERION= .4222E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2224
 HT FLOW CONVERGENCE VALUE= .1124E-01 CRITERION= .1173E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1310
 *** TIME = .258772E+11 TIME INC = .315576E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 101.3 CRITERION= .1020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5535
 HT FLOW CONVERGENCE VALUE= .2698E-01 CRITERION= .1144E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1170E-01
 HT FLOW CONVERGENCE VALUE= .4048E-03 CRITERION= .1144E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1312
 *** TIME = .266662E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.3 CRITERION= .1020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5652
 HT FLOW CONVERGENCE VALUE= .2666E-01 CRITERION= .1116E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1149E-01
 HT FLOW CONVERGENCE VALUE= .3842E-03 CRITERION= .1115E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1314
 *** TIME = .274551E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 60.78 CRITERION= .6180E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3350
 HT FLOW CONVERGENCE VALUE= .1577E-01 CRITERION= .1098E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6862E-02
 HT FLOW CONVERGENCE VALUE= .2286E-03 CRITERION= .1098E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1316
 *** TIME = .279285E+11 TIME INC = .473364E+09

*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.79 CRITERION= .6177E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3412
 HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .1081E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6800E-02
 HT FLOW CONVERGENCE VALUE= .2213E-03 CRITERION= .1081E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 6 COMPLETED. CUM ITER = 1318
 *** TIME = .284018E+11 TIME INC = .473364E+09

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:38:21 APR 10, 1995 CP= 108439.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 52.37 CRITERION= .5347E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2805
 HT FLOW CONVERGENCE VALUE= .1300E-01 CRITERION= .1067E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5734E-02
 HT FLOW CONVERGENCE VALUE= .1882E-03 CRITERION= .1066E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1320
 *** TIME = .288752E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.37 CRITERION= .5344E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2866
 HT FLOW CONVERGENCE VALUE= .1302E-01 CRITERION= .1053E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5700E-02
 HT FLOW CONVERGENCE VALUE= .1829E-03 CRITERION= .1053E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1322
 *** TIME = .293486E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 87.28 CRITERION= .8791E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4702
 HT FLOW CONVERGENCE VALUE= .2085E-01 CRITERION= .1030E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9187E-02
 HT FLOW CONVERGENCE VALUE= .2895E-03 CRITERION= .1029E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1324
 *** TIME = .301375E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.29 CRITERION= .8789E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4767
 HT FLOW CONVERGENCE VALUE= .2057E-01 CRITERION= .1007E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9029E-02
 HT FLOW CONVERGENCE VALUE= .2765E-03 CRITERION= .1006E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1326
 *** TIME = .309264E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 69.83 CRITERION= .7055E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3766
 HT FLOW CONVERGENCE VALUE= .1609E-01 CRITERION= .9873E-02
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7122E-02
 HT FLOW CONVERGENCE VALUE= .2161E-03 CRITERION= .9868E-02 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1328
 *** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 109129.430

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40w1.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 03:50:18 APR 10, 1995 CP= 109138.370
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NCDE 854 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	854 TEMP	peakclad	82.28	.3156E+11	279.7	.1578E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 15778831.6

***** ROUTINE COMPLETED ***** CP = 109138.820

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:50:21 APR 10, 1995 CP= 109138.860
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****

Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET

XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

5832 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+08

SET COMMAND GOT LOAD STEP= 8 SUBSTEP= 19 CUMULATIVE ITERATION= 101
TIME/FREQUENCY= .15779E+08

TITLE=
40 BWR MPC/WP at Time of Peak Temp. (.500001 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=
40 BWR MPC/WP at Time of Peak Temp. (.500001 years)

*** WARNING *** CP= 109176.930 TIME= 03:51:07
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= 642
TIME/FREQUENCY= .31558E+09

TITLE=
40 BWR MPC/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 104.70 BY 1.3778 TO 279.69

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 10 years

*** WARNING *** CP= 109227.010 TIME= 03:52:01
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 40 CUMULATIVE ITERATION= 962
TIME/FREQUENCY= .15779E+10

TITLE=
40 BWR MPC/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 104.70 BY 1.3778 TO 279.69

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 50 years

*** WARNING *** CP= 109277.030 TIME= 03:52:54
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= 1162
TIME/FREQUENCY= .31558E+10

TITLE=
40 BWR MPC/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 104.70 BY 1.3778 TO 279.69

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 100 years

*** WARNING *** CP= 109328.380 TIME= 03:53:46
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 109339.930

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
a = aluminum-born tube layer
t = stainless tube cladding
g = tube guide
m = mpc shell
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 03:53:57 APR 10, 1995 CP= 109339.940
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 41

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NCDE	924	ITEM= TEMP COMP=	NAME= t02i000
VARIABLE 3	IS AT NCDE	914	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NCDE	850	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NCDE	856	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NCDE	854	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NCDE	852	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NCDE	849	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NCDE	895	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NCDE	894	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NCDE	1027	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NCDE	963	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NCDE	969	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NCDE	967	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NCDE	965	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NCDE	962	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NCDE	1008	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NCDE	1150	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NCDE	1140	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NCDE	1076	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NCDE	1082	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NCDE	1080	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NCDE	1078	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NCDE	1075	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NCDE	1121	ITEM= TEMP COMP=	NAME= a18o000

VARIABLE 26 IS AT NCDE 1120 ITEM= TEMP COMP= NAME= t24i000
 VARIABLE 27 IS AT NCDE 4124 ITEM= TEMP COMP= NAME= a24i000
 VARIABLE 28 IS AT NCDE 4072 ITEM= TEMP COMP= NAME= s24i000
 VARIABLE 29 IS AT NCDE 4075 ITEM= TEMP COMP= NAME= h24i000
 VARIABLE 30 IS AT NCDE 4077 ITEM= TEMP COMP= NAME= c24i000
 VARIABLE 31 IS AT NCDE 4079 ITEM= TEMP COMP= NAME= h24o000
 VARIABLE 32 IS AT NCDE 4073 ITEM= TEMP COMP= NAME= s24o000
 VARIABLE 33 IS AT NCDE 4137 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NCDE 4865 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NCDE 4860 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NCDE 5019 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NCDE 4946 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NCDE 5435 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NCDE 5508 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NCDE 6022 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	81.58	.3156E+11	270.4	.1578E+08
3	NSOL	914 TEMP	a02i000	81.58	.3156E+11	270.4	.1578E+08
4	NSOL	850 TEMP	s02i000	81.58	.3156E+11	270.5	.1578E+08
5	NSOL	856 TEMP	h02i000	82.14	.3156E+11	278.0	.1578E+08
6	NSOL	854 TEMP	c02i000	82.28	.3156E+11	279.7	.1578E+08
7	NSOL	852 TEMP	h02o000	82.09	.3156E+11	276.8	.1578E+08
8	NSOL	849 TEMP	s02o000	81.48	.3156E+11	268.1	.1578E+08
9	NSOL	895 TEMP	a02o000	81.48	.3156E+11	268.0	.1578E+08
10	NSOL	894 TEMP	t08i000	81.48	.3156E+11	268.0	.1578E+08
11	NSOL	1027 TEMP	a08i000	81.48	.3156E+11	268.0	.1578E+08
12	NSOL	963 TEMP	s08i000	81.48	.3156E+11	268.1	.1578E+08
13	NSOL	969 TEMP	h08i000	81.99	.3156E+11	274.4	.1578E+08
14	NSOL	967 TEMP	c08i000	82.08	.3156E+11	274.9	.1578E+08
15	NSOL	965 TEMP	h08o000	81.84	.3156E+11	270.8	.1578E+08
16	NSOL	962 TEMP	s08o000	81.17	.3156E+11	260.7	.1893E+08
17	NSOL	1008 TEMP	a08o000	81.17	.3156E+11	260.6	.1893E+08
18	NSOL	1150 TEMP	t18i000	81.17	.3156E+11	260.6	.1893E+08
19	NSOL	1140 TEMP	a18i000	81.17	.3156E+11	260.6	.1893E+08
20	NSOL	1076 TEMP	s18i000	81.17	.3156E+11	260.6	.1893E+08
21	NSOL	1082 TEMP	h18i000	81.61	.3156E+11	265.8	.1893E+08
22	NSOL	1080 TEMP	c18i000	81.65	.3156E+11	265.2	.1893E+08
23	NSOL	1078 TEMP	h18o000	81.34	.3156E+11	259.6	.1893E+08
24	NSOL	1075 TEMP	s18o000	80.60	.3156E+11	247.5	.2209E+08
25	NSOL	1121 TEMP	a18o000	80.59	.3156E+11	247.4	.2209E+08
26	NSOL	1120 TEMP	t24i000	80.59	.3156E+11	247.4	.2209E+08
27	NSOL	4124 TEMP	a24i000	80.59	.3156E+11	247.3	.2209E+08
28	NSOL	4072 TEMP	s24i000	80.59	.3156E+11	247.4	.2209E+08
29	NSOL	4075 TEMP	h24i000	80.85	.3156E+11	249.8	.2209E+08
30	NSOL	4077 TEMP	c24i000	80.67	.3156E+11	245.8	.2209E+08
31	NSOL	4079 TEMP	h24o000	80.06	.3156E+11	235.6	.2525E+08
32	NSOL	4073 TEMP	s24o000	78.83	.3156E+11	215.3	.3156E+08
33	NSOL	4137 TEMP	t24o000	78.82	.3156E+11	215.0	.3156E+08
34	NSOL	4865 TEMP	g24i000	77.90	.3156E+11	201.8	.3156E+08
35	NSOL	4860 TEMP	g24o000	77.88	.3156E+11	201.6	.3156E+08

36 NSOL	5019 TEMP	m24i000	77.25	.3156E+11	190.9	.6312E+08
37 NSOL	4946 TEMP	m24o000	77.18	.3156E+11	189.5	.6312E+08
38 NSOL	5435 TEMP	i24i000	29.83	.1000E-05	122.2	.2525E+09
39 NSOL	5508 TEMP	i24o000	28.10	.1000E-05	120.8	.2525E+09
40 NSOL	6022 TEMP	o24o000	26.14	.1000E-05	119.4	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	914 TEMP a02i000	850 TEMP s02i000	856 TEMP h02i000	854 TEMP c02i000	852 TEMP h02o000
.10000E-05	243.276	243.279	243.390	251.719	253.652	250.495
.20000E-05	257.771	257.774	257.884	265.814	267.639	264.598
31.558	257.771	257.774	257.884	265.814	267.639	264.598
.31558E+07	267.720	267.723	267.831	275.483	277.247	274.310
.63116E+07	269.334	269.338	269.445	277.026	278.772	275.858
.94673E+07	270.051	270.054	270.161	277.698	279.433	276.535
.12623E+08	270.285	270.288	270.395	277.893	279.619	276.736
.15779E+08	270.392	270.395	270.501	277.967	279.686	276.815
.18935E+08	270.376	270.380	270.485	277.922	279.634	276.774
.22090E+08	270.296	270.299	270.404	277.813	279.520	276.671
.25246E+08	270.165	270.168	270.273	277.656	279.357	276.518
.28402E+08	269.992	269.995	270.099	277.458	279.153	276.324
.31558E+08	269.788	269.791	269.895	277.230	278.921	276.101
.63115E+08	267.232	267.235	267.336	274.480	276.130	273.390
.94673E+08	264.298	264.301	264.399	271.392	273.011	270.335
.12623E+09	261.427	261.430	261.526	268.389	269.981	267.361
.15779E+09	258.823	258.826	258.920	265.672	267.241	264.669
.18935E+09	255.993	255.996	256.087	262.726	264.272	261.749
.22090E+09	253.494	253.497	253.586	260.125	261.651	259.171
.25246E+09	251.188	251.191	251.278	257.723	259.229	256.790
.28402E+09	248.601	248.604	248.689	255.052	256.541	254.137
.31558E+09	246.479	246.481	246.565	252.855	254.329	251.956
.63115E+09	225.839	225.841	225.912	231.456	232.774	230.710
.94673E+09	208.545	208.547	208.608	213.549	214.736	212.919
.12623E+10	193.680	193.682	193.735	198.184	199.263	197.641
.15779E+10	180.896	180.897	180.944	184.943	185.919	184.473
.18935E+10	170.384	170.385	170.426	174.051	174.941	173.638
.22090E+10	161.540	161.541	161.578	164.889	165.705	164.522
.25246E+10	153.779	153.780	153.813	156.861	157.616	156.533
.28402E+10	147.629	147.630	147.660	150.492	151.195	150.192
.31558E+10	142.056	142.057	142.085	144.709	145.363	144.435
.63115E+10	115.031	115.032	115.048	116.696	117.112	116.538
.94673E+10	104.686	104.686	104.699	105.990	106.317	105.870
.12623E+11	98.6505	98.6508	98.6611	99.7406	100.015	99.6419
.15779E+11	94.4982	94.4984	94.5073	95.4447	95.6835	95.3599
.18935E+11	90.9139	90.9142	90.9220	91.7474	91.9578	91.6732
.22090E+11	88.0250	88.0252	88.0321	88.7718	88.9606	88.7058
.25246E+11	85.4983	85.4984	85.5046	86.1704	86.3405	86.1114
.28402E+11	83.3715	83.3716	83.3773	83.9836	84.1386	83.9302
.31558E+11	81.5795	81.5796	81.5848	82.1421	82.2847	82.0933

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	849 TEMP s02o000	895 TEMP a02o000	894 TEMP t08i000	1027 TEMP a08i000	963 TEMP s08i000	969 TEMP h08i000
.10000E-05	240.826	240.702	240.697	240.688	240.787	247.926
.20000E-05	255.335	255.212	255.207	255.198	255.295	262.047
31.558	255.335	255.212	255.207	255.198	255.295	262.047
.31558E+07	265.376	265.255	265.250	265.241	265.336	271.814
.63116E+07	267.002	266.882	266.877	266.868	266.962	273.371
.94673E+07	267.729	267.610	267.605	267.596	267.690	274.059
.12623E+08	267.975	267.856	267.851	267.842	267.936	274.271
.15779E+08	268.092	267.973	267.969	267.960	268.053	274.360
.18935E+08	268.087	267.969	267.964	267.955	268.048	274.330
.22090E+08	268.016	267.899	267.894	267.885	267.978	274.236
.25246E+08	267.895	267.778	267.773	267.764	267.857	274.093
.28402E+08	267.730	267.614	267.609	267.600	267.692	273.909
.31558E+08	267.536	267.419	267.415	267.406	267.498	273.695
.63115E+08	265.059	264.946	264.942	264.933	265.022	271.065
.94673E+08	262.192	262.083	262.079	262.071	262.157	268.080
.12623E+09	259.380	259.274	259.270	259.262	259.346	265.168
.15779E+09	256.827	256.723	256.719	256.712	256.794	262.529
.18935E+09	254.050	253.948	253.944	253.937	254.018	259.664
.22090E+09	251.596	251.496	251.493	251.485	251.565	257.133
.25246E+09	249.332	249.235	249.231	249.225	249.302	254.796
.28402E+09	246.784	246.689	246.685	246.678	246.755	252.182
.31558E+09	244.695	244.601	244.597	244.591	244.666	250.034
.63115E+09	224.364	224.286	224.283	224.277	224.341	229.116
.94673E+09	207.301	207.234	207.232	207.228	207.282	211.571
.12623E+10	192.612	192.554	192.552	192.548	192.596	196.478
.15779E+10	179.972	179.921	179.920	179.916	179.959	183.465
.18935E+10	169.573	169.529	169.527	169.524	169.562	172.752
.22090E+10	160.822	160.782	160.780	160.778	160.811	163.736
.25246E+10	153.135	153.099	153.098	153.096	153.126	155.826
.28402E+10	147.043	147.010	147.009	147.007	147.035	149.548
.31558E+10	141.522	141.492	141.491	141.489	141.515	143.847
.63115E+10	114.722	114.704	114.704	114.703	114.718	116.195
.94673E+10	104.452	104.439	104.439	104.438	104.449	105.610
.12623E+11	98.4590	98.4479	98.4475	98.4469	98.4565	99.4284
.15779E+11	94.3336	94.3241	94.3238	94.3233	94.3315	95.1763
.18935E+11	90.7703	90.7619	90.7616	90.7612	90.7684	91.5128
.22090E+11	87.8971	87.8897	87.8895	87.8891	87.8955	88.5630
.25246E+11	85.3839	85.3773	85.3771	85.3767	85.3825	85.9837
.28402E+11	83.2679	83.2619	83.2617	83.2614	83.2666	83.8144
.31558E+11	81.4849	81.4794	81.4792	81.4789	81.4837	81.9874

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	967 TEMP c08i000	965 TEMP h08o000	962 TEMP s08o000	1008 TEMP a08o000	1150 TEMP t18i000	1140 TEMP a18i000
.10000E-05	248.681	244.263	233.108	232.971	232.943	232.944
.20000E-05	262.701	258.408	247.660	247.524	247.495	247.496
31.558	262.701	258.408	247.660	247.524	247.495	247.496
.31558E+07	272.414	268.239	257.850	257.716	257.687	257.688
.63116E+07	273.957	269.810	259.507	259.373	259.345	259.345
.94673E+07	274.639	270.513	260.268	260.135	260.107	260.107
.12623E+08	274.847	270.740	260.548	260.415	260.387	260.387
.15779E+08	274.933	270.844	260.696	260.564	260.536	260.536
.18935E+08	274.900	270.828	260.721	260.590	260.562	260.563
.22090E+08	274.805	270.748	260.681	260.550	260.522	260.523

.25246E+08	274.661	270.619	260.589	260.458	260.431	260.431
.28402E+08	274.475	270.448	260.454	260.323	260.296	260.296
.31558E+08	274.261	270.247	260.287	260.157	260.130	260.130
.63115E+08	271.626	267.733	258.057	257.932	257.905	257.906
.94673E+08	268.642	264.848	255.403	255.281	255.256	255.256
.12623E+09	265.732	262.024	252.778	252.660	252.635	252.635
.15779E+09	263.095	259.461	250.386	250.271	250.247	250.247
.18935E+09	260.232	256.675	247.775	247.663	247.639	247.640
.22090E+09	257.702	254.210	245.466	245.356	245.333	245.334
.25246E+09	255.364	251.934	243.337	243.230	243.208	243.208
.28402E+09	252.752	249.377	240.915	240.810	240.788	240.788
.31558E+09	250.605	247.279	238.931	238.827	238.806	238.807
.63115E+09	229.680	226.829	219.587	219.500	219.483	219.484
.94673E+09	212.120	209.637	203.267	203.193	203.179	203.180
.12623E+10	197.004	194.810	189.143	189.079	189.067	189.068
.15779E+10	183.961	182.019	176.968	176.913	176.902	176.903
.18935E+10	173.220	171.482	166.936	166.887	166.878	166.878
.22090E+10	164.177	162.607	158.480	158.437	158.429	158.429
.25246E+10	156.243	154.813	151.035	150.996	150.989	150.989
.28402E+10	149.942	148.623	145.129	145.094	145.087	145.088
.31558E+10	144.219	143.003	139.776	139.743	139.738	139.738
.63115E+10	116.446	115.704	113.708	113.689	113.686	113.686
.94673E+10	105.812	105.237	103.684	103.669	103.667	103.667
.12623E+11	99.5994	99.1217	97.8280	97.8161	97.8140	97.8141
.15779E+11	95.3259	94.9124	93.7910	93.7808	93.7790	93.7791
.18935E+11	91.6454	91.2823	90.2964	90.2875	90.2859	90.2860
.22090E+11	88.6824	88.3578	87.4754	87.4674	87.4661	87.4661
.25246E+11	86.0916	85.8001	85.0067	84.9996	84.9984	84.9984
.28402E+11	83.9132	83.6481	82.9262	82.9198	82.9187	82.9188
.31558E+11	82.0784	81.8352	81.1722	81.1664	81.1654	81.1654

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1076 TEMP s18i000	1082 TEMP h18i000	1080 TEMP c18i000	1078 TEMP h18o000	1075 TEMP s18o000	1121 TEMP a18o000
.10000E-05	233.031	239.034	238.507	232.517	219.255	219.099
.20000E-05	247.581	253.211	252.592	246.736	233.930	233.776
31.558	247.581	253.211	252.592	246.736	233.930	233.776
.31558E+07	257.771	263.133	262.481	256.782	244.371	244.218
.63116E+07	259.428	264.723	264.060	258.398	246.084	245.933
.94673E+07	260.190	265.448	264.784	259.151	246.907	246.756
.12623E+08	260.469	265.697	265.034	259.428	247.247	247.096
.15779E+08	260.618	265.821	265.160	259.578	247.452	247.302
.18935E+08	260.644	265.825	265.167	259.607	247.533	247.383
.22090E+08	260.604	265.766	265.110	259.572	247.546	247.397
.25246E+08	260.512	265.656	265.003	259.486	247.507	247.359
.28402E+08	260.377	265.504	264.855	259.358	247.423	247.275
.31558E+08	260.210	265.322	264.676	259.200	247.307	247.160
.63115E+08	257.983	262.972	262.361	257.052	245.517	245.375
.94673E+08	255.332	260.229	259.651	254.482	243.240	243.103
.12623E+09	252.709	257.529	256.981	251.934	240.947	240.813
.15779E+09	250.320	255.073	254.550	249.607	238.842	238.711
.18935E+09	247.711	252.395	251.898	247.063	236.526	236.399
.22090E+09	245.403	250.024	249.550	244.811	234.472	234.348
.25246E+09	243.276	247.836	247.382	242.735	232.583	232.461
.28402E+09	240.855	245.363	244.931	240.367	230.382	230.263
.31558E+09	238.872	243.336	242.921	238.427	228.583	228.467
.63115E+09	219.540	223.551	223.289	219.464	210.983	210.886
.94673E+09	203.228	206.863	206.706	203.396	195.982	195.899
.12623E+10	189.110	192.414	192.325	189.418	182.864	182.793

.15779E+10	176.941	179.941	179.901	177.339	171.521	171.459
.18935E+10	166.912	169.654	169.648	167.363	162.145	162.091
.22090E+10	158.459	160.982	161.000	158.945	154.222	154.174
.25246E+10	151.016	153.353	153.389	151.521	147.209	147.165
.28402E+10	145.113	147.289	147.334	145.614	141.638	141.599
.31558E+10	139.761	141.785	141.835	140.254	136.587	136.552
.63115E+10	113.700	114.993	115.054	114.098	111.848	111.827
.94673E+10	103.678	104.697	104.754	104.017	102.271	102.255
.12623E+11	97.8229	98.6777	98.7291	98.1176	96.6667	96.6536
.15779E+11	93.7866	94.5303	94.5768	94.0481	92.7918	92.7805
.18935E+11	90.2926	90.9485	90.9909	90.5271	89.4235	89.4137
.22090E+11	87.4720	88.0606	88.0996	87.6853	86.6982	86.6895
.25246E+11	85.0037	85.5341	85.5701	85.1983	84.3113	84.3035
.28402E+11	82.9235	83.4071	83.4405	83.1027	82.2961	82.2891
.31558E+11	81.1698	81.6147	81.6459	81.3360	80.5956	80.5891

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1120 TEMP t24i000	4124 TEMP a24i000	4072 TEMP s24i000	4075 TEMP h24i000	4077 TEMP c24i000	4079 TEMP h24o000
.10000E-05	219.091	219.044	219.103	222.011	217.802	206.355
.20000E-05	233.767	233.721	233.776	236.407	232.256	221.234
31.558	233.767	233.721	233.776	236.407	232.256	221.234
.31558E+07	244.210	244.164	244.218	246.700	242.659	232.032
.63116E+07	245.924	245.878	245.932	248.369	244.345	233.800
.94673E+07	246.747	246.702	246.755	249.173	245.168	234.685
.12623E+08	247.088	247.042	247.096	249.497	245.511	235.084
.15779E+08	247.294	247.248	247.302	249.691	245.722	235.344
.18935E+08	247.375	247.330	247.383	249.761	245.809	235.477
.22090E+08	247.389	247.344	247.397	249.766	245.830	235.541
.25246E+08	247.350	247.305	247.358	249.719	245.799	235.550
.28402E+08	247.267	247.222	247.275	249.628	245.723	235.514
.31558E+08	247.152	247.107	247.160	249.505	245.616	235.445
.63115E+08	245.367	245.324	245.375	247.669	243.909	234.056
.94673E+08	243.095	243.054	243.103	245.361	241.711	232.119
.12623E+09	240.806	240.766	240.814	243.044	239.490	230.123
.15779E+09	238.704	238.665	238.712	240.919	237.448	228.275
.18935E+09	236.392	236.354	236.400	238.583	235.198	226.222
.22090E+09	234.341	234.304	234.349	236.511	233.201	224.398
.25246E+09	232.455	232.418	232.463	234.604	231.364	222.723
.28402E+09	230.256	230.221	230.265	232.391	229.214	220.718
.31558E+09	228.460	228.425	228.469	230.582	227.459	219.086
.63115E+09	210.881	210.852	210.889	212.856	210.244	203.054
.94673E+09	195.895	195.870	195.903	197.725	195.495	189.233
.12623E+10	182.789	182.768	182.797	184.483	182.555	177.036
.15779E+10	171.456	171.438	171.464	173.025	171.350	166.467
.18935E+10	162.088	162.072	162.095	163.544	162.069	157.701
.22090E+10	154.171	154.157	154.178	155.528	154.216	150.270
.25246E+10	147.163	147.151	147.170	148.428	147.244	143.648
.28402E+10	141.597	141.586	141.603	142.781	141.699	138.387
.31558E+10	136.550	136.539	136.555	137.657	136.667	133.616
.63115E+10	111.826	111.820	111.830	112.555	111.976	110.116
.94673E+10	102.255	102.250	102.257	102.836	102.397	100.959
.12623E+11	96.6530	96.6492	96.6555	97.1424	96.7802	95.5865
.15779E+11	92.7800	92.7767	92.7821	93.2071	92.8954	91.8628
.18935E+11	89.4132	89.4104	89.4151	89.7909	89.5186	88.6122
.22090E+11	86.6891	86.6865	86.6908	87.0287	86.7862	85.9761
.25246E+11	84.3031	84.3009	84.3046	84.6099	84.3930	83.6656
.28402E+11	82.2887	82.2867	82.2901	82.5690	82.3724	81.7114
.31558E+11	80.5888	80.5869	80.5901	80.8470	80.6672	80.0606

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4073 TEMP s24c000	4137 TEMP t24o000	4865 TEMP g24i000	4860 TEMP g24o000	5019 TEMP m24i000	4946 TEMP m24o000
.10000E-05	183.269	182.939	167.090	166.819	154.156	152.647
.20000E-05	199.209	198.888	184.080	183.814	171.827	170.339
31.558	199.209	198.888	184.080	183.814	171.827	170.339
.31558E+07	210.944	210.634	196.694	196.436	185.067	183.618
.63116E+07	212.906	212.597	198.818	198.562	187.307	185.866
.94673E+07	213.926	213.620	199.950	199.695	188.522	187.089
.12623E+08	214.445	214.140	200.562	200.308	189.207	187.781
.15779E+08	214.810	214.507	201.007	200.754	189.716	188.297
.18935E+08	215.039	214.737	201.307	201.055	190.073	188.661
.22090E+08	215.192	214.892	201.525	201.275	190.345	188.939
.25246E+08	215.287	214.987	201.681	201.432	190.551	189.150
.28402E+08	215.332	215.034	201.783	201.535	190.701	189.306
.31558E+08	215.340	215.043	201.846	201.599	190.810	189.421
.63115E+08	214.590	214.303	201.531	201.292	190.867	189.525
.94673E+08	213.168	212.889	200.449	200.217	190.081	188.779
.12623E+09	211.614	211.342	199.182	198.956	189.067	187.800
.15779E+09	210.144	209.878	197.956	197.735	188.056	186.820
.18935E+09	208.478	208.218	196.537	196.322	186.858	185.652
.22090E+09	206.988	206.734	195.263	195.052	185.774	184.595
.25246E+09	205.630	205.381	194.110	193.904	184.801	183.647
.28402E+09	203.905	203.660	192.558	192.356	183.406	182.275
.31558E+09	202.510	202.270	191.313	191.114	182.295	181.183
.63115E+09	188.785	188.583	179.053	178.885	171.329	170.402
.94673E+09	176.802	176.628	168.229	168.087	161.519	160.734
.12623E+10	166.048	165.897	158.386	158.263	152.469	151.792
.15779E+10	156.718	156.586	149.856	149.749	144.616	144.027
.18935E+10	148.961	148.844	142.759	142.665	138.067	137.547
.22090E+10	142.370	142.265	136.728	136.643	132.491	132.028
.25246E+10	136.448	136.353	131.271	131.195	127.411	126.994
.28402E+10	131.749	131.661	126.953	126.883	123.397	123.016
.31558E+10	127.495	127.415	123.054	122.990	119.778	119.430
.63115E+10	106.367	106.319	103.592	103.554	101.597	101.393
.94673E+10	98.0538	98.0172	95.8882	95.8593	94.3469	94.1921
.12623E+11	93.1750	93.1448	91.3676	91.3438	90.0895	89.9625
.15779E+11	89.7758	89.7498	88.2051	88.1847	87.0998	86.9907
.18935E+11	86.7795	86.7567	85.3950	85.3772	84.4247	84.3296
.22090E+11	84.3373	84.3170	83.0955	83.0796	82.2281	82.1436
.25246E+11	82.1934	82.1753	81.0750	81.0608	80.2961	80.2206
.28402E+11	80.3730	80.3565	79.3538	79.3410	78.6460	78.5776
.31558E+11	78.8322	78.8171	77.8951	77.8833	77.2455	77.1830

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:05 APR 10, 1995 CP= 109347.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5435 TEMP i24i000	5508 TEMP i24o000	6022 TEMP o24o000
.10000E-05	29.8252	28.0967	26.1400

.20000E-05	72.5481	70.8225	68.8639
31.558	72.5481	70.8225	68.8639
.31558E+07	100.537	98.8551	97.0071
.63116E+07	104.961	103.292	101.458
.94673E+07	107.474	105.814	103.995
.12623E+08	109.232	107.584	105.779
.15779E+08	110.584	108.945	107.152
.18935E+08	111.660	110.029	108.247
.22090E+08	112.562	110.940	109.169
.25246E+08	113.331	111.717	109.955
.28402E+08	113.999	112.391	110.639
.31558E+08	114.585	112.985	111.241
.63115E+08	118.107	116.567	114.894
.94673E+08	119.757	118.268	116.652
.12623E+09	120.675	119.229	117.662
.15779E+09	121.254	119.844	118.319
.18935E+09	121.609	120.236	118.753
.22090E+09	121.857	120.517	119.070
.25246E+09	122.156	120.847	119.434
.28402E+09	121.704	120.422	119.038
.31558E+09	121.422	120.164	118.804
.63115E+09	118.547	117.506	116.382
.94673E+09	114.934	114.055	113.107
.12623E+10	110.592	109.837	109.020
.15779E+10	106.924	106.270	105.563
.18935E+10	103.852	103.278	102.657
.22090E+10	101.239	100.730	100.178
.25246E+10	98.5996	98.1424	97.6490
.28402E+10	96.6076	96.1916	95.7441
.31558E+10	94.8979	94.5190	94.1128
.63115E+10	85.7503	85.5338	85.3037
.94673E+10	81.8597	81.6967	81.5242
.12623E+11	79.6091	79.4759	79.3355
.15779E+11	77.9533	77.8393	77.7193
.18935E+11	76.3241	76.2250	76.1206
.22090E+11	74.9313	74.8434	74.7509
.25246E+11	73.6998	73.6214	73.5389
.28402E+11	72.6150	72.5441	72.4697
.31558E+11	71.6829	71.6182	71.5504

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NCODE 854 ITEM= TEMP COMP= NAME= c02i045

*** WARNING *** CP= 109348.010 TIME= 03:54:05
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NCODE 881 ITEM= TEMP COMP= NAME= h02o045

VARIABLE 4 IS AT NCODE 862 ITEM= TEMP COMP= NAME= s02o045

VARIABLE 5 IS AT NCODE 897 ITEM= TEMP COMP= NAME= a02o045

VARIABLE 6 IS AT NCODE 901 ITEM= TEMP COMP= NAME= t02o045

VARIABLE 7 IS AT NCODE 1952 ITEM= TEMP COMP= NAME= t07i045

VARIABLE 8 IS AT NCODE 1934 ITEM= TEMP COMP= NAME= a07i045

VARIABLE 9 IS AT NCODE 1832 ITEM= TEMP COMP= NAME= s07i045

VARIABLE 10 IS AT NCODE 1859 ITEM= TEMP COMP= NAME= h07i045

VARIABLE 11 IS AT NCODE 1871 ITEM= TEMP COMP= NAME= c07i045

VARIABLE 12 IS AT NCODE 1883 ITEM= TEMP COMP= NAME= h07o045

VARIABLE 13 IS AT NODE 1816 ITEM= TEMP COMP= NAME= s07o045
 VARIABLE 14 IS AT NODE 1907 ITEM= TEMP COMP= NAME= a07o045
 VARIABLE 15 IS AT NODE 1896 ITEM= TEMP COMP= NAME= t07o045
 VARIABLE 16 IS AT NODE 3415 ITEM= TEMP COMP= NAME= t16i045
 VARIABLE 17 IS AT NODE 3397 ITEM= TEMP COMP= NAME= a16i045
 VARIABLE 18 IS AT NODE 3295 ITEM= TEMP COMP= NAME= s16i045
 VARIABLE 19 IS AT NODE 3322 ITEM= TEMP COMP= NAME= h16i045
 VARIABLE 20 IS AT NODE 3334 ITEM= TEMP COMP= NAME= c16i045
 VARIABLE 21 IS AT NODE 3346 ITEM= TEMP COMP= NAME= h16o045
 VARIABLE 22 IS AT NODE 3279 ITEM= TEMP COMP= NAME= s16o045
 VARIABLE 23 IS AT NODE 3370 ITEM= TEMP COMP= NAME= a16o045
 VARIABLE 24 IS AT NODE 3359 ITEM= TEMP COMP= NAME= t16o045
 VARIABLE 25 IS AT NODE 4698 ITEM= TEMP COMP= NAME= g16i045
 VARIABLE 26 IS AT NODE 5050 ITEM= TEMP COMP= NAME= m16i045
 VARIABLE 27 IS AT NODE 4983 ITEM= TEMP COMP= NAME= m16o045
 VARIABLE 28 IS AT NODE 5472 ITEM= TEMP COMP= NAME= i16i045
 VARIABLE 29 IS AT NODE 5547 ITEM= TEMP COMP= NAME= i16o045
 VARIABLE 30 IS AT NODE 6061 ITEM= TEMP COMP= NAME= o16o045
 Add centers of assemblies 6, 14, 15, 17, 22, 23
 VARIABLE 31 IS AT NODE 1662 ITEM= TEMP COMP= NAME= c06i045
 VARIABLE 32 IS AT NODE 2916 ITEM= TEMP COMP= NAME= c14i045
 VARIABLE 33 IS AT NODE 3125 ITEM= TEMP COMP= NAME= c15i045
 VARIABLE 34 IS AT NODE 2080 ITEM= TEMP COMP= NAME= c17i045
 VARIABLE 35 IS AT NODE 3738 ITEM= TEMP COMP= NAME= c22i045
 VARIABLE 36 IS AT NODE 3933 ITEM= TEMP COMP= NAME= c23i045

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	854 TEMP	c02i045	82.28	.3156E+11	279.7	.1578E+08
3	NSOL	881 TEMP	h02o045	81.97	.3156E+11	275.1	.1578E+08
4	NSOL	862 TEMP	s02o045	81.47	.3156E+11	267.7	.1578E+08
5	NSOL	897 TEMP	a02o045	81.47	.3156E+11	267.6	.1578E+08
6	NSOL	901 TEMP	t02o045	81.46	.3156E+11	267.6	.1578E+08
7	NSOL	1952 TEMP	t07i045	81.44	.3156E+11	267.0	.1578E+08
8	NSOL	1934 TEMP	a07i045	81.43	.3156E+11	266.9	.1578E+08
9	NSOL	1832 TEMP	s07i045	81.43	.3156E+11	266.8	.1578E+08
10	NSOL	1859 TEMP	h07i045	81.82	.3156E+11	271.6	.1578E+08
11	NSOL	1871 TEMP	c07i045	82.00	.3156E+11	273.1	.1578E+08
12	NSOL	1883 TEMP	h07o045	81.60	.3156E+11	266.4	.1893E+08
13	NSOL	1816 TEMP	s07o045	81.03	.3156E+11	257.2	.1893E+08
14	NSOL	1907 TEMP	a07o045	81.02	.3156E+11	257.0	.1893E+08
15	NSOL	1896 TEMP	t07o045	81.01	.3156E+11	256.8	.1893E+08
16	NSOL	3415 TEMP	t16i045	80.95	.3156E+11	255.5	.1893E+08
17	NSOL	3397 TEMP	a16i045	80.95	.3156E+11	255.3	.1893E+08

18	NSOL	3295	TEMP	s16i045	80.94	.3156E+11	255.1	.1893E+08
19	NSOL	3322	TEMP	h16i045	81.25	.3156E+11	258.3	.1893E+08
20	NSOL	3334	TEMP	c16i045	81.33	.3156E+11	257.5	.1893E+08
21	NSOL	3346	TEMP	h16o045	80.81	.3156E+11	248.0	.2209E+08
22	NSOL	3279	TEMP	s16o045	80.18	.3156E+11	237.1	.2525E+08
23	NSOL	3370	TEMP	a16o045	80.17	.3156E+11	236.9	.2525E+08
24	NSOL	3359	TEMP	t16o045	80.16	.3156E+11	236.7	.2525E+08
25	NSOL	4698	TEMP	g16i045	77.87	.3156E+11	204.3	.3156E+08
26	NSOL	5050	TEMP	m16i045	76.65	.3156E+11	186.1	.6312E+08
27	NSOL	4983	TEMP	m16o045	76.59	.3156E+11	184.6	.6312E+08
28	NSOL	5472	TEMP	i16i045	30.12	.1000E-05	121.3	.2525E+09
29	NSOL	5547	TEMP	i16o045	28.14	.1000E-05	119.8	.2525E+09
30	NSOL	6061	TEMP	o16o045	26.14	.1000E-05	118.3	.2525E+09
31	NSOL	1662	TEMP	c06i045	82.21	.3156E+11	277.9	.1578E+08
32	NSOL	2916	TEMP	c14i045	81.98	.3156E+11	272.5	.1578E+08
33	NSOL	3125	TEMP	c15i045	81.75	.3156E+11	267.3	.1578E+08
34	NSOL	2080	TEMP	c17i045	81.60	.3156E+11	263.8	.1893E+08
35	NSOL	3738	TEMP	c22i045	81.49	.3156E+11	261.7	.1893E+08
36	NSOL	3933	TEMP	c23i045	81.09	.3156E+11	253.8	.1893E+08
37	NSOL	4946	TEMP	m24o000	77.18	.3156E+11	189.5	.6312E+08
38	NSOL	5435	TEMP	i24i000	29.83	.1000E-05	122.2	.2525E+09
39	NSOL	5508	TEMP	i24o000	28.10	.1000E-05	120.8	.2525E+09
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	119.4	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	854 TEMP c02i045	881 TEMP h02o045	862 TEMP s02o045	897 TEMP a02o045	901 TEMP t02o045	1952 TEMP t07i045
.10000E-05	253.652	248.606	240.468	240.364	240.275	239.677
.20000E-05	267.639	262.793	254.977	254.874	254.785	254.194
31.558	267.639	262.793	254.977	254.874	254.785	254.194
.31558E+07	277.247	272.566	265.016	264.914	264.826	264.250
.63116E+07	278.772	274.129	266.643	266.542	266.454	265.881
.94673E+07	279.433	274.816	267.372	267.271	267.184	266.614
.12623E+08	279.619	275.025	267.620	267.519	267.432	266.864
.15779E+08	279.686	275.112	267.738	267.638	267.551	266.986
.18935E+08	279.634	275.078	267.734	267.634	267.548	266.985
.22090E+08	279.520	274.981	267.665	267.565	267.480	266.919
.25246E+08	279.357	274.834	267.545	267.446	267.360	266.802
.28402E+08	279.153	274.646	267.382	267.283	267.198	266.642
.31558E+08	278.921	274.428	267.188	267.090	267.005	266.451
.63115E+08	276.130	271.762	264.723	264.628	264.546	264.010
.94673E+08	273.011	268.743	261.867	261.775	261.696	261.175
.12623E+09	269.981	265.800	259.064	258.974	258.897	258.390
.15779E+09	267.241	263.134	256.518	256.431	256.356	255.861
.18935E+09	264.272	260.241	253.749	253.664	253.591	253.108
.22090E+09	261.651	257.687	251.302	251.219	251.148	250.675
.25246E+09	259.229	255.328	249.045	248.964	248.894	248.432
.28402E+09	256.541	252.695	246.503	246.424	246.356	245.902
.31558E+09	254.329	250.531	244.419	244.341	244.274	243.828
.63115E+09	232.774	229.460	224.136	224.072	224.017	223.643
.94673E+09	214.736	211.810	207.109	207.056	207.009	206.690
.12623E+10	199.263	196.645	192.448	192.401	192.362	192.085
.15779E+10	185.919	183.580	179.830	179.790	179.756	179.515
.18935E+10	174.941	172.830	169.449	169.414	169.384	169.171
.22090E+10	165.705	163.786	160.711	160.680	160.654	160.464
.25246E+10	157.616	155.855	153.036	153.008	152.985	152.814
.28402E+10	151.195	149.564	146.953	146.928	146.906	146.750
.31558E+10	145.363	143.853	141.440	141.417	141.397	141.255
.63115E+10	117.112	116.174	114.674	114.661	114.650	114.566

.94673E+10	106.317	105.585	104.416	104.406	104.398	104.334
.12623E+11	100.015	99.4041	98.4294	98.4211	98.4141	98.3614
.15779E+11	95.6835	95.1534	94.3081	94.3011	94.2950	94.2497
.18935E+11	91.9578	91.4915	90.7480	90.7418	90.7366	90.6970
.22090E+11	88.9606	88.5430	87.8773	87.8718	87.8671	87.8319
.25246E+11	86.3405	85.9649	85.3662	85.3613	85.3571	85.3256
.28402E+11	84.1386	83.7968	83.2519	83.2474	83.2436	83.2151
.31558E+11	82.2847	81.9707	81.4702	81.4661	81.4626	81.4365

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1934 TEMP a07i045	1832 TEMP s07i045	1859 TEMP h07i045	1871 TEMP c07i045	1883 TEMP h07o045	1816 TEMP s07o045
.10000E-05	239.587	239.506	244.952	246.825	239.609	229.504
.20000E-05	254.104	254.022	259.159	260.849	253.837	244.052
31.558	254.104	254.022	259.159	260.849	253.837	244.052
.31558E+07	264.161	264.082	268.995	270.568	263.742	254.247
.63116E+07	265.792	265.713	270.571	272.115	265.336	255.914
.94673E+07	266.526	266.446	271.273	272.804	266.060	256.689
.12623E+08	266.777	266.698	271.498	273.020	266.307	256.983
.15779E+08	266.898	266.820	271.599	273.113	266.428	257.145
.18935E+08	266.898	266.820	271.579	273.087	266.430	257.185
.22090E+08	266.832	266.754	271.496	272.999	266.367	257.158
.25246E+08	266.716	266.638	271.364	272.861	266.254	257.080
.28402E+08	266.556	266.478	271.189	272.683	266.099	256.958
.31558E+08	266.365	266.288	270.984	272.475	265.914	256.805
.63115E+08	263.927	263.853	268.434	269.900	263.534	254.694
.94673E+08	261.094	261.023	265.515	266.968	260.764	252.143
.12623E+09	258.312	258.242	262.660	264.103	258.040	249.610
.15779E+09	255.785	255.717	260.071	261.506	255.563	247.298
.18935E+09	253.034	252.968	257.257	258.683	252.864	244.769
.22090E+09	250.603	250.538	254.771	256.188	250.475	242.530
.25246E+09	248.361	248.298	252.474	253.882	248.270	240.468
.28402E+09	245.833	245.771	249.898	251.300	245.781	238.108
.31558E+09	243.761	243.700	247.782	249.179	243.740	236.176
.63115E+09	223.588	223.538	227.182	228.500	223.834	217.318
.94673E+09	206.644	206.602	209.885	211.124	207.060	201.361
.12623E+10	192.045	192.010	194.987	196.148	192.555	187.513
.15779E+10	179.480	179.450	182.143	183.220	180.039	175.563
.18935E+10	169.141	169.114	171.569	172.570	169.721	165.706
.22090E+10	160.437	160.414	162.666	163.600	161.026	157.392
.25246E+10	152.790	152.769	154.850	155.726	153.380	150.061
.28402E+10	146.728	146.709	148.647	149.471	147.306	144.243
.31558E+10	141.235	141.217	143.017	143.788	141.793	138.968
.63115E+10	114.554	114.544	115.687	116.196	114.977	113.243
.94673E+10	104.325	104.318	105.216	105.622	104.678	103.332
.12623E+11	98.3544	98.3482	99.1009	99.4436	98.6584	97.5396
.15779E+11	94.2436	94.2383	94.8927	95.1919	94.5122	93.5432
.18935E+11	90.6917	90.6870	91.2638	91.5284	90.9315	90.0802
.22090E+11	87.8272	87.8231	88.3403	88.5783	88.0446	87.2831
.25246E+11	85.3214	85.3177	85.7836	85.9985	85.5191	84.8348
.28402E+11	83.2113	83.2079	83.6325	83.8288	83.3929	82.7706
.31558E+11	81.4330	81.4300	81.8204	82.0012	81.6011	81.0298

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1907 TEMP a07c045	1896 TEMP t07c045	3415 TEMP t16i045	3397 TEMP a16i045	3295 TEMP s16i045	3322 TEMP h16i045
.10000E-05	229.284	229.081	227.718	227.515	227.317	231.148
.20000E-05	243.832	243.629	242.282	242.078	241.880	245.393
31.558	243.832	243.629	242.282	242.078	241.880	245.393
.31558E+07	254.029	253.828	252.503	252.301	252.105	255.405
.63116E+07	255.696	255.496	254.176	253.975	253.779	257.026
.94673E+07	256.472	256.273	254.959	254.758	254.564	257.784
.12623E+08	256.767	256.568	255.260	255.061	254.867	258.066
.15779E+08	256.931	256.733	255.430	255.231	255.038	258.221
.18935E+08	256.971	256.774	255.477	255.279	255.087	258.255
.22090E+08	256.945	256.749	255.457	255.260	255.068	258.224
.25246E+08	256.868	256.672	255.386	255.189	254.998	258.143
.28402E+08	256.747	256.552	255.270	255.075	254.885	258.019
.31558E+08	256.595	256.401	255.124	254.929	254.740	257.865
.63115E+08	254.491	254.303	253.069	252.881	252.698	255.754
.94673E+08	251.946	251.765	250.567	250.384	250.208	253.216
.12623E+09	249.419	249.242	248.076	247.899	247.727	250.696
.15779E+09	247.111	246.939	245.801	245.628	245.461	248.393
.18935E+09	244.587	244.420	243.310	243.141	242.978	245.875
.22090E+09	242.353	242.189	241.104	240.940	240.781	243.646
.25246E+09	240.294	240.135	239.072	238.912	238.757	241.591
.28402E+09	237.938	237.782	236.741	236.584	236.432	239.242
.31558E+09	236.010	235.856	234.833	234.679	234.530	237.319
.63115E+09	217.181	217.055	216.198	216.071	215.949	218.513
.94673E+09	201.247	201.141	200.410	200.304	200.202	202.566
.12623E+10	187.415	187.325	186.692	186.601	186.513	188.686
.15779E+10	175.478	175.401	174.849	174.771	174.696	176.691
.18935E+10	165.632	165.564	165.078	165.010	164.944	166.782
.22090E+10	157.326	157.266	156.834	156.773	156.715	158.418
.25246E+10	150.002	149.948	149.559	149.505	149.453	151.039
.28402E+10	144.190	144.141	143.786	143.736	143.689	145.171
.31558E+10	138.920	138.875	138.550	138.506	138.462	139.845
.63115E+10	113.215	113.189	112.999	112.973	112.948	113.845
.94673E+10	103.311	103.292	103.146	103.127	103.108	103.820
.12623E+11	97.5222	97.5063	97.3868	97.3708	97.3555	97.9536
.15779E+11	93.5282	93.5146	93.4118	93.3981	93.3849	93.9060
.18935E+11	90.0672	90.0553	89.9656	89.9536	89.9421	90.4024
.22090E+11	87.2715	87.2609	87.1811	87.1704	87.1602	87.5737
.25246E+11	84.8244	84.8149	84.7436	84.7340	84.7249	85.0979
.28402E+11	82.7612	82.7526	82.6880	82.6793	82.6711	83.0114
.31558E+11	81.0212	81.0134	80.9543	80.9464	80.9388	81.2521

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3334 TEMP c16i045	3346 TEMP h16c045	3279 TEMP s16c045	3370 TEMP a16c045	3359 TEMP t16c045	4698 TEMP g16i045
.10000E-05	230.652	220.503	208.539	208.341	208.165	169.549
.20000E-05	244.710	234.782	223.205	223.010	222.836	186.750
31.558	244.710	234.782	223.205	223.010	222.836	186.750
.31558E+07	254.625	244.914	233.662	233.471	233.300	199.213
.63116E+07	256.224	246.573	235.405	235.214	235.044	201.339
.94673E+07	256.978	247.376	236.268	236.078	235.909	202.463
.12623E+08	257.259	247.702	236.650	236.461	236.294	203.065

.15779E+08	257.415	247.900	236.898	236.710	236.542	203.499
.18935E+08	257.451	247.975	237.021	236.833	236.667	203.788
.22090E+08	257.423	247.985	237.075	236.889	236.723	203.995
.25246E+08	257.346	247.944	237.077	236.891	236.726	204.140
.28402E+08	257.226	247.859	237.034	236.849	236.684	204.231
.31558E+08	257.076	247.743	236.958	236.774	236.610	204.283
.63115E+08	255.011	245.969	235.523	235.345	235.187	203.865
.94673E+08	252.519	243.722	233.556	233.383	233.230	202.690
.12623E+09	250.040	241.459	231.536	231.368	231.219	201.341
.15779E+09	247.775	239.382	229.668	229.504	229.358	200.043
.18935E+09	245.296	237.095	227.595	227.435	227.293	198.551
.22090E+09	243.101	235.066	225.752	225.596	225.457	197.213
.25246E+09	241.076	233.199	224.059	223.907	223.771	196.001
.28402E+09	238.760	231.026	222.045	221.895	221.762	194.394
.31558E+09	236.863	229.250	220.402	220.255	220.124	193.103
.63115E+09	218.285	211.821	204.250	204.128	204.019	180.411
.94673E+09	202.488	196.903	190.332	190.228	190.135	169.267
.12623E+10	188.705	183.818	178.038	177.948	177.868	159.194
.15779E+10	176.776	172.478	167.368	167.290	167.221	150.482
.18935E+10	166.910	163.083	158.515	158.447	158.385	143.255
.22090E+10	158.575	155.135	151.012	150.952	150.897	137.120
.25246E+10	151.214	148.088	144.336	144.281	144.232	131.586
.28402E+10	145.351	142.480	139.027	138.977	138.932	127.212
.31558E+10	140.028	137.390	134.210	134.165	134.124	123.265
.63115E+10	114.010	112.420	110.485	110.458	110.434	103.639
.94673E+10	103.964	102.739	101.243	101.222	101.204	95.8985
.12623E+11	98.0800	97.0653	95.8233	95.8067	95.7916	91.3634
.15779E+11	94.0190	93.1422	92.0678	92.0535	92.0405	88.1939
.18935E+11	90.5042	89.7355	88.7925	88.7800	88.7686	85.3798
.22090E+11	87.6667	86.9802	86.1373	86.1262	86.1160	83.0778
.25246E+11	85.1831	84.5671	83.8101	83.8001	83.7911	81.0557
.28402E+11	83.0901	82.5305	81.8425	81.8335	81.8253	79.3336
.31558E+11	81.3253	80.8121	80.1807	80.1724	80.1649	77.8743

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5050 TEMP m16i045	4983 TEMP m16o045	5472 TEMP i16i045	5547 TEMP i16o045	6061 TEMP o16o045	1662 TEMP c06i045
.10000E-05	147.339	145.674	30.1247	28.1442	26.1400	251.815
.20000E-05	166.107	164.433	72.8372	70.8555	68.8428	265.807
31.558	166.107	164.433	72.8373	70.8555	68.8428	265.807
.31558E+07	179.788	178.127	99.6247	97.7039	95.7030	275.423
.63116E+07	182.149	180.493	104.035	102.128	100.135	276.953
.94673E+07	183.434	181.785	106.546	104.650	102.671	277.621
.12623E+08	184.171	182.530	108.307	106.422	104.459	277.815
.15779E+08	184.720	183.086	109.658	107.785	105.833	277.888
.18935E+08	185.111	183.484	110.736	108.872	106.933	277.843
.22090E+08	185.411	183.791	111.640	109.785	107.856	277.736
.25246E+08	185.643	184.028	112.411	110.566	108.647	277.580
.28402E+08	185.815	184.207	113.079	111.242	109.333	277.383
.31558E+08	185.944	184.343	113.668	111.839	109.940	277.157
.63115E+08	186.137	184.592	117.206	115.447	113.623	274.425
.94673E+08	185.434	183.938	118.869	117.168	115.407	271.357
.12623E+09	184.482	183.029	119.800	118.149	116.441	268.372
.15779E+09	183.522	182.106	120.389	118.782	117.118	265.671
.18935E+09	182.371	180.993	120.755	119.192	117.574	262.742
.22090E+09	181.329	179.985	121.013	119.488	117.909	260.157
.25246E+09	180.399	179.085	121.321	119.831	118.289	257.767
.28402E+09	179.030	177.745	120.888	119.430	117.921	255.108
.31558E+09	177.944	176.684	120.621	119.190	117.709	252.922

.63115E+09	167.264	166.232	117.850	116.672	115.449	231.607
.94673E+09	157.725	156.866	114.317	113.326	112.296	213.751
.12623E+10	148.916	148.186	110.051	109.202	108.317	198.415
.15779E+10	141.302	140.676	106.438	105.705	104.939	185.185
.18935E+10	134.974	134.427	103.411	102.768	102.095	174.296
.22090E+10	129.600	129.117	100.833	100.263	99.6653	165.133
.25246E+10	124.700	124.268	98.2275	97.7173	97.1825	157.103
.28402E+10	120.840	120.449	96.2608	95.7969	95.3115	150.727
.31558E+10	117.372	117.017	94.5715	94.1494	93.7080	144.935
.63115E+10	99.9809	99.7798	85.5411	85.3008	85.0494	116.864
.94673E+10	93.0504	92.8995	81.6917	81.5110	81.3217	106.129
.12623E+11	88.9916	88.8688	79.4661	79.3186	79.1640	99.8600
.15779E+11	86.1363	86.0316	77.8277	77.7015	77.5691	95.5500
.18935E+11	83.5691	83.4782	76.2148	76.1050	75.9899	91.8412
.22090E+11	81.4557	81.3752	74.8334	74.7361	74.6340	88.8568
.25246E+11	79.5965	79.5248	73.6115	73.5247	73.4335	86.2477
.28402E+11	78.0051	77.9405	72.5339	72.4554	72.3731	84.0545
.31558E+11	76.6534	76.5944	71.6071	71.5355	71.4603	82.2077

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:12 APR 10, 1995 CP= 109354.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2916 TEMP	3125 TEMP	2080 TEMP	3738 TEMP	3933 TEMP
	c14i045	c15i045	c17i045	c22i045	c23i045
.10000E-05	246.348	240.818	237.171	235.204	226.672
.20000E-05	260.359	254.868	251.219	249.273	240.898
.31.558	260.359	254.868	251.219	249.273	240.898
.31558E+07	269.999	264.629	261.083	259.014	250.877
.63116E+07	271.543	266.193	262.661	260.593	252.503
.94673E+07	272.232	266.905	263.389	261.326	253.278
.12623E+08	272.448	267.144	263.643	261.587	253.578
.15779E+08	272.542	267.260	263.774	261.724	253.750
.18935E+08	272.518	267.258	263.785	261.741	253.801
.22090E+08	272.431	267.192	263.734	261.696	253.787
.25246E+08	272.295	267.077	263.632	261.601	253.723
.28402E+08	272.118	266.920	263.489	261.463	253.616
.31558E+08	271.912	266.733	263.315	261.296	253.478
.63115E+08	269.354	264.349	261.047	259.083	251.515
.94673E+08	266.438	261.581	258.379	256.464	249.104
.12623E+09	263.588	258.861	255.747	253.874	246.697
.15779E+09	261.004	256.388	253.349	251.514	244.496
.18935E+09	258.194	253.692	250.730	248.934	242.082
.22090E+09	255.711	251.307	248.411	246.650	239.943
.25246E+09	253.415	249.103	246.271	244.544	237.972
.28402E+09	250.844	246.618	243.847	242.152	235.704
.31558E+09	248.732	244.580	241.859	240.191	233.848
.63115E+09	228.137	224.684	222.433	221.018	215.668
.94673E+09	210.823	207.898	206.001	204.777	200.178
.12623E+10	195.892	193.363	191.731	190.660	186.652
.15779E+10	183.001	180.807	179.397	178.456	174.949
.18935E+10	172.379	170.449	169.212	168.376	165.268
.22090E+10	163.431	161.716	160.620	159.868	157.088
.25246E+10	155.576	154.034	153.052	152.369	149.851
.28402E+10	149.334	147.925	147.029	146.401	144.092
.31558E+10	143.663	142.376	141.560	140.982	138.864
.63115E+10	116.124	115.373	114.901	114.552	113.291
.94673E+10	105.567	104.997	104.641	104.371	103.406
.12623E+11	99.3983	98.9290	98.6367	98.4126	97.6146
.15779E+11	95.1527	94.7489	94.4979	94.3040	93.6156
.18935E+11	91.4943	91.1415	90.9224	90.7528	90.1499
.22090E+11	88.5479	88.2338	88.0390	87.8876	87.3497
.25246E+11	85.9713	85.6902	85.5161	85.3803	84.8982

.28402E+11	83.8041	83.5494	83.3918	83.2685	82.8310
.31558E+11	81.9785	81.7455	81.6014	81.4881	81.0872

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NCDE 924 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 109355.070 TIME= 03:54:12
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NCDE 928 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NCDE 453 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NCDE 930 ITEM= TEMP COMP= NAME= a01o090

VARIABLE 6 IS AT NCDE 926 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 7 IS AT NCDE 484 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 8 IS AT NCDE 492 ITEM= TEMP COMP= NAME= a05i090

VARIABLE 9 IS AT NCDE 491 ITEM= TEMP COMP= NAME= s05i090

VARIABLE 10 IS AT NCDE 490 ITEM= TEMP COMP= NAME= h05i090

VARIABLE 11 IS AT NCDE 488 ITEM= TEMP COMP= NAME= c05i090

VARIABLE 12 IS AT NCDE 1749 ITEM= TEMP COMP= NAME= h05o090

VARIABLE 13 IS AT NCDE 485 ITEM= TEMP COMP= NAME= s05o090

VARIABLE 14 IS AT NCDE 493 ITEM= TEMP COMP= NAME= a05o090

VARIABLE 15 IS AT NCDE 483 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 16 IS AT NCDE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 17 IS AT NCDE 2324 ITEM= TEMP COMP= NAME= a13i090

VARIABLE 18 IS AT NCDE 2322 ITEM= TEMP COMP= NAME= s13i090

VARIABLE 19 IS AT NCDE 2321 ITEM= TEMP COMP= NAME= h13i090

VARIABLE 20 IS AT NCDE 2319 ITEM= TEMP COMP= NAME= c13i090

VARIABLE 21 IS AT NCDE 3003 ITEM= TEMP COMP= NAME= h13o090

VARIABLE 22 IS AT NCDE 2316 ITEM= TEMP COMP= NAME= s13o090

VARIABLE 23 IS AT NCDE 2333 ITEM= TEMP COMP= NAME= a13o090

VARIABLE 26 IS AT NCDE 2315 ITEM= TEMP COMP= NAME= t13i090

VARIABLE 27 IS AT NCDE 574 ITEM= TEMP COMP= NAME= t21i090

VARIABLE 28 IS AT NCDE 582 ITEM= TEMP COMP= NAME= a21i090

VARIABLE 29 IS AT NCDE 581 ITEM= TEMP COMP= NAME= s21i090

VARIABLE 30 IS AT NCDE 3829 ITEM= TEMP COMP= NAME= h21i090

VARIABLE 31 IS AT NCDE 578 ITEM= TEMP COMP= NAME= c21i090

VARIABLE 32 IS AT NCDE 576 ITEM= TEMP COMP= NAME= h21o090

VARIABLE 33 IS AT NCDE 573 ITEM= TEMP COMP= NAME= s21o090

VARIABLE 34 IS AT NCDE 573 ITEM= TEMP COMP= NAME= t21o090
 VARIABLE 35 IS AT NCDE 4555 ITEM= TEMP COMP= NAME= g04i090
 VARIABLE 36 IS AT NCDE 4516 ITEM= TEMP COMP= NAME= g04o090
 VARIABLE 37 IS AT NCDE 4625 ITEM= TEMP COMP= NAME= m04i090
 VARIABLE 38 IS AT NCDE 4873 ITEM= TEMP COMP= NAME= m04o090
 VARIABLE 39 IS AT NCDE 5432 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 40 IS AT NCDE 5431 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 41 IS AT NCDE 6019 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	924 TEMP	c01i090	81.58	.3156E+11	270.4	.1578E+08
3 NSOL	928 TEMP	h01o090	81.57	.3156E+11	270.2	.1578E+08
4 NSOL	453 TEMP	s01o090	81.56	.3156E+11	270.0	.1578E+08
5 NSOL	930 TEMP	a01o090	81.55	.3156E+11	269.8	.1578E+08
6 NSOL	926 TEMP	t01o090	81.55	.3156E+11	269.8	.1578E+08
7 NSOL	484 TEMP	t05i090	81.55	.3156E+11	269.6	.1578E+08
8 NSOL	492 TEMP	a05i090	81.55	.3156E+11	269.6	.1578E+08
9 NSOL	491 TEMP	s05i090	81.54	.3156E+11	269.5	.1578E+08
10 NSOL	490 TEMP	h05i090	81.53	.3156E+11	269.3	.1578E+08
11 NSOL	488 TEMP	c05i090	81.50	.3156E+11	268.6	.1578E+08
12 NSOL	1749 TEMP	h05o090	81.46	.3156E+11	267.5	.1578E+08
13 NSOL	485 TEMP	s05o090	81.43	.3156E+11	266.8	.1578E+08
14 NSOL	493 TEMP	a05o090	81.41	.3156E+11	266.3	.1893E+08
15 NSOL	483 TEMP	t05i090	81.41	.3156E+11	266.3	.1893E+08
16 NSOL	2315 TEMP	t13i090	81.39	.3156E+11	265.8	.1893E+08
17 NSOL	2324 TEMP	a13i090	81.39	.3156E+11	265.8	.1893E+08
18 NSOL	2322 TEMP	s13i090	81.37	.3156E+11	265.3	.1893E+08
19 NSOL	2321 TEMP	h13i090	81.34	.3156E+11	264.7	.1893E+08
20 NSOL	2319 TEMP	c13i090	81.28	.3156E+11	263.2	.1893E+08
21 NSOL	3003 TEMP	h13o090	81.20	.3156E+11	261.2	.1893E+08
22 NSOL	2316 TEMP	s13o090	81.16	.3156E+11	260.1	.1893E+08
23 NSOL	2333 TEMP	a13o090	81.12	.3156E+11	259.3	.1893E+08
24 NSOL	3359 TEMP	t16o045	80.16	.3156E+11	236.7	.2525E+08
25 NSOL	4698 TEMP	g16i045	77.87	.3156E+11	204.3	.3156E+08
26 NSOL	2315 TEMP	t13i090	81.39	.3156E+11	265.8	.1893E+08
27 NSOL	574 TEMP	t21i090	81.09	.3156E+11	258.6	.1893E+08
28 NSOL	582 TEMP	a21i090	81.09	.3156E+11	258.5	.1893E+08
29 NSOL	581 TEMP	s21i090	81.06	.3156E+11	257.9	.1893E+08
30 NSOL	3829 TEMP	h21i090	81.03	.3156E+11	256.9	.1893E+08
31 NSOL	578 TEMP	c21i090	80.95	.3156E+11	255.0	.1893E+08
32 NSOL	576 TEMP	h21o090	80.86	.3156E+11	252.7	.1893E+08
33 NSOL	573 TEMP	s21o090	80.77	.3156E+11	250.5	.1893E+08
34 NSOL	573 TEMP	t21o090	80.77	.3156E+11	250.5	.1893E+08
35 NSOL	4555 TEMP	g04i090	78.68	.3156E+11	218.3	.2840E+08
36 NSOL	4516 TEMP	g04o090	78.60	.3156E+11	216.8	.2840E+08
37 NSOL	4625 TEMP	m04i090	76.37	.3156E+11	183.0	.6312E+08
38 NSOL	4873 TEMP	m04o090	76.20	.3156E+11	179.9	.6312E+08
39 NSOL	5432 TEMP	i04i090	29.81	.1000E-05	120.0	.2525E+09
40 NSOL	5431 TEMP	i04o090	27.97	.1000E-05	118.5	.2525E+09
41 NSOL	6019 TEMP	o04o090	26.14	.1000E-05	117.1	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.450
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP c01i090	928 TEMP h01o090	453 TEMP s01o090	930 TEMP a01o090	926 TEMP t01o090	484 TEMP t05i090
.10000E-05	243.276	243.069	242.834	242.658	242.644	242.484
.20000E-05	257.771	257.565	257.331	257.155	257.142	256.983
31.558	257.771	257.565	257.331	257.155	257.142	256.983
.31558E+07	267.720	267.516	267.282	267.113	267.099	266.937
.63116E+07	269.334	269.131	268.898	268.729	268.716	268.554
.94673E+07	270.051	269.848	269.616	269.448	269.435	269.273
.12623E+08	270.285	270.083	269.853	269.685	269.672	269.511
.15779E+08	270.392	270.191	269.961	269.794	269.781	269.621
.18935E+08	270.376	270.176	269.947	269.781	269.768	269.608
.22090E+08	270.296	270.097	269.869	269.704	269.690	269.531
.25246E+08	270.165	269.967	269.740	269.575	269.562	269.403
.28402E+08	269.992	269.794	269.568	269.404	269.390	269.233
.31558E+08	269.788	269.591	269.365	269.202	269.189	269.032
.63115E+08	267.232	267.042	266.824	266.666	266.654	266.501
.94673E+08	264.298	264.114	263.903	263.750	263.737	263.589
.12623E+09	261.427	261.248	261.042	260.894	260.882	260.737
.15779E+09	258.823	258.648	258.448	258.303	258.291	258.150
.18935E+09	255.993	255.823	255.627	255.487	255.475	255.337
.22090E+09	253.494	253.327	253.136	252.999	252.988	252.853
.25246E+09	251.188	251.025	250.838	250.704	250.693	250.561
.28402E+09	248.601	248.441	248.259	248.127	248.116	247.987
.31558E+09	246.479	246.322	246.142	246.013	246.003	245.876
.63115E+09	225.839	225.710	225.561	225.455	225.446	225.339
.94673E+09	208.545	208.436	208.310	208.221	208.213	208.122
.12623E+10	193.680	193.586	193.478	193.402	193.396	193.316
.15779E+10	180.896	180.815	180.721	180.655	180.650	180.580
.18935E+10	170.384	170.313	170.230	170.173	170.168	170.107
.22090E+10	161.540	161.477	161.404	161.352	161.348	161.294
.25246E+10	153.779	153.723	153.657	153.611	153.607	153.558
.28402E+10	147.629	147.577	147.518	147.476	147.473	147.428
.31558E+10	142.056	142.009	141.955	141.917	141.914	141.872
.63115E+10	115.031	115.004	114.972	114.950	114.948	114.924
.94673E+10	104.686	104.665	104.641	104.625	104.624	104.605
.12623E+11	98.6505	98.6335	98.6138	98.6002	98.5991	98.5838
.15779E+11	94.4982	94.4836	94.4666	94.4550	94.4540	94.4408
.18935E+11	90.9139	90.9012	90.8864	90.8762	90.8754	90.8638
.22090E+11	88.0250	88.0136	88.0005	87.9914	87.9907	87.9804
.25246E+11	85.4983	85.4881	85.4763	85.4682	85.4675	85.4583
.28402E+11	83.3715	83.3623	83.3516	83.3443	83.3436	83.3353
.31558E+11	81.5795	81.5711	81.5613	81.5546	81.5540	81.5464

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.470
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	492 TEMP a05i090	491 TEMP s05i090	490 TEMP h05i090	488 TEMP c05i090	1749 TEMP h05o090	485 TEMP s05o090
.10000E-05	242.471	242.334	242.106	241.394	240.268	239.570
.20000E-05	256.969	256.833	256.604	255.892	254.769	254.072
31.558	256.969	256.833	256.604	255.892	254.769	254.072
.31558E+07	266.923	266.788	266.562	265.854	264.737	264.044
.63116E+07	268.540	268.406	268.180	267.474	266.361	265.670
.94673E+07	269.259	269.126	268.901	268.198	267.089	266.401

.18935E+08	269.595	269.463	269.241	268.546	267.451	266.772
.22090E+08	269.517	269.386	269.165	268.473	267.383	266.706
.25246E+08	269.390	269.259	269.039	268.349	267.263	266.589
.28402E+08	269.219	269.089	268.869	268.183	267.101	266.429
.31558E+08	269.018	268.888	268.670	267.986	266.908	266.239
.63115E+08	266.488	266.363	266.152	265.491	264.450	263.804
.94673E+08	263.576	263.455	263.251	262.610	261.601	260.974
.12623E+09	260.725	260.607	260.408	259.786	258.805	258.195
.15779E+09	258.138	258.023	257.829	257.223	256.266	255.671
.18935E+09	255.325	255.214	255.025	254.434	253.502	252.923
.22090E+09	252.841	252.732	252.548	251.971	251.061	250.495
.25246E+09	250.550	250.443	250.263	249.699	248.809	248.256
.28402E+09	247.976	247.872	247.696	247.144	246.273	245.731
.31558E+09	245.865	245.763	245.590	245.048	244.193	243.662
.63115E+09	225.330	225.246	225.104	224.658	223.952	223.512
.94673E+09	208.115	208.044	207.925	207.550	206.955	206.585
.12623E+10	193.310	193.250	193.148	192.826	192.317	192.000
.15779E+10	180.575	180.523	180.435	180.158	179.718	179.444
.18935E+10	170.102	170.057	169.980	169.737	169.351	169.110
.22090E+10	161.289	161.250	161.181	160.966	160.624	160.411
.25246E+10	153.555	153.519	153.458	153.265	152.959	152.767
.28402E+10	147.424	147.392	147.336	147.161	146.882	146.708
.31558E+10	141.869	141.840	141.789	141.629	141.375	141.216
.63115E+10	114.922	114.905	114.876	114.784	114.637	114.545
.94673E+10	104.604	104.591	104.569	104.499	104.387	104.318
.12623E+11	98.5826	98.5721	98.5541	98.4967	98.4053	98.3480
.15779E+11	94.4398	94.4308	94.4153	94.3660	94.2874	94.2381
.18935E+11	90.8630	90.8551	90.8416	90.7985	90.7299	90.6869
.22090E+11	87.9796	87.9726	87.9606	87.9223	87.8612	87.8229
.25246E+11	85.4577	85.4514	85.4407	85.4064	85.3518	85.3175
.28402E+11	83.3347	83.3290	83.3193	83.2883	83.2388	83.2078
.31558E+11	81.5458	81.5406	81.5318	81.5033	81.4581	81.4297

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	493 TEMP a05c090	483 TEMP t05i090	2315 TEMP t13i090	2324 TEMP a13i090	2322 TEMP s13i090	2321 TEMP h13i090
.10000E-05	239.078	239.039	238.572	238.533	238.098	237.434
.20000E-05	253.581	253.542	253.079	253.040	252.605	251.941
31.558	253.581	253.542	253.079	253.040	252.605	251.941
.31558E+07	263.555	263.516	263.059	263.019	262.588	261.927
.63116E+07	265.182	265.144	264.688	264.648	264.219	263.560
.94673E+07	265.915	265.877	265.423	265.384	264.956	264.300
.12623E+08	266.167	266.129	265.677	265.638	265.212	264.559
.15779E+08	266.290	266.253	265.803	265.763	265.339	264.688
.18935E+08	266.291	266.254	265.806	265.767	265.344	264.696
.22090E+08	266.227	266.190	265.744	265.705	265.284	264.638
.25246E+08	266.112	266.075	265.631	265.592	265.173	264.530
.28402E+08	265.954	265.918	265.474	265.436	265.018	264.378
.31558E+08	265.766	265.729	265.288	265.249	264.833	264.195
.63115E+08	263.347	263.311	262.884	262.847	262.445	261.829
.94673E+08	260.531	260.497	260.082	260.046	259.656	259.059
.12623E+09	257.764	257.731	257.327	257.292	256.914	256.333
.15779E+09	255.251	255.218	254.824	254.790	254.421	253.855
.18935E+09	252.514	252.482	252.097	252.064	251.705	251.154
.22090E+09	250.095	250.064	249.688	249.656	249.305	248.767
.25246E+09	247.865	247.834	247.466	247.435	247.092	246.566
.28402E+09	245.349	245.319	244.959	244.928	244.593	244.078
.31558E+09	243.286	243.257	242.903	242.872	242.544	242.039
.63115E+09	223.202	223.178	222.882	222.857	222.587	222.171

.94673E+09	206.324	206.304	206.052	206.031	205.804	205.455
.12623E+10	191.776	191.759	191.540	191.522	191.328	191.029
.15779E+10	179.250	179.235	179.045	179.030	178.862	178.605
.18935E+10	168.940	168.928	168.760	168.746	168.600	168.374
.22090E+10	160.260	160.249	160.100	160.088	159.958	159.758
.25246E+10	152.632	152.622	152.488	152.477	152.361	152.183
.28402E+10	146.585	146.576	146.454	146.444	146.338	146.176
.31558E+10	141.104	141.096	140.984	140.975	140.879	140.731
.63115E+10	114.480	114.475	114.409	114.404	114.349	114.263
.94673E+10	104.268	104.265	104.215	104.211	104.169	104.104
.12623E+11	98.3076	98.3047	98.2634	98.2603	98.2259	98.1729
.15779E+11	94.2033	94.2008	94.1653	94.1626	94.1330	94.0875
.18935E+11	90.6566	90.6543	90.6234	90.6210	90.5952	90.5554
.22090E+11	87.7959	87.7940	87.7664	87.7643	87.7414	87.7060
.25246E+11	85.2934	85.2916	85.2670	85.2651	85.2446	85.2129
.28402E+11	83.1859	83.1843	83.1620	83.1602	83.1417	83.1130
.31558E+11	81.4096	81.4082	81.3878	81.3862	81.3692	81.3430

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.490
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2319 TEMP c13i090	3003 TEMP h13o090	2316 TEMP s13o090	2333 TEMP a13o090	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	235.857	233.867	232.734	231.951	208.165	169.549
.20000E-05	250.363	248.375	247.244	246.462	222.836	186.750
31.558	250.363	248.375	247.244	246.462	222.836	186.750
.31558E+07	260.358	258.381	257.255	256.476	233.300	199.213
.63116E+07	261.995	260.024	258.901	258.124	235.044	201.339
.94673E+07	262.741	260.778	259.659	258.886	235.909	202.463
.12623E+08	263.006	261.052	259.938	259.167	236.294	203.065
.15779E+08	263.142	261.196	260.086	259.319	236.542	203.499
.18935E+08	263.156	261.217	260.112	259.348	236.667	203.788
.22090E+08	263.105	261.173	260.073	259.311	236.723	203.995
.25246E+08	263.002	261.078	259.982	259.224	236.726	204.140
.28402E+08	262.856	260.940	259.848	259.093	236.684	204.231
.31558E+08	262.680	260.771	259.683	258.931	236.610	204.283
.63115E+08	260.365	258.521	257.470	256.744	235.187	203.865
.94673E+08	257.640	255.853	254.834	254.130	233.230	202.690
.12623E+09	254.954	253.217	252.227	251.542	231.219	201.341
.15779E+09	252.510	250.816	249.851	249.183	229.358	200.043
.18935E+09	249.845	248.196	247.256	246.605	227.293	198.551
.22090E+09	247.489	245.879	244.960	244.325	225.457	197.213
.25246E+09	245.317	243.742	242.844	242.223	223.771	196.001
.28402E+09	242.856	241.315	240.437	239.829	221.762	194.394
.31558E+09	240.839	239.327	238.465	237.868	220.124	193.103
.63115E+09	221.183	219.936	219.223	218.731	204.019	180.411
.94673E+09	204.624	203.575	202.976	202.562	190.135	169.267
.12623E+10	190.318	189.420	188.906	188.552	177.868	159.194
.15779E+10	177.991	177.216	176.772	176.466	167.221	150.482
.18935E+10	167.837	167.158	166.769	166.500	158.385	143.255
.22090E+10	159.282	158.680	158.335	158.098	150.897	137.120
.25246E+10	151.756	151.217	150.908	150.695	144.232	131.586
.28402E+10	145.788	145.297	145.016	144.822	138.932	127.212
.31558E+10	140.377	139.930	139.673	139.496	134.124	123.265
.63115E+10	114.059	113.800	113.652	113.550	110.434	103.639
.94673E+10	103.950	103.754	103.642	103.564	101.204	95.8985
.12623E+11	98.0462	97.8857	97.7934	97.7299	95.7916	91.3634
.15779E+11	93.9786	93.8405	93.7612	93.7066	92.0405	88.1939
.18935E+11	90.4604	90.3399	90.2707	90.2230	88.7686	85.3798
.22090E+11	87.6214	87.5142	87.4526	87.4102	86.1160	83.0778
.25246E+11	85.1373	85.0415	84.9863	84.9484	83.7911	81.0557

.28402E+11	83.0445	82.9577	82.9078	82.8734	81.8253	79.3336
.31558E+11	81.2803	81.2008	81.1552	81.1237	80.1649	77.8743

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2315 TEMP t13i090	574 TEMP t21i090	582 TEMP a21i090	581 TEMP s21i090	3829 TEMP h21i090	578 TEMP c21i090
.10000E-05	238.572	231.167	231.108	230.489	229.455	227.502
.20000E-05	253.079	245.682	245.622	245.000	243.960	241.998
.31558E+07	263.059	255.702	255.642	255.022	253.985	252.025
.63116E+07	264.688	257.353	257.293	256.674	255.640	253.685
.94673E+07	265.423	258.118	258.058	257.442	256.411	254.463
.12623E+08	265.677	258.403	258.343	257.729	256.703	254.763
.15779E+08	265.803	258.557	258.498	257.886	256.864	254.931
.18935E+08	265.806	258.589	258.531	257.921	256.903	254.978
.22090E+08	265.744	258.556	258.497	257.890	256.876	254.959
.25246E+08	265.631	258.471	258.413	257.808	256.798	254.888
.28402E+08	265.474	258.343	258.285	257.683	256.676	254.774
.31558E+08	265.288	258.184	258.126	257.526	256.524	254.629
.63115E+08	262.884	256.022	255.966	255.387	254.419	252.590
.94673E+08	260.082	253.430	253.375	252.815	251.878	250.106
.12623E+09	257.327	250.861	250.808	250.264	249.353	247.632
.15779E+09	254.824	248.518	248.467	247.936	247.049	245.372
.18935E+09	252.097	245.957	245.907	245.391	244.529	242.897
.22090E+09	249.688	243.692	243.643	243.139	242.298	240.705
.25246E+09	247.466	241.604	241.556	241.065	240.242	238.686
.28402E+09	244.959	239.223	239.176	238.695	237.891	236.370
.31558E+09	242.903	237.273	237.227	236.755	235.967	234.474
.63115E+09	222.882	218.236	218.198	217.812	217.166	215.941
.94673E+09	206.052	202.141	202.110	201.787	201.247	200.222
.12623E+10	191.540	188.189	188.162	187.887	187.427	186.552
.15779E+10	179.045	176.150	176.127	175.891	175.495	174.743
.18935E+10	168.760	166.223	166.203	165.997	165.651	164.994
.22090E+10	160.100	157.852	157.834	157.652	157.347	156.766
.25246E+10	152.488	150.474	150.459	150.296	150.023	149.504
.28402E+10	146.454	144.621	144.606	144.458	144.211	143.739
.31558E+10	140.984	139.312	139.299	139.165	138.939	138.510
.63115E+10	114.409	113.442	113.435	113.358	113.229	112.983
.94673E+10	104.215	103.483	103.477	103.419	103.322	103.136
.12623E+11	98.2634	97.6628	97.6582	97.6107	97.5311	97.3789
.15779E+11	94.1653	93.6489	93.6449	93.6042	93.5358	93.4051
.18935E+11	90.6234	90.1727	90.1692	90.1337	90.0741	89.9601
.22090E+11	87.7664	87.3655	87.3624	87.3308	87.2778	87.1765
.25246E+11	85.2670	84.9084	84.9057	84.8774	84.8301	84.7395
.28402E+11	83.1620	82.8372	82.8347	82.8091	82.7663	82.6843
.31558E+11	81.3878	81.0906	81.0883	81.0649	81.0257	80.9508

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.530
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	576 TEMP	573 TEMP	573 TEMP	4555 TEMP	4516 TEMP	4625 TEMP
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	h21o090	s21o090	t21o090	g04i090	g04o090	m04i090
.10000E-05	225.131	222.936	222.936	186.368	184.776	143.679
.20000E-05	239.620	237.422	237.422	202.639	201.098	162.877
31.558	239.620	237.422	237.422	202.639	201.098	162.877
.31558E+07	249.654	247.464	247.464	214.012	212.511	176.384
.63116E+07	251.320	249.136	249.136	215.978	214.486	178.783
.94673E+07	252.107	249.932	249.932	216.988	215.505	180.095
.12623E+08	252.416	250.249	250.249	217.492	216.017	180.856
.15779E+08	252.594	250.436	250.436	217.840	216.371	181.422
.18935E+08	252.650	250.501	250.501	218.052	216.591	181.830
.22090E+08	252.640	250.499	250.499	218.188	216.733	182.144
.25246E+08	252.579	250.446	250.446	218.266	216.817	182.389
.28402E+08	252.473	250.349	250.349	218.293	216.850	182.574
.31558E+08	252.337	250.221	250.221	218.284	216.846	182.714
.63115E+08	250.377	248.334	248.334	217.372	215.983	182.997
.94673E+08	247.962	245.982	245.982	215.803	214.454	182.360
.12623E+09	245.549	243.626	243.626	214.119	212.805	181.464
.15779E+09	243.342	241.467	241.467	212.536	211.253	180.551
.18935E+09	240.921	239.096	239.096	210.754	209.502	179.447
.22090E+09	238.776	236.994	236.994	209.165	207.939	178.446
.25246E+09	236.801	235.059	235.059	207.715	206.514	177.554
.28402E+09	234.527	232.823	232.823	205.905	204.727	176.221
.31558E+09	232.666	230.994	230.994	204.440	203.282	175.166
.63115E+09	214.455	213.079	213.079	190.071	189.095	164.781
.94673E+09	198.977	197.822	197.822	177.633	176.796	155.492
.12623E+10	185.489	184.501	184.501	166.551	165.824	146.894
.15779E+10	173.828	172.976	172.976	156.974	156.338	139.466
.18935E+10	164.193	163.448	163.448	149.050	148.488	133.295
.22090E+10	156.057	155.398	155.398	142.344	141.840	128.055
.25246E+10	148.870	148.280	148.280	136.344	135.888	123.271
.28402E+10	143.163	142.626	142.626	131.593	131.175	119.507
.31558E+10	137.985	137.496	137.496	127.299	126.916	116.128
.63115E+10	112.681	112.399	112.399	106.094	105.866	99.1785
.94673E+10	102.909	102.695	102.695	97.7945	97.6192	92.4144
.12623E+11	97.1921	97.0173	97.0173	92.9366	92.7918	88.4567
.15779E+11	93.2447	93.0945	93.0945	89.5549	89.4301	85.6694
.18935E+11	89.8202	89.6892	89.6892	86.5757	86.4666	83.1572
.22090E+11	87.0520	86.9355	86.9355	84.1476	84.0503	81.0856
.25246E+11	84.6283	84.5241	84.5241	82.0168	81.9297	79.2624
.28402E+11	82.5836	82.4892	82.4892	80.2074	80.1283	77.7000
.31558E+11	80.8586	80.7723	80.7723	78.6759	78.6034	76.3717

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:20 APR 10, 1995 CP= 109362.540
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4873 TEMP	5432 TEMP	5431 TEMP	6019 TEMP
	m04o090	i04i090	i04o090	o04o090
.10000E-05	140.081	29.8076	27.9698	26.1400
.20000E-05	159.442	72.4940	70.6561	68.8212
31.558	159.442	72.4941	70.6561	68.8212
.31558E+07	173.065	98.0425	96.2174	94.3626
.63116E+07	175.490	102.440	100.627	98.7758
.94673E+07	176.824	104.954	103.151	101.311
.12623E+08	177.604	106.719	104.928	103.102
.15779E+08	178.189	108.074	106.292	104.478
.18935E+08	178.613	109.158	107.385	105.582
.22090E+08	178.943	110.065	108.301	106.508
.25246E+08	179.202	110.842	109.086	107.302
.28402E+08	179.400	111.514	109.767	107.992
.31558E+08	179.554	112.108	110.368	108.602
.63115E+08	179.947	115.687	114.013	112.317

.94673E+08	179.400	117.384	115.765	114.127
.12623E+09	178.580	118.346	116.775	115.185
.15779E+09	177.733	118.963	117.433	115.885
.18935E+09	176.696	119.356	117.867	116.361
.22090E+09	175.753	119.638	118.185	116.716
.25246E+09	174.916	119.967	118.548	117.113
.28402E+09	173.633	119.566	118.177	116.773
.31558E+09	172.620	119.325	117.961	116.583
.63115E+09	162.635	116.752	115.629	114.491
.94673E+09	153.649	113.367	112.422	111.462
.12623E+10	145.283	109.229	108.418	107.593
.15779E+10	138.048	105.712	105.012	104.297
.18935E+10	132.033	102.760	102.145	101.517
.22090E+10	126.921	100.242	99.6964	99.1383
.25246E+10	122.242	97.6912	97.2023	96.7030
.28402E+10	118.562	95.7653	95.3204	94.8669
.31558E+10	115.260	94.1101	93.7048	93.2920
.63115E+10	98.6568	85.2559	85.0241	84.7879
.94673E+10	92.0133	81.4665	81.2917	81.1135
.12623E+11	88.1250	79.2765	79.1336	78.9878
.15779E+11	85.3831	77.6622	77.5397	77.4147
.18935E+11	82.9063	76.0708	75.9642	75.8555
.22090E+11	80.8617	74.7048	74.6102	74.5137
.25246E+11	79.0616	73.4958	73.4113	73.3251
.28402E+11	77.5176	72.4281	72.3517	72.2738
.31558E+11	76.2044	71.5086	71.4388	71.3676

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NCDE 6 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 109362.750 TIME= 03:54:20
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NCDE 37 ITEM= TEMP COMP= NAME= h01o135
 VARIABLE 4 IS AT NCDE 10 ITEM= TEMP COMP= NAME= s01o135
 VARIABLE 5 IS AT NCDE 265 ITEM= TEMP COMP= NAME= a01o135
 VARIABLE 6 IS AT NCDE 461 ITEM= TEMP COMP= NAME= t01o135
 VARIABLE 7 IS AT NCDE 1270 ITEM= TEMP COMP= NAME= t04i135
 VARIABLE 8 IS AT NCDE 1278 ITEM= TEMP COMP= NAME= a04i135
 VARIABLE 9 IS AT NCDE 1188 ITEM= TEMP COMP= NAME= s04i135
 VARIABLE 10 IS AT NCDE 1228 ITEM= TEMP COMP= NAME= h04i135
 VARIABLE 11 IS AT NCDE 1244 ITEM= TEMP COMP= NAME= c04i135
 VARIABLE 12 IS AT NCDE 1260 ITEM= TEMP COMP= NAME= h04o135
 VARIABLE 13 IS AT NCDE 1197 ITEM= TEMP COMP= NAME= s04o135
 VARIABLE 14 IS AT NCDE 1305 ITEM= TEMP COMP= NAME= a04o135
 VARIABLE 15 IS AT NCDE 1323 ITEM= TEMP COMP= NAME= t04o135
 VARIABLE 16 IS AT NCDE 2733 ITEM= TEMP COMP= NAME= t11i135
 VARIABLE 17 IS AT NCDE 2741 ITEM= TEMP COMP= NAME= a11i135
 VARIABLE 18 IS AT NCDE 2651 ITEM= TEMP COMP= NAME= s11i135
 VARIABLE 19 IS AT NCDE 2691 ITEM= TEMP COMP= NAME= h11i135

VARIABLE 20 IS AT NODE 2707 ITEM= TEMP COMP= NAME= c11i135
 VARIABLE 21 IS AT NODE 2723 ITEM= TEMP COMP= NAME= h11o135
 VARIABLE 22 IS AT NODE 2660 ITEM= TEMP COMP= NAME= s11o135
 VARIABLE 23 IS AT NODE 2768 ITEM= TEMP COMP= NAME= a11o135
 VARIABLE 24 IS AT NODE 2786 ITEM= TEMP COMP= NAME= t11o135
 VARIABLE 25 IS AT NODE 4344 ITEM= TEMP COMP= NAME= g11i135
 VARIABLE 26 IS AT NODE 5109 ITEM= TEMP COMP= NAME= m11i135
 VARIABLE 27 IS AT NODE 4910 ITEM= TEMP COMP= NAME= m11o135
 VARIABLE 28 IS AT NODE 5767 ITEM= TEMP COMP= NAME= i11i135
 VARIABLE 29 IS AT NODE 5839 ITEM= TEMP COMP= NAME= i11o135
 VARIABLE 30 IS AT NODE 6280 ITEM= TEMP COMP= NAME= o11o135
 Add centers of assemblies 5, 10, 12, 13, 20, 21
 VARIABLE 31 IS AT NODE 102 ITEM= TEMP COMP= NAME= c06i135
 VARIABLE 32 IS AT NODE 102 ITEM= TEMP COMP= NAME= c14i135
 VARIABLE 33 IS AT NODE 2289 ITEM= TEMP COMP= NAME= c15i135
 VARIABLE 34 IS AT NODE 2498 ITEM= TEMP COMP= NAME= c17i135
 VARIABLE 35 IS AT NODE 228 ITEM= TEMP COMP= NAME= c22i135
 VARIABLE 36 IS AT NODE 3543 ITEM= TEMP COMP= NAME= c23i135
 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	6 TEMP	c01i135	82.28	.3156E+11	279.6	.1578E+08
3 NSOL	37 TEMP	h01o135	81.96	.3156E+11	275.0	.1578E+08
4 NSOL	10 TEMP	s01o135	81.46	.3156E+11	267.6	.1578E+08
5 NSOL	265 TEMP	a01o135	81.45	.3156E+11	267.5	.1578E+08
6 NSOL	461 TEMP	t01o135	81.45	.3156E+11	267.4	.1578E+08
7 NSOL	1270 TEMP	t04i135	81.42	.3156E+11	266.8	.1578E+08
8 NSOL	1278 TEMP	a04i135	81.42	.3156E+11	266.7	.1578E+08
9 NSOL	1188 TEMP	s04i135	81.41	.3156E+11	266.6	.1578E+08
10 NSOL	1228 TEMP	h04i135	81.80	.3156E+11	271.4	.1578E+08
11 NSOL	1244 TEMP	c04i135	81.98	.3156E+11	272.9	.1578E+08
12 NSOL	1260 TEMP	h04o135	81.58	.3156E+11	266.1	.1893E+08
13 NSOL	1197 TEMP	s04o135	81.00	.3156E+11	256.9	.1893E+08
14 NSOL	1305 TEMP	a04o135	80.99	.3156E+11	256.6	.1893E+08
15 NSOL	1323 TEMP	t04o135	80.99	.3156E+11	256.4	.1893E+08
16 NSOL	2733 TEMP	t11i135	80.93	.3156E+11	255.1	.1893E+08
17 NSOL	2741 TEMP	a11i135	80.92	.3156E+11	254.9	.1893E+08
18 NSOL	2651 TEMP	s11i135	80.91	.3156E+11	254.7	.1893E+08
19 NSOL	2691 TEMP	h11i135	81.22	.3156E+11	257.9	.1893E+08
20 NSOL	2707 TEMP	c11i135	81.29	.3156E+11	257.1	.1893E+08
21 NSOL	2723 TEMP	h11o135	80.78	.3156E+11	247.6	.2209E+08
22 NSOL	2660 TEMP	s11o135	80.14	.3156E+11	236.6	.2525E+08
23 NSOL	2768 TEMP	a11o135	80.14	.3156E+11	236.4	.2525E+08
24 NSOL	2786 TEMP	t11o135	80.13	.3156E+11	236.3	.2525E+08
25 NSOL	4344 TEMP	g11i135	77.81	.3156E+11	203.6	.3156E+08
26 NSOL	5109 TEMP	m11i135	76.59	.3156E+11	185.4	.6312E+08
27 NSOL	4910 TEMP	m11o135	76.49	.3156E+11	183.4	.6312E+08
28 NSOL	5767 TEMP	i11i135	30.15	.1000E-05	119.7	.2525E+09
29 NSOL	5839 TEMP	i11o135	28.14	.1000E-05	118.2	.2525E+09
30 NSOL	6280 TEMP	o11o135	26.14	.1000E-05	116.6	.2525E+09

31	NSOL	102	TEMP	c06i135	82.20	.3156E+11	277.8	.1578E+08
32	NSOL	102	TEMP	c14i135	82.20	.3156E+11	277.8	.1578E+08
33	NSOL	2289	TEMP	c15i135	81.97	.3156E+11	272.5	.1578E+08
34	NSOL	2498	TEMP	c17i135	81.72	.3156E+11	267.0	.1578E+08
35	NSOL	228	TEMP	c22i135	81.48	.3156E+11	261.7	.1893E+08
36	NSOL	3543	TEMP	c23i135	81.06	.3156E+11	253.5	.1893E+08
37	NSOL	4625	TEMP	m04i090	76.37	.3156E+11	183.0	.6312E+08
38	NSOL	4873	TEMP	m04o090	76.20	.3156E+11	179.9	.6312E+08
39	NSOL	5432	TEMP	i04i090	29.81	.1000E-05	120.0	.2525E+09
40	NSOL	5431	TEMP	i04o090	27.97	.1000E-05	118.5	.2525E+09
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	117.1	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.540
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	6 TEMP c01i135	37 TEMP h01o135	10 TEMP s01o135	265 TEMP a01o135	461 TEMP t01o135	1270 TEMP t04i135
.10000E-05	253.632	248.576	240.429	240.325	240.235	239.634
.20000E-05	267.618	262.761	254.937	254.833	254.743	254.149
31.558	267.618	262.761	254.937	254.833	254.743	254.149
.31558E+07	277.162	272.439	264.852	264.748	264.658	264.067
.63116E+07	278.684	273.998	266.474	266.370	266.280	265.692
.94673E+07	279.344	274.683	267.201	267.097	267.008	266.422
.12623E+08	279.530	274.892	267.447	267.344	267.255	266.671
.15779E+08	279.596	274.977	267.564	267.462	267.373	266.792
.18935E+08	279.544	274.943	267.560	267.458	267.369	266.791
.22090E+08	279.429	274.846	267.490	267.388	267.300	266.724
.25246E+08	279.267	274.699	267.370	267.269	267.181	266.607
.28402E+08	279.063	274.511	267.207	267.106	267.018	266.446
.31558E+08	278.830	274.293	267.013	266.912	266.825	266.255
.63115E+08	276.039	271.626	264.548	264.451	264.367	263.815
.94673E+08	272.921	268.609	261.693	261.599	261.517	260.981
.12623E+09	269.892	265.667	258.892	258.800	258.721	258.198
.15779E+09	267.153	263.003	256.349	256.259	256.182	255.671
.18935E+09	264.184	260.111	253.581	253.494	253.418	252.920
.22090E+09	261.564	257.558	251.136	251.050	250.977	250.489
.25246E+09	259.143	255.201	248.880	248.797	248.725	248.248
.28402E+09	256.457	252.570	246.342	246.260	246.190	245.722
.31558E+09	254.247	250.407	244.260	244.180	244.111	243.651
.63115E+09	232.701	229.352	223.997	223.931	223.874	223.488
.94673E+09	214.672	211.714	206.987	206.932	206.884	206.554
.12623E+10	199.207	196.561	192.341	192.293	192.252	191.965
.15779E+10	185.869	183.505	179.735	179.694	179.658	179.408
.18935E+10	174.895	172.763	169.363	169.327	169.296	169.075
.22090E+10	165.664	163.724	160.633	160.601	160.573	160.376
.25246E+10	157.578	155.799	152.965	152.936	152.912	152.734
.28402E+10	151.160	149.512	146.887	146.861	146.838	146.676
.31558E+10	145.330	143.805	141.378	141.354	141.334	141.185
.63115E+10	117.092	116.143	114.636	114.622	114.610	114.522
.94673E+10	106.301	105.561	104.386	104.375	104.366	104.299
.12623E+11	100.001	99.3835	98.4033	98.3947	98.3874	98.3321
.15779E+11	95.6713	95.1355	94.2854	94.2780	94.2717	94.2241
.18935E+11	91.9472	91.4758	90.7281	90.7217	90.7162	90.6746
.22090E+11	88.9510	88.5290	87.8596	87.8538	87.8489	87.8119
.25246E+11	86.3319	85.9523	85.3502	85.3451	85.3407	85.3076
.28402E+11	84.1308	83.7852	83.2373	83.2326	83.2286	83.1987
.31558E+11	82.2774	81.9599	81.4566	81.4523	81.4487	81.4212

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.550

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1278 TEMP a04i135	1188 TEMP s04i135	1228 TEMP h04i135	1244 TEMP c04i135	1260 TEMP h04o135	1197 TEMP s04o135
.10000E-05	239.543	239.461	244.901	246.770	239.550	229.444
.20000E-05	254.058	253.976	259.106	260.792	253.776	243.989
31.558	254.058	253.976	259.106	260.792	253.776	243.989
.31558E+07	263.976	263.894	268.779	270.320	263.459	253.933
.63116E+07	265.601	265.519	270.348	271.859	265.043	255.589
.94673E+07	266.332	266.250	271.048	272.545	265.763	256.360
.12623E+08	266.581	266.500	271.271	272.758	266.008	256.651
.15779E+08	266.702	266.621	271.370	272.850	266.128	256.812
.18935E+08	266.701	266.620	271.350	272.824	266.128	256.851
.22090E+08	266.635	266.554	271.267	272.735	266.064	256.823
.25246E+08	266.518	266.438	271.134	272.597	265.951	256.744
.28402E+08	266.358	266.278	270.958	272.418	265.796	256.622
.31558E+08	266.167	266.088	270.754	272.209	265.610	256.468
.63115E+08	263.730	263.653	268.203	269.635	263.231	254.358
.94673E+08	260.898	260.824	265.286	266.705	260.462	251.809
.12623E+09	258.118	258.046	262.434	263.842	257.741	249.279
.15779E+09	255.593	255.522	259.847	261.248	255.268	246.970
.18935E+09	252.844	252.775	257.035	258.428	252.571	244.444
.22090E+09	250.415	250.348	254.551	255.935	250.185	242.209
.25246E+09	248.175	248.109	252.256	253.631	247.982	240.150
.28402E+09	245.651	245.587	249.684	251.054	245.499	237.796
.31558E+09	243.581	243.518	247.572	248.936	243.463	235.869
.63115E+09	223.431	223.379	226.998	228.287	223.591	217.050
.94673E+09	206.505	206.462	209.723	210.937	206.845	201.125
.12623E+10	191.924	191.887	194.844	195.983	192.367	187.306
.15779E+10	179.372	179.340	182.016	183.073	179.871	175.379
.18935E+10	169.043	169.016	171.454	172.437	169.570	165.539
.22090E+10	160.348	160.323	162.561	163.478	160.888	157.240
.25246E+10	152.709	152.687	154.755	155.616	153.254	149.922
.28402E+10	146.653	146.633	148.558	149.368	147.188	144.115
.31558E+10	141.164	141.146	142.934	143.692	141.683	138.848
.63115E+10	114.510	114.500	115.635	116.135	114.907	113.167
.94673E+10	104.290	104.282	105.175	105.574	104.623	103.272
.12623E+11	98.3247	98.3182	99.0659	99.4027	98.6119	97.4887
.15779E+11	94.2177	94.2121	94.8620	95.1560	94.4714	93.4987
.18935E+11	90.6691	90.6642	91.2370	91.4971	90.8960	90.0414
.22090E+11	87.8070	87.8026	88.3164	88.5503	88.0128	87.2485
.25246E+11	85.3032	85.2993	85.7621	85.9733	85.4905	84.8036
.28402E+11	83.1946	83.1911	83.6128	83.8058	83.3667	82.7420
.31558E+11	81.4175	81.4143	81.8021	81.9798	81.5768	81.0033

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.560

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1305 TEMP a04o135	1323 TEMP t04o135	2733 TEMP t11i135	2741 TEMP a11i135	2651 TEMP s11i135	2691 TEMP h11i135
.10000E-05	229.224	229.022	227.660	227.456	227.259	231.095
.20000E-05	243.769	243.566	242.220	242.016	241.818	245.336
31.558	243.769	243.566	242.220	242.016	241.818	245.336
.31558E+07	253.714	253.512	252.177	251.973	251.776	255.063

.63116E+07	255.370	255.168	253.838	253.636	253.439	256.671
.94673E+07	256.142	255.941	254.617	254.415	254.219	257.424
.12623E+08	256.434	256.234	254.916	254.715	254.519	257.703
.15779E+08	256.596	256.396	255.083	254.883	254.689	257.856
.18935E+08	256.635	256.437	255.129	254.929	254.736	257.888
.22090E+08	256.608	256.411	255.108	254.909	254.716	257.856
.25246E+08	256.531	256.334	255.036	254.838	254.646	257.775
.28402E+08	256.409	256.213	254.920	254.723	254.532	257.650
.31558E+08	256.256	256.061	254.773	254.577	254.386	257.495
.63115E+08	254.153	253.964	252.719	252.529	252.345	255.385
.94673E+08	251.611	251.428	250.219	250.035	249.857	252.849
.12623E+09	249.086	248.908	247.732	247.553	247.379	250.331
.15779E+09	246.782	246.609	245.460	245.285	245.116	248.032
.18935E+09	244.261	244.093	242.972	242.802	242.638	245.517
.22090E+09	242.030	241.865	240.770	240.604	240.443	243.291
.25246E+09	239.975	239.814	238.741	238.579	238.422	241.239
.28402E+09	237.625	237.467	236.416	236.258	236.105	238.898
.31558E+09	235.701	235.547	234.514	234.358	234.208	236.980
.63115E+09	216.911	216.784	215.918	215.790	215.667	218.216
.94673E+09	201.009	200.902	200.163	200.056	199.952	202.302
.12623E+10	187.207	187.116	186.476	186.384	186.295	188.456
.15779E+10	175.293	175.214	174.657	174.578	174.501	176.485
.18935E+10	165.464	165.396	164.904	164.835	164.768	166.596
.22090E+10	157.173	157.112	156.675	156.614	156.555	158.248
.25246E+10	149.863	149.808	149.415	149.360	149.307	150.884
.28402E+10	144.061	144.011	143.652	143.602	143.554	145.027
.31558E+10	138.799	138.754	138.425	138.379	138.336	139.710
.63115E+10	113.139	113.113	112.919	112.893	112.868	113.760
.94673E+10	103.251	103.231	103.084	103.064	103.045	103.752
.12623E+11	97.4711	97.4549	97.3336	97.3174	97.3018	97.8961
.15779E+11	93.4835	93.4697	93.3653	93.3513	93.3379	93.8557
.18935E+11	90.0282	90.0161	89.9250	89.9128	89.9012	90.3585
.22090E+11	87.2367	87.2259	87.1449	87.1341	87.1237	87.5345
.25246E+11	84.7931	84.7834	84.7109	84.7013	84.6920	85.0626
.28402E+11	82.7325	82.7238	82.6581	82.6493	82.6409	82.9791
.31558E+11	80.9946	80.9866	80.9265	80.9185	80.9108	81.2220

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2707 TEMP c11i135	2723 TEMP h11o135	2660 TEMP s11o135	2768 TEMP a11o135	2786 TEMP t11o135	4344 TEMP g11i135
.10000E-05	230.607	220.466	208.508	208.311	208.135	169.569
.20000E-05	244.660	234.739	223.167	222.972	222.798	186.749
31.558	244.660	234.739	223.167	222.972	222.798	186.749
.31558E+07	254.262	244.519	233.240	233.048	232.876	198.565
.63116E+07	255.847	246.163	234.965	234.774	234.604	200.666
.94673E+07	256.595	246.959	235.822	235.631	235.462	201.781
.12623E+08	256.873	247.282	236.201	236.011	235.842	202.376
.15779E+08	257.026	247.477	236.445	236.256	236.088	202.805
.18935E+08	257.061	247.551	236.566	236.378	236.211	203.092
.22090E+08	257.032	247.559	236.619	236.432	236.265	203.297
.25246E+08	256.954	247.517	236.620	236.433	236.267	203.440
.28402E+08	256.833	247.431	236.576	236.390	236.224	203.529
.31558E+08	256.683	247.315	236.499	236.314	236.149	203.580
.63115E+08	254.617	245.540	235.064	234.885	234.726	203.162
.94673E+08	252.126	243.295	233.098	232.925	232.770	201.989
.12623E+09	249.650	241.035	231.082	230.913	230.763	200.645
.15779E+09	247.389	238.961	229.217	229.053	228.906	199.354
.18935E+09	244.914	236.679	227.149	226.988	226.845	197.867
.22090E+09	242.722	234.654	225.310	225.153	225.013	196.535

.25246E+09	240.700	232.789	223.621	223.467	223.330	195.328
.28402E+09	238.392	230.625	221.615	221.465	221.330	193.735
.31558E+09	236.500	228.855	219.980	219.832	219.700	192.454
.63115E+09	217.967	211.474	203.880	203.757	203.647	179.839
.94673E+09	202.206	196.596	190.004	189.900	189.806	168.759
.12623E+10	188.457	183.549	177.752	177.661	177.581	158.749
.15779E+10	176.554	172.237	167.113	167.035	166.965	150.084
.18935E+10	166.710	162.866	158.285	158.216	158.154	142.892
.22090E+10	158.392	154.936	150.801	150.740	150.685	136.787
.25246E+10	151.046	147.907	144.144	144.089	144.039	131.282
.28402E+10	145.196	142.312	138.849	138.798	138.753	126.928
.31558E+10	139.882	137.232	134.043	133.997	133.956	122.998
.63115E+10	113.917	112.320	110.379	110.352	110.328	103.467
.94673E+10	103.890	102.660	101.158	101.138	101.120	95.7609
.12623E+11	98.0176	96.9977	95.7520	95.7352	95.7200	91.2462
.15779E+11	93.9643	93.0830	92.0054	91.9909	91.9778	88.0910
.18935E+11	90.4566	89.6839	88.7381	88.7255	88.7140	85.2900
.22090E+11	87.6242	86.9342	86.0888	86.0775	86.0673	82.9975
.25246E+11	85.1448	84.5256	83.7664	83.7563	83.7471	80.9832
.28402E+11	83.0550	82.4925	81.8025	81.7933	81.7850	79.2671
.31558E+11	81.2926	80.7767	80.1434	80.1350	80.1274	77.8122

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5109 TEMP m11i135	4910 TEMP m11o135	5767 TEMP i11i135	5839 TEMP i11o135	6280 TEMP o11o135	102 TEMP c06i135
.10000E-05	147.386	145.164	30.1468	28.1388	26.1400	251.797
.20000E-05	166.128	163.958	72.8119	70.8024	68.7952	265.788
31.558	166.128	163.958	72.8120	70.8024	68.7952	265.788
.31558E+07	179.070	176.948	97.7866	95.8046	93.7998	275.340
.63116E+07	181.404	179.294	102.175	100.206	98.2053	276.867
.94673E+07	182.679	180.581	104.688	102.730	100.740	277.534
.12623E+08	183.409	181.323	106.452	104.507	102.532	277.728
.15779E+08	183.953	181.877	107.807	105.872	103.910	277.801
.18935E+08	184.341	182.275	108.891	106.966	105.016	277.755
.22090E+08	184.639	182.581	109.798	107.883	105.943	277.648
.25246E+08	184.869	182.820	110.576	108.669	106.740	277.492
.28402E+08	185.039	182.999	111.248	109.351	107.431	277.295
.31558E+08	185.168	183.136	111.842	109.953	108.043	277.068
.63115E+08	185.360	183.399	115.426	113.607	111.773	274.337
.94673E+08	184.661	182.758	117.125	115.367	113.595	271.269
.12623E+09	183.715	181.863	118.090	116.383	114.664	268.285
.15779E+09	182.762	180.953	118.709	117.046	115.372	265.585
.18935E+09	181.618	179.854	119.103	117.486	115.858	262.657
.22090E+09	180.583	178.857	119.387	117.808	116.220	260.072
.25246E+09	179.658	177.968	119.717	118.175	116.623	257.684
.28402E+09	178.305	176.649	119.322	117.813	116.295	255.026
.31558E+09	177.231	175.603	119.085	117.604	116.114	252.841
.63115E+09	166.637	165.279	116.539	115.318	114.088	231.536
.94673E+09	157.170	156.016	113.174	112.147	111.110	213.688
.12623E+10	148.429	147.430	109.057	108.177	107.285	198.360
.15779E+10	140.866	139.994	105.554	104.794	104.022	185.136
.18935E+10	134.579	133.807	102.613	101.946	101.268	174.252
.22090E+10	129.236	128.547	100.103	99.5118	98.9103	165.093
.25246E+10	124.367	123.745	97.5624	97.0325	96.4947	157.066
.28402E+10	120.530	119.961	95.6430	95.1611	94.6728	150.693
.31558E+10	117.081	116.560	93.9929	93.5540	93.1100	144.903
.63115E+10	99.7936	99.4862	85.1746	84.9244	84.6712	116.843
.94673E+10	92.9002	92.6656	81.3990	81.2107	81.0199	106.113
.12623E+11	88.8637	88.6708	79.2177	79.0639	78.9080	99.8463

.15779E+11	86.0241	85.8581	77.6100	77.4783	77.3448	95.5380
.18935E+11	83.4712	83.3262	76.0248	75.9102	75.7941	91.8308
.22090E+11	81.3682	81.2391	74.6634	74.5618	74.4588	88.8474
.25246E+11	79.5174	79.4019	73.4578	73.3672	73.2752	86.2392
.28402E+11	77.9327	77.8280	72.3929	72.3109	72.2278	84.0468
.31558E+11	76.5857	76.4899	71.4754	71.4006	71.3247	82.2005

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:27 APR 10, 1995 CP= 109369.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	102 TEMP	2289 TEMP	2498 TEMP	228 TEMP	3543 TEMP
	c14i135	c15i135	c17i135	c22i135	c23i135
.10000E-05	251.797	246.332	240.770	235.189	226.597
.20000E-05	265.788	260.342	254.818	249.257	240.822
31.558	265.788	260.342	254.818	249.257	240.822
.31558E+07	275.340	269.918	264.391	258.931	250.597
.63116E+07	276.867	271.459	265.946	260.507	252.215
.94673E+07	277.534	272.147	266.656	261.239	252.986
.12623E+08	277.728	272.363	266.893	261.499	253.284
.15779E+08	277.801	272.456	267.008	261.636	253.455
.18935E+08	277.755	272.432	267.004	261.653	253.506
.22090E+08	277.648	272.345	266.937	261.607	253.491
.25246E+08	277.492	272.209	266.822	261.512	253.427
.28402E+08	277.295	272.032	266.665	261.374	253.319
.31558E+08	277.068	271.825	266.478	261.207	253.181
.63115E+08	274.337	269.268	264.093	258.994	251.218
.94673E+08	271.269	266.352	261.327	256.375	248.809
.12623E+09	268.285	263.503	258.609	253.786	246.405
.15779E+09	265.585	260.919	256.139	251.427	244.206
.18935E+09	262.657	258.111	253.445	248.847	241.795
.22090E+09	260.072	255.628	251.061	246.564	239.659
.25246E+09	257.684	253.333	248.860	244.458	237.690
.28402E+09	255.026	250.763	246.380	242.068	235.428
.31558E+09	252.841	248.652	244.346	240.109	233.576
.63115E+09	231.536	228.067	224.478	220.945	215.428
.94673E+09	213.688	210.761	207.715	204.712	199.964
.12623E+10	198.360	195.838	193.203	190.603	186.464
.15779E+10	185.136	182.953	180.664	178.405	174.780
.18935E+10	174.252	172.335	170.319	168.330	165.116
.22090E+10	165.093	163.391	161.597	159.826	156.947
.25246E+10	157.066	155.539	153.926	152.331	149.722
.28402E+10	150.693	149.300	147.824	146.365	143.972
.31558E+10	144.903	143.631	142.282	140.948	138.752
.63115E+10	116.843	116.104	115.313	114.531	113.220
.94673E+10	106.113	105.551	104.949	104.354	103.349
.12623E+11	99.8463	99.3846	98.8886	98.3980	97.5666
.15779E+11	95.5380	95.1407	94.7136	94.2912	93.5735
.18935E+11	91.8308	91.4838	91.1106	90.7416	90.1131
.22090E+11	88.8474	88.5386	88.2062	87.8776	87.3168
.25246E+11	86.2392	85.9629	85.6654	85.3713	84.8686
.28402E+11	84.0468	83.7964	83.5267	83.2602	82.8038
.31558E+11	82.2005	81.9713	81.7243	81.4805	81.0620

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= t02i000

*** WARNING *** CP= 109369.810 TIME= 03:54:27
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3	IS AT NCDE	253	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NCDE	1	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NCDE	4	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NCDE	6	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NCDE	8	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NCDE	2	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NCDE	263	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NCDE	459	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NCDE	669	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NCDE	623	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NCDE	626	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NCDE	628	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NCDE	630	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NCDE	624	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NCDE	688	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NCDE	698	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NCDE	782	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NCDE	736	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NCDE	739	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NCDE	741	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NCDE	743	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NCDE	737	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NCDE	801	ITEM= TEMP COMP=	NAME= a18o000
VARIABLE 26	IS AT NCDE	811	ITEM= TEMP COMP=	NAME= t24i000
VARIABLE 27	IS AT NCDE	351	ITEM= TEMP COMP=	NAME= a24i000
VARIABLE 28	IS AT NCDE	127	ITEM= TEMP COMP=	NAME= s24i000
VARIABLE 29	IS AT NCDE	130	ITEM= TEMP COMP=	NAME= h24i000
VARIABLE 30	IS AT NCDE	132	ITEM= TEMP COMP=	NAME= c24i000
VARIABLE 31	IS AT NCDE	134	ITEM= TEMP COMP=	NAME= h24o000
VARIABLE 32	IS AT NCDE	128	ITEM= TEMP COMP=	NAME= s24o000
VARIABLE 33	IS AT NCDE	361	ITEM= TEMP COMP=	NAME= t24o000
VARIABLE 34	IS AT NCDE	4271	ITEM= TEMP COMP=	NAME= g24i000
VARIABLE 35	IS AT NCDE	4269	ITEM= TEMP COMP=	NAME= g24o000
VARIABLE 36	IS AT NCDE	5135	ITEM= TEMP COMP=	NAME= m24i000
VARIABLE 37	IS AT NCDE	4872	ITEM= TEMP COMP=	NAME= m24o000

VARIABLE 38 IS AT NCDE 5728 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NCDE 5727 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NCDE 6241 ITEM= TEMP COMP= NAME= o24o000
 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	924 TEMP	t02i000	81.58	.3156E+11	270.4	.1578E+08
3	NSOL	253 TEMP	a02i000	81.58	.3156E+11	270.4	.1578E+08
4	NSOL	1 TEMP	s02i000	81.58	.3156E+11	270.5	.1578E+08
5	NSOL	4 TEMP	h02i000	82.14	.3156E+11	277.9	.1578E+08
6	NSOL	6 TEMP	c02i000	82.28	.3156E+11	279.6	.1578E+08
7	NSOL	8 TEMP	h02o000	82.08	.3156E+11	276.7	.1578E+08
8	NSOL	2 TEMP	s02o000	81.47	.3156E+11	267.9	.1578E+08
9	NSOL	263 TEMP	a02o000	81.46	.3156E+11	267.8	.1578E+08
10	NSOL	459 TEMP	t08i000	81.46	.3156E+11	267.8	.1578E+08
11	NSOL	669 TEMP	a08i000	81.46	.3156E+11	267.8	.1578E+08
12	NSOL	623 TEMP	s08i000	81.47	.3156E+11	267.9	.1578E+08
13	NSOL	626 TEMP	h08i000	81.97	.3156E+11	274.1	.1578E+08
14	NSOL	628 TEMP	c08i000	82.06	.3156E+11	274.7	.1578E+08
15	NSOL	630 TEMP	h08o000	81.81	.3156E+11	270.5	.1578E+08
16	NSOL	624 TEMP	s08o000	81.14	.3156E+11	260.3	.1893E+08
17	NSOL	688 TEMP	a08o000	81.14	.3156E+11	260.2	.1893E+08
18	NSOL	698 TEMP	t18i000	81.14	.3156E+11	260.2	.1893E+08
19	NSOL	782 TEMP	a18i000	81.14	.3156E+11	260.2	.1893E+08
20	NSOL	736 TEMP	s18i000	81.14	.3156E+11	260.3	.1893E+08
21	NSOL	739 TEMP	h18i000	81.58	.3156E+11	265.4	.1893E+08
22	NSOL	741 TEMP	c18i000	81.61	.3156E+11	264.7	.1893E+08
23	NSOL	743 TEMP	h18o000	81.29	.3156E+11	259.1	.1893E+08
24	NSOL	737 TEMP	s18o000	80.55	.3156E+11	246.9	.2209E+08
25	NSOL	801 TEMP	a18o000	80.54	.3156E+11	246.8	.2209E+08
26	NSOL	811 TEMP	t24i000	80.54	.3156E+11	246.8	.2209E+08
27	NSOL	351 TEMP	a24i000	80.54	.3156E+11	246.7	.2209E+08
28	NSOL	127 TEMP	s24i000	80.54	.3156E+11	246.8	.2209E+08
29	NSOL	130 TEMP	h24i000	80.80	.3156E+11	249.1	.2209E+08
30	NSOL	132 TEMP	c24i000	80.61	.3156E+11	245.2	.2209E+08
31	NSOL	134 TEMP	h24o000	80.00	.3156E+11	234.8	.2525E+08
32	NSOL	128 TEMP	s24o000	78.76	.3156E+11	214.5	.3156E+08
33	NSOL	361 TEMP	t24o000	78.74	.3156E+11	214.2	.3156E+08
34	NSOL	4271 TEMP	g24i000	77.80	.3156E+11	200.8	.3156E+08
35	NSOL	4269 TEMP	g24o000	77.79	.3156E+11	200.5	.3156E+08
36	NSOL	5135 TEMP	m24i000	77.14	.3156E+11	189.6	.6312E+08
37	NSOL	4872 TEMP	m24o000	77.08	.3156E+11	188.3	.6312E+08
38	NSOL	5728 TEMP	i24i000	29.83	.1000E-05	119.0	.2525E+09
39	NSOL	5727 TEMP	i24o000	28.10	.1000E-05	117.7	.2525E+09
40	NSOL	6241 TEMP	o24o000	26.14	.1000E-05	116.1	.2525E+09
41	NSOL	6019 TEMP	o04o090	26.14	.1000E-05	117.1	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	253 TEMP a02i000	1 TEMP s02i000	4 TEMP h02i000	6 TEMP c02i000	8 TEMP h02o000
.10000E-05	243.276	243.279	243.390	251.709	253.632	250.464
.20000E-05	257.771	257.774	257.883	265.803	267.618	264.566
31.558	257.771	257.774	257.883	265.803	267.618	264.566

.31558E+07	267.720	267.723	267.830	275.440	277.162	274.182
.63116E+07	269.334	269.337	269.444	276.981	278.684	275.726
.94673E+07	270.051	270.054	270.160	277.652	279.344	276.401
.12623E+08	270.285	270.288	270.394	277.847	279.530	276.602
.15779E+08	270.392	270.395	270.500	277.921	279.596	276.680
.18935E+08	270.376	270.379	270.484	277.875	279.544	276.639
.22090E+08	270.296	270.299	270.403	277.767	279.429	276.535
.25246E+08	270.165	270.168	270.272	277.610	279.267	276.382
.28402E+08	269.992	269.995	270.098	277.411	279.063	276.188
.31558E+08	269.788	269.791	269.894	277.183	278.830	275.965
.63115E+08	267.232	267.235	267.335	274.433	276.039	273.254
.94673E+08	264.298	264.301	264.398	271.346	272.921	270.200
.12623E+09	261.427	261.430	261.525	268.343	269.892	267.228
.15779E+09	258.823	258.826	258.919	265.626	267.153	264.537
.18935E+09	255.993	255.996	256.086	262.681	264.184	261.618
.22090E+09	253.494	253.496	253.585	260.080	261.564	259.042
.25246E+09	251.188	251.190	251.277	257.679	259.143	256.662
.28402E+09	248.601	248.603	248.688	255.008	256.457	254.011
.31558E+09	246.479	246.481	246.565	252.812	254.247	251.832
.63115E+09	225.839	225.841	225.912	231.419	232.701	230.602
.94673E+09	208.545	208.547	208.607	213.516	214.672	212.824
.12623E+10	193.680	193.682	193.734	198.155	199.207	197.557
.15779E+10	180.896	180.897	180.943	184.917	185.869	184.398
.18935E+10	170.384	170.385	170.426	174.028	174.895	173.571
.22090E+10	161.540	161.541	161.577	164.867	165.664	164.461
.25246E+10	153.779	153.780	153.813	156.842	157.578	156.476
.28402E+10	147.629	147.630	147.660	150.474	151.160	150.140
.31558E+10	142.056	142.057	142.084	144.692	145.330	144.386
.63115E+10	115.031	115.031	115.048	116.686	117.092	116.507
.94673E+10	104.686	104.686	104.699	105.982	106.301	105.845
.12623E+11	98.6505	98.6507	98.6611	99.7335	100.001	99.6212
.15779E+11	94.4982	94.4984	94.5073	95.4385	95.6713	95.3417
.18935E+11	90.9139	90.9141	90.9219	91.7419	91.9472	91.6574
.22090E+11	88.0250	88.0252	88.0321	88.7669	88.9510	88.6917
.25246E+11	85.4983	85.4984	85.5046	86.1660	86.3319	86.0987
.28402E+11	83.3715	83.3716	83.3772	83.9796	84.1308	83.9185
.31558E+11	81.5795	81.5796	81.5847	82.1384	82.2774	82.0824

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP s02c000	263 TEMP a02c000	459 TEMP t08i000	669 TEMP a08i000	623 TEMP s08i000	626 TEMP h08i000
.10000E-05	240.784	240.660	240.655	240.646	240.745	247.873
.20000E-05	255.291	255.168	255.163	255.154	255.251	261.991
31.558	255.291	255.168	255.163	255.154	255.251	261.991
.31558E+07	265.200	265.079	265.074	265.065	265.159	271.596
.63116E+07	266.820	266.700	266.695	266.685	266.780	273.146
.94673E+07	267.546	267.426	267.421	267.412	267.505	273.832
.12623E+08	267.790	267.671	267.666	267.657	267.750	274.042
.15779E+08	267.906	267.787	267.782	267.773	267.866	274.130
.18935E+08	267.900	267.782	267.777	267.768	267.860	274.099
.22090E+08	267.829	267.711	267.707	267.697	267.789	274.004
.25246E+08	267.708	267.590	267.586	267.576	267.668	273.861
.28402E+08	267.543	267.426	267.421	267.412	267.504	273.677
.31558E+08	267.348	267.231	267.227	267.218	267.309	273.462
.63115E+08	264.872	264.759	264.754	264.745	264.834	270.833
.94673E+08	262.007	261.897	261.893	261.884	261.970	267.850
.12623E+09	259.197	259.090	259.085	259.077	259.161	264.940
.15779E+09	256.645	256.541	256.537	256.529	256.611	262.303
.18935E+09	253.870	253.768	253.764	253.756	253.837	259.441

.22090E+09	251.418	251.318	251.314	251.307	251.385	256.912
.25246E+09	249.156	249.058	249.055	249.047	249.124	254.576
.28402E+09	246.611	246.516	246.512	246.505	246.581	251.967
.31558E+09	244.525	244.431	244.427	244.420	244.494	249.822
.63115E+09	224.215	224.137	224.134	224.128	224.191	228.930
.94673E+09	207.170	207.103	207.101	207.096	207.151	211.408
.12623E+10	192.497	192.439	192.437	192.433	192.481	196.335
.15779E+10	179.870	179.819	179.817	179.814	179.856	183.337
.18935E+10	169.481	169.436	169.435	169.432	169.469	172.637
.22090E+10	160.737	160.697	160.696	160.693	160.727	163.630
.25246E+10	153.059	153.023	153.021	153.019	153.049	155.730
.28402E+10	146.972	146.939	146.938	146.936	146.963	149.458
.31558E+10	141.456	141.426	141.425	141.423	141.448	143.764
.63115E+10	114.680	114.663	114.662	114.661	114.676	116.143
.94673E+10	104.419	104.406	104.405	104.405	104.416	105.568
.12623E+11	98.4310	98.4199	98.4195	98.4189	98.4284	99.3931
.15779E+11	94.3092	94.2996	94.2993	94.2987	94.3069	95.1453
.18935E+11	90.7489	90.7405	90.7403	90.7398	90.7470	91.4858
.22090E+11	87.8781	87.8706	87.8704	87.8699	87.8763	88.5389
.25246E+11	85.3668	85.3601	85.3599	85.3595	85.3652	85.9619
.28402E+11	83.2522	83.2462	83.2460	83.2457	83.2509	83.7946
.31558E+11	81.4703	81.4647	81.4646	81.4642	81.4690	81.9689

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.410
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	628 TEMP c08i000	630 TEMP h08o000	624 TEMP s08o000	688 TEMP a08o000	698 TEMP t18i000	782 TEMP a18i000
.10000E-05	248.616	244.185	233.014	232.877	232.871	232.850
.20000E-05	262.634	258.327	247.562	247.426	247.420	247.398
31.558	262.634	258.327	247.562	247.426	247.420	247.398
.31558E+07	272.154	267.932	257.485	257.350	257.344	257.322
.63116E+07	273.688	269.492	259.130	258.996	258.990	258.967
.94673E+07	274.367	270.192	259.887	259.754	259.747	259.725
.12623E+08	274.573	270.417	260.164	260.031	260.025	260.003
.15779E+08	274.658	270.519	260.311	260.178	260.172	260.150
.18935E+08	274.624	270.502	260.335	260.203	260.197	260.175
.22090E+08	274.528	270.421	260.294	260.162	260.156	260.134
.25246E+08	274.584	270.292	260.201	260.070	260.064	260.042
.28402E+08	274.198	270.121	260.065	259.935	259.929	259.907
.31558E+08	273.983	269.920	259.899	259.768	259.762	259.741
.63115E+08	271.349	267.406	257.670	257.544	257.538	257.517
.94673E+08	268.367	264.524	255.019	254.897	254.891	254.871
.12623E+09	265.459	261.703	252.398	252.279	252.274	252.254
.15779E+09	262.825	259.144	250.010	249.894	249.889	249.870
.18935E+09	259.965	256.361	247.403	247.291	247.286	247.267
.22090E+09	257.438	253.899	245.098	244.988	244.983	244.965
.25246E+09	255.102	251.626	242.973	242.865	242.860	242.843
.28402E+09	252.495	249.074	240.558	240.452	240.448	240.431
.31558E+09	250.352	246.981	238.579	238.476	238.471	238.455
.63115E+09	229.458	226.568	219.280	219.194	219.190	219.176
.94673E+09	211.924	209.408	202.997	202.923	202.920	202.909
.12623E+10	196.833	194.609	188.907	188.843	188.841	188.831
.15779E+10	183.808	181.839	176.758	176.703	176.700	176.692
.18935E+10	173.081	171.320	166.746	166.697	166.695	166.688
.22090E+10	164.050	162.459	158.307	158.264	158.262	158.256
.25246E+10	156.128	154.678	150.877	150.838	150.837	150.831
.28402E+10	149.836	148.497	144.983	144.948	144.946	144.941
.31558E+10	144.119	142.885	139.640	139.607	139.606	139.601
.63115E+10	116.383	115.630	113.622	113.603	113.603	113.600
.94673E+10	105.762	105.178	103.616	103.601	103.601	103.599

.12623E+11	99.5570	99.0722	97.7707	97.7587	97.7583	97.7567
.15779E+11	95.2888	94.8690	93.7409	93.7306	93.7302	93.7289
.18935E+11	91.6130	91.2445	90.2527	90.2437	90.2434	90.2422
.22090E+11	88.6535	88.3240	87.4364	87.4284	87.4281	87.4270
.25246E+11	86.0656	85.7696	84.9715	84.9644	84.9641	84.9632
.28402E+11	83.8893	83.6202	82.8941	82.8876	82.8874	82.8866
.31558E+11	82.0563	81.8093	81.1424	81.1365	81.1362	81.1355

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.420
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	736 TEMP s18i000	739 TEMP h18i000	741 TEMP c18i000	743 TEMP h18o000	737 TEMP s18o000	801 TEMP a18o000
.10000E-05	232.937	238.925	238.383	232.381	219.107	218.951
.20000E-05	247.483	253.097	252.463	246.594	233.775	233.621
31.558	247.483	253.097	252.463	246.594	233.775	233.621
.31558E+07	257.405	262.722	262.021	256.267	243.788	243.635
.63116E+07	259.050	264.299	263.586	257.867	245.483	245.331
.94673E+07	259.807	265.019	264.305	258.614	246.299	246.147
.12623E+08	260.084	265.266	264.552	258.887	246.635	246.484
.15779E+08	260.231	265.388	264.675	259.035	246.837	246.687
.18935E+08	260.256	265.390	264.680	259.063	246.916	246.766
.22090E+08	260.215	265.330	264.622	259.026	246.928	246.779
.25246E+08	260.122	265.220	264.515	258.940	246.888	246.739
.28402E+08	259.987	265.067	264.366	258.811	246.804	246.655
.31558E+08	259.820	264.885	264.187	258.652	246.687	246.540
.63115E+08	257.594	262.536	261.873	256.506	244.900	244.757
.94673E+08	254.946	259.796	259.167	253.940	242.628	242.490
.12623E+09	252.328	257.101	256.501	251.397	240.341	240.207
.15779E+09	249.942	254.649	254.075	249.076	238.243	238.112
.18935E+09	247.337	251.975	251.428	246.538	235.934	235.806
.22090E+09	245.034	249.609	249.085	244.292	233.886	233.762
.25246E+09	242.910	247.424	246.922	242.221	232.003	231.881
.28402E+09	240.497	244.960	244.479	239.863	229.813	229.694
.31558E+09	238.520	242.939	242.476	237.931	228.024	227.907
.63115E+09	219.232	223.204	222.901	219.030	210.496	210.398
.94673E+09	202.957	206.557	206.364	203.013	195.553	195.470
.12623E+10	188.874	192.146	192.024	189.082	182.489	182.418
.15779E+10	176.730	179.701	179.633	177.040	171.188	171.126
.18935E+10	166.722	169.438	169.406	167.094	161.844	161.790
.22090E+10	158.286	160.785	160.780	158.699	153.947	153.899
.25246E+10	150.858	153.174	153.188	151.297	146.959	146.916
.28402E+10	144.966	147.123	147.147	145.406	141.407	141.368
.31558E+10	139.624	141.629	141.661	140.060	136.371	136.335
.63115E+10	113.614	114.895	114.944	113.975	111.712	111.691
.94673E+10	103.609	104.619	104.667	103.920	102.164	102.148
.12623E+11	97.7654	98.6120	98.6552	98.0355	96.5759	96.5628
.15779E+11	93.7364	94.4728	94.5122	93.9764	92.7124	92.7011
.18935E+11	90.2488	90.8984	90.9345	90.4645	89.3543	89.3445
.22090E+11	87.4329	88.0158	88.0492	87.6294	86.6364	86.6277
.25246E+11	84.9684	85.4938	85.5247	85.1479	84.2556	84.2478
.28402E+11	82.8913	83.3702	83.3990	83.0566	82.2452	82.2381
.31558E+11	81.1398	81.5803	81.6073	81.2932	80.5482	80.5417

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	811 TEMP t24i000	351 TEMP a24i000	127 TEMP s24i000	130 TEMP h24i000	132 TEMP c24i000	134 TEMP h24o000
.10000E-05	218.943	218.896	218.955	221.936	217.783	206.378
.20000E-05	233.612	233.566	233.622	236.320	232.222	221.238
31.558	233.612	233.566	233.622	236.320	232.222	221.238
.31558E+07	243.627	243.580	243.635	246.125	242.064	231.373
.63116E+07	245.322	245.276	245.330	247.772	243.725	233.112
.94673E+07	246.139	246.093	246.147	248.568	244.539	233.986
.12623E+08	246.475	246.429	246.483	248.887	244.876	234.377
.15779E+08	246.678	246.632	246.686	249.076	245.082	234.631
.18935E+08	246.758	246.713	246.766	249.145	245.166	234.761
.22090E+08	246.770	246.725	246.778	249.147	245.185	234.822
.25246E+08	246.731	246.686	246.739	249.099	245.152	234.830
.28402E+08	246.647	246.602	246.655	249.007	245.075	234.792
.31558E+08	246.532	246.487	246.539	248.884	244.966	234.721
.63115E+08	244.749	244.706	244.757	247.047	243.257	233.328
.94673E+08	242.482	242.441	242.490	244.743	241.062	231.394
.12623E+09	240.200	240.159	240.207	242.431	238.846	229.403
.15779E+09	238.105	238.065	238.112	240.312	236.809	227.560
.18935E+09	235.799	235.761	235.807	237.982	234.564	225.513
.22090E+09	233.755	233.717	233.763	235.916	232.573	223.694
.25246E+09	231.874	231.837	231.882	234.014	230.740	222.024
.28402E+09	229.687	229.652	229.696	231.813	228.603	220.034
.31558E+09	227.901	227.865	227.909	230.012	226.858	218.413
.63115E+09	210.393	210.364	210.401	212.357	209.716	202.460
.94673E+09	195.466	195.441	195.474	197.283	195.026	188.706
.12623E+10	182.414	182.393	182.422	184.097	182.145	176.575
.15779E+10	171.123	171.104	171.130	172.680	170.984	166.055
.18935E+10	161.787	161.771	161.794	163.233	161.738	157.329
.22090E+10	153.897	153.883	153.903	155.244	153.912	149.927
.25246E+10	146.914	146.901	146.920	148.169	146.966	143.335
.28402E+10	141.366	141.354	141.371	142.540	141.440	138.096
.31558E+10	136.333	136.323	136.339	137.431	136.425	133.343
.63115E+10	111.690	111.684	111.694	112.412	111.822	109.942
.94673E+10	102.147	102.142	102.150	102.723	102.274	100.819
.12623E+11	96.5621	96.5583	96.5645	97.0459	96.6755	95.4676
.15779E+11	92.7006	92.6973	92.7027	93.1226	92.8037	91.7586
.18935E+11	89.3440	89.3411	89.3458	89.7173	89.4387	88.5215
.22090E+11	86.6272	86.6247	86.6289	86.9629	86.7148	85.8950
.25246E+11	84.2474	84.2451	84.2489	84.5506	84.3286	83.5924
.28402E+11	82.2378	82.2357	82.2391	82.5147	82.3134	81.6443
.31558E+11	80.5414	80.5396	80.5427	80.7964	80.6122	79.9981

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.440
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	128 TEMP s24o000	361 TEMP t24o000	4271 TEMP g24i000	4269 TEMP g24o000	5135 TEMP m24i000	4872 TEMP m24o000
.10000E-05	183.327	182.997	167.153	166.882	154.221	152.710
.20000E-05	199.241	198.921	184.113	183.847	171.858	170.368
31.558	199.241	198.921	184.113	183.847	171.858	170.368
.31558E+07	210.138	209.825	195.723	195.462	183.948	182.481
.63116E+07	212.064	211.753	197.807	197.548	186.143	184.684
.94673E+07	213.071	212.762	198.924	198.666	187.342	185.890
.12623E+08	213.581	213.273	199.525	199.269	188.016	186.571
.15779E+08	213.939	213.633	199.962	199.707	188.516	187.077

.18935E+08	214.164	213.859	200.258	200.004	188.869	187.437
.22090E+08	214.314	214.010	200.472	200.219	189.136	187.710
.25246E+08	214.406	214.104	200.626	200.374	189.339	187.919
.28402E+08	214.449	214.148	200.726	200.475	189.487	188.072
.31558E+08	214.456	214.156	200.787	200.537	189.594	188.185
.63115E+08	213.702	213.412	200.469	200.227	189.648	188.287
.94673E+08	212.283	212.001	199.390	199.156	188.868	187.547
.12623E+09	210.735	210.460	198.131	197.902	187.863	186.577
.15779E+09	209.271	209.002	196.913	196.690	186.862	185.607
.18935E+09	207.612	207.350	195.504	195.286	185.674	184.450
.22090E+09	206.129	205.873	194.238	194.025	184.601	183.403
.25246E+09	204.777	204.526	193.092	192.883	183.636	182.464
.28402E+09	203.070	202.823	191.562	191.357	182.266	181.117
.31558E+09	201.688	201.445	190.333	190.131	181.173	180.044
.63115E+09	188.064	187.859	178.191	178.022	170.345	169.403
.94673E+09	176.163	175.987	167.465	167.321	160.647	159.849
.12623E+10	165.490	165.337	157.718	157.593	151.706	151.017
.15779E+10	156.220	156.086	149.257	149.149	143.933	143.334
.18935E+10	148.509	148.391	142.217	142.120	137.447	136.918
.22090E+10	141.956	141.849	136.229	136.143	131.921	131.449
.25246E+10	136.069	135.973	130.815	130.737	126.891	126.466
.28402E+10	131.396	131.308	126.528	126.457	122.912	122.524
.31558E+10	127.164	127.083	122.654	122.589	119.322	118.967
.63115E+10	106.155	106.107	103.336	103.297	101.305	101.097
.94673E+10	97.8846	97.8475	95.6829	95.6536	94.1128	93.9546
.12623E+11	93.0311	93.0004	91.1929	91.1687	89.8903	89.7605
.15779E+11	89.6496	89.6232	88.0519	88.0311	86.9250	86.8136
.18935E+11	86.6696	86.6465	85.2614	85.2433	84.2724	84.1752
.22090E+11	84.2392	84.2186	82.9761	82.9600	82.0920	82.0056
.25246E+11	82.1049	82.0865	80.9672	80.9528	80.1733	80.0961
.28402E+11	80.2918	80.2751	79.2550	79.2419	78.5333	78.4634
.31558E+11	78.7565	78.7412	77.8029	77.7909	77.1404	77.0765

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:35 APR 10, 1995 CP= 109377.460
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5728 TEMP	5727 TEMP	6241 TEMP
	i24i000	i24o000	o24o000
.10000E-05	29.8283	28.0984	26.1400
.20000E-05	72.4600	70.7323	68.7684
31.558	72.4600	70.7323	68.7684
.31558E+07	96.9384	95.2183	93.2213
.63116E+07	101.321	99.6122	97.6189
.94673E+07	103.836	102.137	100.153
.12623E+08	105.603	103.915	101.947
.15779E+08	106.961	105.282	103.326
.18935E+08	108.048	106.378	104.433
.22090E+08	108.959	107.297	105.363
.25246E+08	109.739	108.086	106.161
.28402E+08	110.415	108.769	106.854
.31558E+08	111.012	109.373	107.468
.63115E+08	114.623	113.044	111.214
.94673E+08	116.346	114.818	113.048
.12623E+09	117.329	115.846	114.128
.15779E+09	117.966	116.520	114.846
.18935E+09	118.377	116.969	115.340
.22090E+09	118.676	117.301	115.710
.25246E+09	119.019	117.675	116.121
.28402E+09	118.641	117.326	115.804
.31558E+09	118.418	117.126	115.631
.63115E+09	115.982	114.913	113.674
.94673E+09	112.698	111.796	110.748

.12623E+10	108.648	107.872	106.969
.15779E+10	105.195	104.523	103.740
.18935E+10	102.293	101.702	101.012
.22090E+10	99.8135	99.2891	98.6760
.25246E+10	97.3000	96.8294	96.2805
.28402E+10	95.4007	94.9723	94.4733
.31558E+10	93.7678	93.3772	92.9230
.63115E+10	85.0351	84.8116	84.5512
.94673E+10	81.2888	81.1203	80.9238
.12623E+11	79.1247	78.9869	78.8261
.15779E+11	77.5287	77.4107	77.2728
.18935E+11	75.9536	75.8510	75.7310
.22090E+11	74.5997	74.5087	74.4023
.25246E+11	73.4002	73.3190	73.2239
.28402E+11	72.3400	72.2666	72.1806
.31558E+11	71.4262	71.3591	71.2806

***** ROUTINE COMPLETED ***** CP = 109377.470

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40w1.db
FOR POSSIBLE RESUME FROM THIS POINT

```
NUMBER OF WARNING MESSAGES ENCOUNTERED= 20
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0
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*-----*
                        ANSYS RUN COMPLETED
*-----*

                REV. 5.0 A                                HP 9000/7XX

CP TIME          (sec) =      109383.900                TIME = 03:54:42
ELAPSED TIME     (sec) =      113349.000                DATE  = 04/10/95

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WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ma40j1
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
 WORK SPACE REQUESTED = 16777216 64.000 MB COMMAND LINE
 MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
 MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
 WORK SPACE OBTAINED = 16777214 64.000 MB
 BYTES PER WORD = 4

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
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 USERS MUST VERIFY THEIR OWN RESULTS.

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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 03/07/1995
 3 /COM, 2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz
 4 /COM, *****
 5 /COM, *
 6 /COM, * File name: ma40j1.inp
 7 /COM, * 40 BWR MPC 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 (check for Changes)
 13 /COM, * GE-7 8x8 SNF Assembly
 14 /COM, *
 15 /COM, * SNF Heat Loads file: bwr1049.dat
 16 /COM, * SNF Type: 10 years old, 49 GWD/MTU
 17 /COM, *
 18 /COM, * Surface Temp. file: c21j5a.parm *

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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 67.5 m *
22 /COM, *      WP c/c spacing = 21.554 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Define Transient time parameters
33 /COM, TM_START = start time (sec)
34 /COM, TMI* = time increment for solution (sec)
35 /COM, TME* = start and stop for time do-loops (sec)
36 /COM, Note: 1 year = 3.15576e7 seconds
37 /COM, TMTMAX = time of maximum cladding temperature
38 TM_START=(1.0E-6)*(3.15576E7)
39 TMI0=0.1*3.15576E7
40 TMI1=1.0*3.15576E7
41 TMI10=10.0*3.15576E7
42 TMI100=100.0*3.15576E7
43 TMI1000=1000.0*3.15576E7
44 TME0=0.9*3.15576E7+TM_START
45 TME1=TMI1+TM_START
46 TME9=9.0*3.15576E7+TM_START
47 TME10=TMI10+TM_START
48 TME50=50.0*3.15576E7+TM_START
49 TME90=90.0*3.15576E7+TM_START
50 TME100=TMI100+TM_START
51 TME1000=TMI1000+TM_START
52 /COM, *****
53 /COM, *****
54 /COM, Read in average effective conductivities from SNF model
55 PARRES,CHANGE,pwr15e,param,
56 /COM, Read in surface temps. from repository model
57 PARRES,CHANGE,c21j5a,param,
58 /COM, *****
59 /COM, Define MPC/waste package parameters
60 /COM, (MPC dimensions converted from inches to meters)
61 /COM, Required Constants:
62 /COM,
63 PI=3.141592654
64 /COM,
65 /COM, Required container wall parameters:
66 /COM, MIRAD = inner radius of MPC shell (m)
67 /COM, MWALL = MPC shell thickness (m)
68 /COM, DCRAD = disposal container outer radius (m)
69 /COM, OWALL = outer barrier thickness (m)
70 /COM, IWALL = inner barrier thickness (m)
71 MIRAD=58.300*2.54/100.0/2.0
72 MWALL=1.0000*2.54/100.0
73 DCRAD=1.7016/2.0
74 OWALL=0.0500
75 IWALL=0.0200
76 /COM,
77 /COM, Required outer guide hardware parameters:
78 /COM, Set 1: TPGPL = top/bottom guide plate length (m)
79 /COM, TPGPT = top/bottom guide plate thickness (m)
80 TPGPL=6.3240*2.54/100.0
81 TPGPT=0.2500*2.54/100.0
82 /COM,
83 /COM, Set 2: SGCCW = Width; corner guide to far corner side guide (m)
84 /COM, SGCMW = Width; Side guide corner to Middle side guide (m)
85 /COM, SGCD1 = Vert. Dist. Down to Corner of Guide (m)
86 SGCCW=21.132*2.54/100.0
87 SGCMW=6.7810*2.54/100.0
88 SGCD1=6.9790*2.54/100.0

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89 /COM,
90 /COM,      SET 3:      GCORV = corner guide Vertical width (m)
91 /COM,      GCORH = corner guide Horizontal width (m)
92 /COM,      GX32 = X coord. of upper contact from drawing. (m)
93 /COM,      GY32 = Y coord. of upper contact from drawing. (m)
94 GCORV=7.7600*2.54/100.0
95 GCORH=6.7160*2.54/100.0
96 GX32=18.66137525*2.54/100.0
97 GY32=22.39365030*2.54/100.0
98 /COM,
99 /COM,      SET 4:      GLEN1 = side guide Low width (m)
100 /COM,      GLEN2 = side guide High width (m)
101 /COM,      GLENT = side guide total width (m)
102 /COM,      GWALL = guide thickness (m)
103 GLEN1=6.7290*2.54/100.0
104 GLEN2=13.937*2.54/100.0
105 GLENT=28.866*2.54/100.0
106 GWALL=0.3750*2.54/100.0
107 /COM,
108 /COM,      Required Tube/Fuel parameters:
109 /COM,      HCELL = 1/2 of basket cell opening (m)
110 /COM,      SWALL = stainless tube thickness (m)
111 /COM,      AWALL = Al/boron tube thickness (m)
112 /COM,      TWALL = stainless tube cladding thickness (m)
113 /COM,      ACTVL = active fuel length
114 /COM,      PEAKF = assembly heat axial peaking factor
115 HCELL=6.0000*2.54/100.0/2.0
116 SWALL=0.2500*2.54/100.0
117 AWALL=0.2500*2.54/100.0
118 TWALL=0.0940*2.54/100.0
119 ACTVL=150.00*2.54/100.0
120 PEAKF=1.40
121 /COM,
122 /COM,      *****
123 /COM,      Define calculated parameters
124 /COM,      ASSY = assembly heat production (W) f(yrs)
125 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
126 /COM,      FVOLL = assy_volume=cell_width^2*active_length
127 /COM,      PITCH = basket cell outer width (m)
128 /COM,      QCELL = 1/4 of basket cell opening (m)
129 /COM,      SCELL = 1/2 of basket cell opening+SS wall(m)
130 /COM,      ACELL = 1/2 of basket cell opening+SS+AL (m)
131 /COM,      ATWCL = Dist. to edge of B-AL plate (m)
132 /COM,      STWCL = Dist. to edge of Steel Bask. Plate (m)
133 /COM,      TQPCL = Top quarter of cell dist. (m)
134 *SET,ASSY,
135 *DIM,ASSY, TABLE,101,1,
136 *DIM,FUEL, TABLE,101,1
137 FVOLL=4*HCELL*HCELL*ACTVL
138 PITCH=(HCELL+SWALL+AWALL+TWALL)*2.0
139 QCELL=HCELL/2.0
140 SCELL=HCELL+SWALL
141 ACELL=HCELL+SWALL+AWALL
142 ATWCL=TWALL+AWALL
143 STWCL=TWALL+AWALL+SWALL
144 TQPCL=STWCL+QCELL
145 /COM,
146 /COM,      *****
147 /COM,      Determine the required contact points for the outer guide hardware
148 /COM,      GX## = x coord. of guide/shell contact
149 /COM,      GY## = y coord. of guide/shell contact
150 /COM,      Set 1:
151 GX11=TPGPL/2.0
152 GY11=SQRT(MIRAD*MIRAD - GX11*GX11)
153 /COM,
154 /COM,      Set 3:
155 GX31=GX32+GCORH-GWALL
156 GY31=GY32-GCORV+GWALL
157 /COM,
158 /COM,      Set 2:

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159 GX24=GX31-SGCCW
160 GY24=SQRT(MIRAD*MIRAD-GX24*GX24)
161 GX23=GX24+GWALL
162 GY23=SQRT(MIRAD*MIRAD-GX23*GX23)
163 GX22=GX24+SGCMW
164 GY22=SQRT(MIRAD*MIRAD-GX22*GX22)
165 GX21=GX22+GWALL
166 GY21=SQRT(MIRAD*MIRAD-GX21*GX21)
167 /COM,
168 /COM,      Set 4:
169 GY41=GWALL/2.0
170 GX41=SQRT(MIRAD*MIRAD - GY41*GY41)
171 GY44=GY41+GLEN2
172 GX44=SQRT(MIRAD*MIRAD - GY44*GY44)
173 GY43=GY44-GLEN1
174 GX43=SQRT(MIRAD*MIRAD - GY43*GY43)
175 GY42=GY43-GWALL
176 GX42=SQRT(MIRAD*MIRAD - GY42*GY42)
177 /COM,
178 /COM,      Define 45 degree point of reference:
179 /COM,      MI45 = x coord. MIRAD at 45 deg.
180 /COM,      MO45 = x coord. MIRAD+MWALL at 45 deg.
181 /COM,      DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
182 /COM,      DM45 = x coord. DCRAD-OWALL at 45 deg.
183 /COM,      DO45 = x coord. DCRAD at 45 deg.
184 /COM,      OFFS = 45 degree Y off set to go through centers
185 MI45=MIRAD/SQRT(2.0)
186 MO45=(MIRAD+MWALL)/SQRT(2.0)
187 DI45=(DCRAD-OWALL-IWALL)/SQRT(2.0)
188 DM45=(DCRAD-OWALL)/SQRT(2.0)
189 DO45=DCRAD/SQRT(2.0)
190 OFFS=0.5*PITCH
191 /COM,
192 /COM,      *****
193 /COM,      Define different element types
194 /PREP7
195 ETYPE
196 ET, 1,55,
197 ET, 2,70,
198 ET, 7,32,
199 ET, 16,57,
200 ET, 17,32,
201 ET, 18,50,1,
202 ET, 19,31,
203 ET, 27,32,
204 /COM,      *****
205 /COM,      File props01.dat describes material properties
206 /COM,      and thier reference numbers
207 MPREAD,props01,dat,
208 /COM,      Read in single assembly heat loads
209 /COM,      Calculate the volumetric heat generation
210 /COM,      (Assembly time is in years, FUEL is in seconds)
211 /INPUT,bwr1049,dat
212 *VFACT,3.15576E7,
213 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
214 *VFACT,(PEAKF/FVOLUME),
215 *VFUN,FUEL(1),COPY,ASSY(1),
216 FUEL(0,1)=1.0
217 /COM,      *****
218 /COM,      Define new material 14 for SNF effective conductivity
219 /COM,      Density:      DENS      (kg/m^3)
220 /COM,      Conductivity: KXX      (W/m/K)
221 /COM,      Specific Heat: C      (J/kg/K)
222 MPTEMP
223 MPTEMP, 1, .00000E+00,
224 MPDATA,DENS,14, 1, .388242E+04,
225 MPDATA, C,14, 1, .28401E+03,
226 /COM,      Store average effective conductivities
227 IINC=1
228 TBSKT=25.0

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229 MPTMP
230 MPTMP,IINC,TBSKT,
231 IINC=IINC+1
232 *DO,TBSKT,50.0,400.0,50.0,
233     MPTMP,IINC,TBSKT,
234     IINC=IINC+1
235 *ENDDO
236 IINC=1
237 TBSKT=25.0
238 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
239 IINC=IINC+1
240 *DO,TBSKT,50.0,400.0,50.0,
241     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
242     IINC=IINC+1
243 *ENDDO
244 /COM, *****
245 /COM,          Define new material 15 for low thermal loading
246 /COM,          outer barrier of 70/30 Copper Nickel (C71500)
247 /COM,          Density:      DENS      (kg/m^3)
248 /COM,          Conductivity: KXX      (W/m/K)
249 /COM,          Specific Heat: C      (J/kg/K)
250 MPTMP
251 MPTMP, 1, .00000E+00,
252 /COM,          Density (lb/in^3 converted to kg/m^3)
253 MPDATA,DENS,15, 1,(0.323*2.768E+04),
254 /COM,          Specific Heat (Btu/lb/F converted to J/kg/K)
255 MPDATA, C,15, 1,(0.09/2.3886E-04),
256 /COM,          Conductivity (Btu/hr/ft/F converted to W/m/K)
257 MPTMP
258 MPTMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
259 MPTMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
260 MPTMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
261 MPTMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
262 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
263 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
264 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
265 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
266 /COM, *****
267 /COM,          Construct geometry for Disposal Container
268 /COM,
269 /COM,          Define center and axis keypoints for waste package
270 /COM,          Also, create placeholder keypoints and lines
271 /COM,          (K's 1,2,3,4,5,6,7,8)
272 /COM,          (L's 1,2,3,4)
273 K,1,0.0,0.0,0.0,
274 K,2,0.0,0.0,1.0,
275 K,3,0.0,0.0,1.3,
276 K,4,0.0,0.0,1.4,
277 K,5,0.0,0.0,1.5,
278 K,6,0.0,0.0,1.6,
279 K,7,0.0,0.0,1.7,
280 K,8,0.0,0.0,1.8,
281 L,3,4,
282 L,4,5,
283 L,5,6,
284 L,6,7,
285 /COM,          Define disposal container and MPC outer radius
286 /COM,          (K's 9,10,11,12,13,14,15,16,17,18,19,20)
287 /COM,          (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
288 /COM,          (A's 1,2,3,4,5)
289 K, 9,          0.0,          (0.0-DCRAD),0.0,
290 K,10,          DCRAD,          0.0,0.0,
291 K,11,          0.0,          DCRAD,0.0,
292 K,12,          0.0,          (OWALL-DCRAD),0.0,
293 K,13,          (DCRAD-OWALL),          0.0,0.0,
294 K,14,          0.0,          (DCRAD-OWALL),0.0,
295 K,15,          0.0,(OWALL+IWALL-DCRAD),0.0,
296 K,16,(DCRAD-OWALL-IWALL),          0.0,0.0,
297 K,17,          0.0,(DCRAD-OWALL-IWALL),0.0,
298 K,18,          0.0, (0.0-MIRAD-MWALL),0.0,

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299 K,19,      (MIRAD+MWALL),      0.0,0.0,
300 K,20,      0.0,      (MIRAD+MWALL),0.0,
301 L,10,13,
302 L,13,16,
303 LARC,10, 9,1,      DCRAD,
304 LARC,11,10,1,      DCRAD,
305 LARC,13,12,1,      (DCRAD-OWALL),
306 LARC,14,13,1,      (DCRAD-OWALL),
307 L,11,14,
308 L, 9,12,
309 LARC,15,16,1,(DCRAD-OWALL-IWALL),
310 LARC,16,17,1,(DCRAD-OWALL-IWALL),
311 L,14,17,
312 L,12,15,
313 LARC,19,18,1,      (MIRAD+MWALL),
314 LARC,20,19,1,      (MIRAD+MWALL),
315 L,17,20,
316 L,15,18,
317 AL, 5, 7,12, 9,
318 AL,11, 8, 5,10,
319 AL, 6, 9,16,13,
320 AL,15,10, 6,14,
321 AL,19,14,13,20,17,18,
322 /COM,      *****
323 /COM,      Define MPC shell inner edge and area
324 /COM,      (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
325 /COM,      ( 38, 39, 40, 41, 42, 43, 44)
326 /COM,      (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
327 /COM,      ( 38,39, 40, 41, 42, 43, 44, 45)
328 /COM,      (A's 6)
329 K,21, 0.0,      MIRAD,0.0,
330 K,22, GX11,      GY11,0.0,
331 K,23, GX24,      GY24,0.0,
332 K,24, GX23,      GY23,0.0,
333 K,25, GX22,      GY22,0.0,
334 K,26, GX21,      GY21,0.0,
335 K,27, GX32,      GY32,0.0,
336 K,28, GX31,      GY31,0.0,
337 K,29, GX44,      GY44,0.0,
338 K,30, GX43,      GY43,0.0,
339 K,31, GX42,      GY42,0.0,
340 K,32, GX41,      GY41,0.0,
341 K,33, GX41, (0.0-GY41),0.0,
342 K,34, GX42, (0.0-GY42),0.0,
343 K,35, GX43, (0.0-GY43),0.0,
344 K,36, GX44, (0.0-GY44),0.0,
345 K,37, GX31, (0.0-GY31),0.0,
346 K,38, GX32, (0.0-GY32),0.0,
347 K,39, GX21, (0.0-GY21),0.0,
348 K,40, GX22, (0.0-GY22),0.0,
349 K,41, GX23, (0.0-GY23),0.0,
350 K,42, GX24, (0.0-GY24),0.0,
351 K,43, GX11, (0.0-GY11),0.0,
352 K,44, 0.0,(0.0-MIRAD),0.0,
353 L,20,21,
354 LARC,22,21,1,MIRAD,
355 LARC,23,22,1,MIRAD,
356 LARC,24,23,1,MIRAD,
357 LARC,25,24,1,MIRAD,
358 LARC,26,25,1,MIRAD,
359 LARC,27,26,1,MIRAD,
360 LARC,28,27,1,MIRAD,
361 LARC,29,28,1,MIRAD,
362 LARC,30,29,1,MIRAD,
363 LARC,31,30,1,MIRAD,
364 LARC,32,31,1,MIRAD,
365 LARC,33,32,1,MIRAD,
366 LARC,34,33,1,MIRAD,
367 LARC,35,34,1,MIRAD,
368 LARC,36,35,1,MIRAD,

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369 LARC,37,36,1,MIRAD,
370 LARC,38,37,1,MIRAD,
371 LARC,39,38,1,MIRAD,
372 LARC,40,39,1,MIRAD,
373 LARC,41,40,1,MIRAD,
374 LARC,42,41,1,MIRAD,
375 LARC,43,42,1,MIRAD,
376 LARC,44,43,1,MIRAD,
377 L,18,44,
378 LSEL,S,LINE,,21,45,
379 LSEL,A,LINE,,17,18,
380 AL,ALL,
381 LSEL,ALL,
382 /COM, *****
383 /COM, Define tube guides
384 /COM, (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
385 /COM, ( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
386 /COM, ( 79,80,81,82)
387 /COM, (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
388 /COM, ( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
389 /COM, ( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
390 /COM, ( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)
391 /COM, ( 111,112,113,114,115)
392 /COM, (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
393 /COM, ( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)
394 /COM,
395 /COM, Set 1: top plate
396 K,45, GX11, (GY11-GWALL),0.0,
397 K,46, 0.0, GY11,0.0,
398 K,47, 0.0, (GY11-GWALL),0.0,
399 /COM,
400 /COM, Set 2: top side guide
401 K,48, GX24, (GY24-SGCD1),0.0,
402 K,49, GX23,(GY24-SGCD1+GWALL),0.0,
403 K,50, GX22,(GY24-SGCD1+GWALL),0.0,
404 K,51, GX21,(GY24-SGCD1+GWALL),0.0,
405 K,52,(GX32-GWALL),(GY24-SGCD1+GWALL),0.0,
406 K,53,(GX32-GWALL), (GY24-SGCD1),0.0,
407 K,54, GX32,(GY24-SGCD1+GWALL),0.0,
408 K,55, GX32, (GY24-SGCD1),0.0,
409 /COM,
410 /COM, Set 3: top corner
411 K,56,(GX32-GWALL), GY32,0.0,
412 K,57,(GX32-GWALL), (GY32-GCORV),0.0,
413 K,58, GX32,(GY32-GCORV+GWALL),0.0,
414 K,59, GX31, (GY31-GWALL),0.0,
415 /COM,
416 /COM, Set 4: side guide
417 K,60,(GX44-GWALL), GY44,0.0,
418 K,61,(GX44-GWALL), (0.0-GY44),0.0,
419 K,62, GX44, GY43,0.0,
420 K,63, GX44, GY42,0.0,
421 K,64, GX44, GY41,0.0,
422 K,65, GX44, (0.0-GY41),0.0,
423 K,66, GX44, (0.0-GY42),0.0,
424 K,67, GX44, (0.0-GY43),0.0,
425 /COM,
426 /COM, Set 3: bottom corner
427 K,68,(GX32-GWALL), (0.0-GY32),0.0,
428 K,69,(GX32-GWALL), (0.0-GY32+GCORV),0.0,
429 K,70, GX32,(0.0-GY32+GCORV-GWALL),0.0,
430 K,71, GX31, (0.0-GY31+GWALL),0.0,
431 /COM,
432 /COM, Set 2: bottom side guide
433 K,72, GX24, (0.0-GY24+SGCD1),0.0,
434 K,73, GX23,(0.0-GY24+SGCD1-GWALL),0.0,
435 K,74, GX22,(0.0-GY24+SGCD1-GWALL),0.0,
436 K,75, GX21,(0.0-GY24+SGCD1-GWALL),0.0,
437 K,76,(GX32-GWALL),(0.0-GY24+SGCD1-GWALL),0.0,
438 K,77,(GX32-GWALL), (0.0-GY24+SGCD1),0.0,

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439 K,78, GX32,(0.0-GY24+SGCD1-GWALL),0.0,
 440 K,79, GX32, (0.0-GY24+SGCD1),0.0,
 441 /COM,
 442 /COM, Set 1: bottom plate
 443 K,80, GX11, (0.0-GY11+GWALL),0.0,
 444 K,81, 0.0, (0.0-GY11),0.0,
 445 K,82, 0.0, (0.0-GY11+GWALL),0.0,
 446 /COM,

Now Fill in the required lines:

447 /COM, Set 1: bottom plate
 448 /COM,
 449 L,21,46,
 450 L,46,47,
 451 L,46,22,
 452 L,22,45,
 453 L,45,47,
 454 /COM,

Set 2: top side guide

455 /COM,
 456 L,48,23,
 457 L,48,49,
 458 L,24,49,
 459 L,49,50,
 460 L,53,48,
 461 L,50,25,
 462 L,26,51,
 463 L,50,51,
 464 L,51,52,
 465 L,52,53,
 466 /COM,

Set 3: top corner

467 /COM,
 468 L,56,27,
 469 L,52,56,
 470 L,27,54,
 471 L,54,55,
 472 L,52,54,
 473 L,53,55,
 474 L,55,58,
 475 L,57,53,
 476 L,57,58,
 477 L,58,28,
 478 L,59,57,
 479 L,28,59,
 480 /COM,

Set 4: side guide

481 /COM,
 482 L,60,29,
 483 L,61,60,
 484 L,29,62,
 485 L,62,63,
 486 L,62,30,
 487 L,31,63,
 488 L,63,64,
 489 L,64,65,
 490 L,64,32,
 491 L,33,65,
 492 L,65,66,
 493 L,66,67,
 494 L,66,34,
 495 L,35,67,
 496 L,67,36,
 497 L,36,61,
 498 /COM,

Set 3: bottom corner

499 /COM,
 500 L,37,71,
 501 L,69,71,
 502 L,69,70,
 503 L,37,70,
 504 L,70,79,
 505 L,79,78,
 506 L,78,38,
 507 L,38,68,
 508 L,68,76,

509 L,76,77,
 510 L,77,69,
 511 L,76,78,
 512 L,77,79,
 513 /COM,
 514 /COM, Set 2: bottom side guide
 515 L,72,77,
 516 L,72,73,
 517 L,76,75,
 518 L,75,74,
 519 L,74,73,
 520 L,73,41,
 521 L,42,72,
 522 L,40,74,
 523 L,75,39,
 524 /COM,
 525 /COM, Set 1: bottom plate
 526 L,80,43,
 527 L,82,80,
 528 L,82,81,
 529 L,43,81,
 530 L,81,44,
 531 /COM, Radiation/Back Fill Gas Gaps:
 532 /COM, Set 1: TOP
 533 AL,46,48,22,
 534 /COM, Set 2: TOP
 535 AL,25,53,54,56,
 536 AL,27,57,59,62,61,
 537 /COM, Set 3: TOP
 538 AL,28,63,64,67,70,
 539 /COM, Set 4: SIDE
 540 AL,30,75,77,
 541 AL,32,78,79,81,
 542 AL,34,82,83,85,
 543 AL,36,86,87,
 544 /COM, Set 3: BOTTOM
 545 AL,38,92,93,94,95,
 546 /COM, Set 2: BOTTOM
 547 AL,39,96,97,104,110,
 548 AL,41,109,106,107,
 549 /COM, Set 1: BOTTOM
 550 AL,44,114,115,
 551 /COM, SOLID GUIDES:
 552 /COM, Set 1: TOP
 553 AL,47,48,49,50,
 554 /COM, Set 2: TOP
 555 AL,24,51,52,53,
 556 AL,52,55,60,59,58,54,
 557 AL,26,56,58,57,
 558 /COM, Set 3: TOP
 559 AL,61,62,65,63,
 560 AL,65,60,66,64,
 561 AL,66,68,69,67,
 562 AL,70,69,71,72,
 563 /COM, Set 4: SIDE
 564 AL,73,74,88,87,84,83,80,79,76,75,
 565 AL,31,77,76,78,
 566 AL,33,81,80,82,
 567 AL,35,85,84,86,
 568 /COM, Set 3: BOTTOM
 569 AL,89,90,91,92,
 570 AL,91,93,101,99,
 571 AL,101,94,100,98,
 572 AL,100,95,96,97,
 573 /COM, Set 2: BOTTOM
 574 AL,102,98,104,105,106,103,
 575 AL,40,110,105,109,
 576 AL,42,107,103,108,
 577 /COM, Set 1: BOTTOM
 578 AL,111,112,113,114,

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579 /COM, *****
580 /COM, Define center edge half-tube
581 /COM, (K's 83,84,85,86,87,88,89,90,91,92,93,94)
582 /COM, (L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
583 /COM, ( 129,130,131,132,133)
584 /COM, (A's 39,40,41,42,43,44,45)
585 K,83, 0.0, TWALL,0.0,
586 K,84, 0.0, (AWALL+TWALL),0.0,
587 K,85, 0.0, (AWALL+SWALL+TWALL),0.0,
588 K,86, 0.0, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
589 K,87, 0.0, (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
590 K,88, 0.0, (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
591 K,89, (AWALL+SWALL+HCELL), TWALL,0.0,
592 K,90, (SWALL+HCELL), (AWALL+TWALL),0.0,
593 K,91, HCELL, (SWALL+AWALL+TWALL),0.0,
594 K,92, (AWALL+SWALL+HCELL), (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
595 K,93, (SWALL+HCELL), (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
596 K,94, HCELL, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
597 L,83,84,
598 L,84,85,
599 L,86,87,
600 L,87,88,
601 L,89,83,
602 L,84,90,
603 L,85,91,
604 L,86,94,
605 L,87,93,
606 L,88,92,
607 L,90,89,
608 L,91,90,
609 L,94,93,
610 L,93,92,
611 L,85,86,
612 L,91,94,
613 L,90,93,
614 L,89,92,
615 AL,130,123,131,122,
616 AL,116,121,126,120,
617 AL,117,122,127,121,
618 AL,118,124,128,123,
619 AL,119,125,129,124,
620 AL,131,128,132,127,
621 AL,132,129,133,126,
622 /COM, *****
623 /COM, Define center full-tube
624 /COM, (K's 95,96,97,98,99,100,101,102,103,104,105,106)
625 /COM, (L's 134,135,136,137,138,139,140,141,142,143,144,145)
626 /COM, ( 146,147,148,149,150,151,152,153)
627 /COM, (A's 46,47,48,49,50,51,52,53,54)
628 K,95, (PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
629 K,96, (PITCH+HCELL+SWALL-AWALL), TWALL,0.0,
630 K,97, (PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
631 K,98, (PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
632 K,99, (PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
633 K,100, (PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
634 K,101, (PITCH-HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
635 K,102, (PITCH+HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
636 K,103, (PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
637 K,104, (PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
638 K,105, (PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
639 K,106, (PITCH+HCELL+SWALL+AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
640 L,95,97,
641 L,97,99,
642 L,101,103,
643 L,103,105,
644 L,96,98,
645 L,98,100,
646 L,102,104,
647 L,104,106,
648 L,96,95,

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649 L,97,98,
650 L,99,100,
651 L,101,102,
652 L,103,104,
653 L,105,106,
654 L,95,105,
655 L,97,103,
656 L,99,101,
657 L,100,102,
658 L,98,104,
659 L,106,96,
660 AL,144,151,145,150,
661 AL,142,138,143,134,
662 AL,143,139,144,135,
663 AL,145,140,146,136,
664 AL,146,141,147,137,
665 AL,148,134,149,137,
666 AL,149,135,150,136,
667 AL,151,139,152,140,
668 AL,152,138,153,141,
669 /COM, *****
670 /COM, Define edge half-tube
671 /COM, (K's 107,108,109,110,111,112,113,114,115,116,117)
672 /COM, (L's 154,155,156,157,158,159,160,161,162,163,164,165)
673 /COM, ( 166,167,168,169)
674 /COM, (A's 55,56,57,58,59,60)
675 K,107, 0.0, (3.5*PITCH+HCELL),0.0,
676 K,108, HCELL, (3.5*PITCH+HCELL),0.0,
677 K,109, 0.0, (3.5*PITCH-HCELL),0.0,
678 K,110, HCELL, (3.5*PITCH-HCELL),0.0,
679 K,111, 0.0, (3.5*PITCH+HCELL+SWALL),0.0,
680 K,112, (HCELL+SWALL), (3.5*PITCH+HCELL+SWALL),0.0,
681 K,113, 0.0, (3.5*PITCH-HCELL-SWALL),0.0,
682 K,114, (HCELL+SWALL), (3.5*PITCH-HCELL-SWALL),0.0,
683 K,115, (HCELL+SWALL+AWALL), (3.5*PITCH+HCELL+SWALL),0.0,
684 K,116, 0.0, (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
685 K,117, (HCELL+SWALL+AWALL), (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
686 L,116,113,
687 L,113,109,
688 L,107,111,
689 L,114,117,
690 L,110,114,
691 L,112,115,
692 L,108,112,
693 L,116,117,
694 L,113,114,
695 L,109,110,
696 L,108,107,
697 L,111,112,
698 L,109,107,
699 L,110,108,
700 L,114,112,
701 L,115,117,
702 AL,166,163,167,164,
703 AL,161,157,162,154,
704 AL,162,158,163,155,
705 AL,164,160,165,156,
706 AL,167,158,168,160,
707 AL,168,157,169,159,
708 /COM, *****
709 /COM, Define edge full-tube
710 /COM, (K's 118,119,120,121,122,123,124,125,126,127,128,129)
711 /COM, (L's 170,171,172,173,174,175,176,177,178,179,180,181)
712 /COM, ( 182,183,184,185,186,187,188)
713 /COM, (A's 61,62,63,64,65,66,67,68)
714 K,118, (3.0*PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
715 K,119, (3.0*PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
716 K,120, (3.0*PITCH-HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
717 K,121, (3.0*PITCH+HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
718 K,122, (3.0*PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,

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719 K,123, (3.0*PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
720 K,124, (3.0*PITCH-HCELL-SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
721 K,125, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
722 K,126,(3.0*PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
723 K,127, (3.0*PITCH+HCELL+SWALL), TWALL,0.0,
724 K,128,(3.0*PITCH-HCELL-SWALL-AWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
725 K,129, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
726 L,122,126,
727 L,118,122,
728 L,120,124,
729 L,124,128,
730 L,123,127,
731 L,119,123,
732 L,121,125,
733 L,129,125,
734 L,127,126,
735 L,122,123,
736 L,118,119,
737 L,120,121,
738 L,124,125,
739 L,128,129,
740 L,126,128,
741 L,122,124,
742 L,118,120,
743 L,119,121,
744 L,125,123,
745 AL,180,187,181,186,
746 AL,178,174,179,170,
747 AL,179,175,180,171,
748 AL,181,176,182,172,
749 AL,182,177,183,173,
750 AL,184,170,185,173,
751 AL,185,171,186,172,
752 AL,187,175,188,176,
753 NUMMRG,KP,
754 /COM, *****
755 /COM, Set element shapes and sizes for tubes
756 /COM, 8x8 mesh in fuel with 2
757 /COM, divisions per tube layer
758 ESHAPE,2,
759 ESIZE,,1,
760 LSEL,S,LINE,,130,133,1,
761 LSEL,A,LINE,,142,153,1,
762 LSEL,A,LINE,,166,169,1,
763 LSEL,A,LINE,,178,188,1,
764 LESIZE,ALL,,, 8,
765 LSEL,S,LINE,,120,125,1,
766 LSEL,A,LINE,,161,165,1,
767 LESIZE,ALL,,, 4,
768 LSEL,S,LINE,,116,119,1,
769 LSEL,A,LINE,,126,129,1,
770 LSEL,A,LINE,,134,141,1,
771 LSEL,A,LINE,,154,160,1,
772 LSEL,A,LINE,,170,177,1,
773 LESIZE,ALL,,, 2,
774 LSEL,ALL,
775 /COM,
776 /COM, Mesh areas
777 /COM, first fuel, then stainless, then aluminum
778 MAT,14,
779 TYPE,1,
780 AMESH,39,
781 AMESH,46,
782 AMESH,55,
783 AMESH,61,
784 MAT, 1,
785 TYPE,1,
786 AMESH,41,42,1,
787 AMESH,44,
788 AMESH,48,49,1,

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789 AMESH,52,53,1,
790 AMESH,57,59,1,
791 AMESH,63,64,1,
792 AMESH,67,68,1,
793 MAT,13,
794 TYPE,1,
795 AMESH,40,43,3,
796 AMESH,45,
797 AMESH,47,50,3,
798 AMESH,51,54,3,
799 AMESH,56,60,4,
800 AMESH,62,65,3,
801 AMESH,66,
802 /COM, *****
803 /COM, Copy tube mesh
804 /COM,
805 /COM, center half tube above and below
806 /COM, (A's 69-75,76-82)
807 AGEN,3,39,45,1,0.0,PITCH,0.0,0,0,
808 /COM, (A's 83-89,90-96,97-103)
809 AGEN,4,39,45,1,0.0,(0.0-PITCH),0.0,0,0,
810 /COM,
811 /COM, center fuel tube above and below
812 /COM, (A's 104-112,113-121)
813 AGEN,3,46,54,1,0.0,PITCH,0.0,0,0,
814 /COM, (A's 122-130,131-139,140-148)
815 AGEN,4,46,54,1,0.0,(0.0-PITCH),0.0,0,0,
816 /COM, (A's 149-157)
817 AGEN,2,46,54,1,PITCH,0.0,0.0,0,0,
818 /COM, (A's 158-166,167-175)
819 AGEN,3,149,157,1,0.0,PITCH,0.0,0,0,
820 /COM, (A's 176-184,185-193,194-202)
821 AGEN,4,149,157,1,0.0,(0.0-PITCH),0.0,0,0,
822 /COM,
823 /COM, side edge fuel tube above and below
824 /COM, (A's 203-210)
825 AGEN,2,61,68,1,0.0,PITCH,0.0,0,0,
826 /COM, (A's 211-218,219-226)
827 AGEN,3,61,68,1,0.0,(0.0-PITCH),0.0,0,0,
828 /COM,
829 /COM, edge half tube bottom (13)
830 /COM, (A's 227-232)
831 ARSYM,Y,55,60,1,0,0,0,
832 /COM, *****
833 /COM, Define thin stainless layers
834 /COM, (K's 380,381,382,383,384,385,286,387,388,389, through 397)
835 /COM, (A's 233 - 301)
836 K,380, (0.5*PITCH), (3.5*PITCH+HCELL+SWALL),0.0,
837 K,381, (0.5*PITCH), (3.0*PITCH),0.0,
838 K,382, (0.5*PITCH), (3.0*PITCH+TWALL),0.0,
839 K,383, (0.5*PITCH+TWALL), (3.0*PITCH),0.0,
840 K,384, (1.5*PITCH-TWALL), (3.0*PITCH),0.0,
841 K,385, (1.5*PITCH+TWALL), (3.0*PITCH),0.0,
842 K,386, (2.5*PITCH), (3.0*PITCH),0.0,
843 K,387, (2.5*PITCH), (2.0*PITCH),0.0,
844 K,388, (2.5*PITCH), (2.0*PITCH+TWALL),0.0,
845 K,389, (2.5*PITCH+TWALL), (2.0*PITCH),0.0,
846 K,390, (3.0*PITCH+HCELL+SWALL), (2.0*PITCH),0.0,
847 /COM,
848 K,391, (3.0*PITCH+HCELL+SWALL), (-2.0*PITCH),0.0,
849 K,392, (2.5*PITCH+TWALL), (-2.0*PITCH),0.0,
850 K,393, (2.5*PITCH), (-2.0*PITCH-TWALL),0.0,
851 K,394, (2.5*PITCH), (-2.0*PITCH),0.0,
852 K,395, (2.5*PITCH), (-3.0*PITCH),0.0,
853 K,396, (1.5*PITCH+TWALL), (-3.0*PITCH),0.0,
854 K,397, (1.5*PITCH-TWALL), (-3.0*PITCH),0.0,
855 K,398, (0.5*PITCH+TWALL), (-3.0*PITCH),0.0,
856 K,399, (0.5*PITCH), (-3.0*PITCH-TWALL),0.0,
857 K,400, (0.5*PITCH), (-3.0*PITCH),0.0,
858 K,401, (0.5*PITCH), (-3.5*PITCH-HCELL-SWALL),0.0,

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859 /COM,
860 A,152,116,117,153,
861 A,117,382,381,153,
862 A,381,383,213,153,
863 A,117,115,380,382,
864 A,153,213,207,149,
865 A,213,383,384,212,
866 A,212,384,385,285,
867 A,285,385,386,284,
868 A,212,285,279,206,
869 A,284,386,388,278,
870 A,278,388,387,272,
871 A,272,387,389,333,
872 A,272,333,327,266,
873 A,333,389,390,332,
874 A,278,272,273,279,
875 A,206,279,273,200,
876 A,200,273,267,194,
877 A,200,206,207,201,
878 A,141,149,207,201,
879 A,141,201,195,137,
880 A,141,149,146,140,
881 A, 88,134,137, 92,
882 A, 92,137,195,105,
883 A, 92,105, 95, 89,
884 A,105,195,194,106,
885 A,106,194,267,261,
886 A,106,261,255, 96,
887 A,261,267,266,260,
888 A,260,266,327,128,
889 A,260,128,126,254,
890 A,128,327,326,129,
891 A,296,254,126,345,
892 A,296,345,339,290,
893 A,345,126,127,344,
894 A,296,254,255,297,
895 A,224, 96,255,297,
896 A,224,297,291,218,
897 A,224, 96, 95,225,
898 A,165, 89, 95,225,
899 A,165, 89, 83,164,
900 A,165,225,219,161,
901 A,177,161,219,237,
902 A,177,161,158,176,
903 A,177,237,231,173,
904 A,237,219,218,236,
905 A,236,218,291,309,
906 A,236,309,303,230,
907 A,309,291,290,308,
908 A,308,290,339,357,
909 A,308,357,351,302,
910 A,357,339,338,356,
911 A,350,391,392,351,
912 A,351,392,394,302,
913 A,302,394,393,320,
914 A,320,393,395,314,
915 A,320,302,303,321,
916 A,248,230,303,321,
917 A,248,321,315,242,
918 A,248,230,231,249,
919 A,189,173,231,249,
920 A,189,173,170,188,
921 A,189,249,243,185,
922 A,243,398,400,185,
923 A,185,400,399,363,
924 A,363,185,182,362,
925 A,363,399,401,368,
926 A,398,243,242,397,
927 A,242,315,396,397,
928 A,315,314,395,396,

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929 MAT,1,
930 TYPE,1,
931 ESHAPE,2,
932 AMESH,233,301,1,
933 NUMMRG,NODE,
934 NUMMRG,KP,
935 /COM, *****
936 /COM,          Create mesh in tube guides
937 /COM,          (L's 686,687,688)
938 ESIZE,,2,
939 LESIZE,47,,, 2,
940 LESIZE,48,,, 4,
941 LESIZE,49,,, 2,
942 LESIZE,50,,, 4,
943 LESIZE,51,,, 13,
944 LESIZE,52,,, 2,
945 LESIZE,53,,, 13,
946 LESIZE,54,,, 8,
947 LESIZE,55,,, 18,
948 LESIZE,56,,, 13,
949 LESIZE,57,,, 13,
950 LESIZE,58,,, 2,
951 LESIZE,59,,, 8,
952 LESIZE,60,,, 2,
953 LESIZE,61,,, 2,
954 LESIZE,62,,, 1,
955 LESIZE,63,,, 1,
956 LESIZE,64,,, 2,
957 LESIZE,65,,, 2,
958 LESIZE,66,,, 2,
959 LESIZE,67,,, 9,
960 LESIZE,68,,, 9,
961 LESIZE,69,,, 2,
962 LESIZE,70,,, 13,
963 LESIZE,71,,, 13,
964 LESIZE,72,,, 2,
965 LESIZE,73,,, 2,
966 LESIZE,74,,, 38,
967 LESIZE,75,,, 8,
968 LESIZE,76,,, 2,
969 LESIZE,77,,, 4,
970 LESIZE,78,,, 4,
971 LESIZE,79,,, 8,
972 LESIZE,80,,, 2,
973 LESIZE,81,,, 4,
974 LESIZE,82,,, 4,
975 LESIZE,83,,, 8,
976 LESIZE,84,,, 2,
977 LESIZE,85,,, 4,
978 LESIZE,86,,, 4,
979 LESIZE,87,,, 8,
980 LESIZE,88,,, 2,
981 LESIZE,89,,, 2,
982 LESIZE,90,,, 13,
983 LESIZE,91,,, 2,
984 LESIZE,92,,, 13,
985 LESIZE,93,,, 9,
986 LESIZE,94,,, 2,
987 LESIZE,95,,, 1,
988 LESIZE,96,,, 2,
989 LESIZE,97,,, 1,
990 LESIZE,98,,, 2,
991 LESIZE,99,,, 9,
992 LESIZE,100,,, 2,
993 LESIZE,101,,, 2,
994 LESIZE,102,,, 18,
995 LESIZE,103,,, 2,
996 LESIZE,104,,, 8,
997 LESIZE,105,,, 2,
998 LESIZE,106,,, 8,

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999 LESIZE,107,,, 13,
1000 LESIZE,108,,, 13,
1001 LESIZE,109,,, 13,
1002 LESIZE,110,,, 13,
1003 LESIZE,111,,, 2,
1004 LESIZE,112,,, 4,
1005 LESIZE,113,,, 2,
1006 LESIZE,114,,, 4,
1007 LSEL,S,LINE,,58,59,1,
1008 LSEL,A,LINE,,54,
1009 LCCAT,ALL,
1010 LSEL,S,LINE,,75,76,1,
1011 LSEL,A,LINE,,79,80,1,
1012 LSEL,A,LINE,,83,84,1,
1013 LSEL,A,LINE,,87,
1014 LCCAT,ALL,
1015 LSEL,S,LINE,,104,106,1,
1016 LCCAT,ALL,
1017 LSEL,ALL,
1018 MAT,1,
1019 TYPE,1,
1020 AMESH,19,38,1,
1021 /COM, *****
1022 /COM,          Create mesh in MPC shell
1023 /COM,          (L's 689,690,691)
1024 LESIZE,22,,, 4,
1025 LESIZE,23,,, 3,
1026 LESIZE,25,,, 8,
1027 LESIZE,27,,,15,
1028 LESIZE,28,,,12,
1029 LESIZE,29,,, 5,
1030 LESIZE,30,,,11,
1031 LESIZE,32,,, 8,
1032 LESIZE,34,,, 8,
1033 LESIZE,36,,,11,
1034 LESIZE,37,,, 5,
1035 LESIZE,38,,,12,
1036 LESIZE,39,,,15,
1037 LESIZE,41,,, 8,
1038 LESIZE,43,,, 3,
1039 LESIZE,44,,, 4,
1040 LSEL,S,LINE,,22,44,1,
1041 LCCAT,ALL,
1042 LSEL,ALL,
1043 LESIZE,17,,,73,
1044 LESIZE,18,,,73,
1045 LESIZE,21,,, 3,
1046 LESIZE,45,,, 3,
1047 LCCAT,17,18,
1048 ESHAPE,2,
1049 MAT,1,
1050 TYPE,1,
1051 AMESH,6,
1052 /COM,          Assume vacuum between shell and inner barrier
1053 LESIZE,14,,,73,
1054 LESIZE,13,,,73,
1055 LESIZE,19,,, 2,
1056 LESIZE,20,,, 2,
1057 LCCAT,14,13,
1058 ESHAPE,2,
1059 /COM,          No MAT,7,
1060 /COM,          No TYPE,1,
1061 /COM,          No AMESH,5,
1062 /COM,          Delete concatenated lines
1063 /COM,          (L's freed up 686,687,688,689,690,691)
1064 LDELE,686,691,1,
1065 /COM, *****
1066 /COM,          Create mesh in inner and outer barrier
1067 LSEL,S,LINE,,7,10,1,
1068 LESIZE,ALL,,,73,

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1069 LSEL,ALL,
1070 LESIZE, 6,,, 3,
1071 LESIZE,15,,, 3,
1072 LESIZE,16,,, 3,
1073 LESIZE, 5,,, 3,
1074 LESIZE,11,,, 3,
1075 LESIZE,12,,, 3,
1076 MAT,2,
1077 TYPE,1,
1078 AMESH,3,4,1,
1079 MAT,15,
1080 TYPE,1,
1081 AMESH,1,2,1,
1082 /COM, *****
1083 /COM,          Create mesh in empty basket spaces
1084 ESIZE,0.1,
1085 LESIZE, 46,,, 1,
1086 LESIZE,115,,, 1,
1087 ESHAPE,0,
1088 MAT,7,
1089 TYPE,1,
1090 AMESH, 7,
1091 ESHAPE,0,
1092 MAT,7,
1093 TYPE,1,
1094 AMESH, 8,11,1,
1095 ESHAPE,2,
1096 MAT,7,
1097 TYPE,1,
1098 AMESH,12,13,1,
1099 ESHAPE,0,
1100 MAT,7,
1101 TYPE,1,
1102 AMESH,14,16,1,
1103 ESHAPE,2,
1104 MAT,7,
1105 TYPE,1,
1106 AMESH,17,
1107 ESHAPE,0,
1108 MAT,7,
1109 TYPE,1,
1110 AMESH,18,
1111 /COM, *****
1112 /COM,          Define mesh and radiation surface elements for
1113 /COM,          tube/guides gap
1114 /COM,          (L's 686,687)
1115 /COM,          (A's 302)
1116 L,47,111,
1117 L,366,82,
1118 /COM,          Select lines around tubes
1119 LSEL,S,LINE,,686,
1120 LSEL,A,LINE,,165,
1121 LSEL,A,LINE,,159,
1122 LSEL,A,LINE,,580,
1123 LSEL,A,LINE,,581,
1124 LSEL,A,LINE,,575,
1125 LSEL,A,LINE,,577,
1126 LSEL,A,LINE,,583,
1127 LSEL,A,LINE,,585,
1128 LSEL,A,LINE,,588,
1129 LSEL,A,LINE,,591,
1130 LSEL,A,LINE,,593,
1131 LSEL,A,LINE,,596,
1132 LSEL,A,LINE,,600,
1133 LSEL,A,LINE,,601,
1134 LSEL,A,LINE,,512,
1135 LSEL,A,LINE,,517,
1136 LSEL,A,LINE,,506,
1137 LSEL,A,LINE,,624,
1138 LSEL,A,LINE,,177,

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1139 LSEL,A,LINE,,188,
1140 LSEL,A,LINE,,174,
1141 LSEL,A,LINE,,629,
1142 LSEL,A,LINE,,531,
1143 LSEL,A,LINE,,536,
1144 LSEL,A,LINE,,525,
1145 LSEL,A,LINE,,652,
1146 LSEL,A,LINE,,550,
1147 LSEL,A,LINE,,555,
1148 LSEL,A,LINE,,544,
1149 LSEL,A,LINE,,653,
1150 LSEL,A,LINE,,654,
1151 LSEL,A,LINE,,656,
1152 LSEL,A,LINE,,658,
1153 LSEL,A,LINE,,661,
1154 LSEL,A,LINE,,685,
1155 LSEL,A,LINE,,684,
1156 LSEL,A,LINE,,682,
1157 LSEL,A,LINE,,673,
1158 LSEL,A,LINE,,675,
1159 LSEL,A,LINE,,679,
1160 LSEL,A,LINE,,680,
1161 LSEL,A,LINE,,570,
1162 LSEL,A,LINE,,567,
1163 LSEL,A,LINE,,687,
1164 /COM,          Select lines around tube guides
1165 LSEL,A,LINE,,112,
1166 LSEL,A,LINE,,111,
1167 LSEL,A,LINE,, 43,
1168 LSEL,A,LINE,,108,
1169 LSEL,A,LINE,,102,
1170 LSEL,A,LINE,, 99,
1171 LSEL,A,LINE,, 90,
1172 LSEL,A,LINE,, 89,
1173 LSEL,A,LINE,, 37,
1174 LSEL,A,LINE,, 88,
1175 LSEL,A,LINE,, 74,
1176 LSEL,A,LINE,, 73,
1177 LSEL,A,LINE,, 29,
1178 LSEL,A,LINE,, 72,
1179 LSEL,A,LINE,, 71,
1180 LSEL,A,LINE,, 68,
1181 LSEL,A,LINE,, 55,
1182 LSEL,A,LINE,, 51,
1183 LSEL,A,LINE,, 23,
1184 LSEL,A,LINE,, 49,
1185 LSEL,A,LINE,, 50,
1186 /COM,          Define area
1187 AL,ALL,
1188 /COM,          Create radiation surface elements
1189 NSLL,S,1,
1190 MAT,1,
1191 TYPE,7,
1192 ESURF,
1193 LSEL,ALL,
1194 NSEL,ALL,
1195 /COM,          Mesh gap
1196 ESHAPE,0,
1197 LESIZE,686,,,1,
1198 LESIZE,687,,,1,
1199 MAT,7,
1200 TYPE,1,
1201 AMESH,302,
1202 ESHAPE,2,
1203 /COM,          *****
1204 /COM,          Create other radiation surface elements
1205 /COM,          Basket spaces
1206 MAT,1,
1207 TYPE,17,
1208 LMESH,22,

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1209 LMESH,25,27,2,
1210 LMESH,28,38,2,
1211 LMESH,39,41,2,
1212 LMESH,44,
1213 LMESH,46,48,2,
1214 LMESH,53,54,1,
1215 LMESH,56,57,1,
1216 LMESH,59,
1217 LMESH,61,64,1,
1218 LMESH,67,70,3,
1219 LMESH,75,
1220 LMESH,77,79,1
1221 LMESH,81,83,1,
1222 LMESH,85,87,1,
1223 LMESH,92,97,1,
1224 LMESH,104,
1225 LMESH,106,107,1,
1226 LMESH,109,110,1,
1227 LMESH,114,115,1,
1228 /COM, MPC shell/inner barrier gap
1229 MAT,1,
1230 TYPE,27,
1231 LMESH,17,18,1,
1232 MAT,2,
1233 TYPE,27,
1234 LMESH,13,14,1,
1235 FINISH
1236 /COM, *****
1237 /COM, Create element mesh plots to illustrate model
1238 /COM, View mesh for entire model
1239 /RESET
1240 /TRIAD,OFF,
1241 /NUM,1,
1242 /PNUM,MAT,1,
1243 /TYPE,HIDP,
1244 /GLINE,,0,
1245 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1246 /TITLE,40 BWR MPC/Waste Package - 1/2 FEM Model
1247 /SHOW,meshfull,grph,1,8,
1248 EPLOT
1249 ESEL,U,MAT,,7,
1250 /SHOW,meshgap,grph,1,8,
1251 EPLOT
1252 /COM, View mesh for radiation substructure
1253 /PNUM,MAT,0,
1254 /PNUM,TYPE,1,
1255 ESEL,S,TYPE,,7,
1256 ESEL,A,TYPE,,17,
1257 ESEL,A,TYPE,,27,
1258 /TITLE,40 BWR MPC/Waste Package - Radiation Matrix
1259 /SHOW,meshrad,grph,1,8,
1260 EPLOT
1261 ESEL,ALL,
1262 /TITLE,40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
1263 /COM, *****
1264 /COM, Generate super-elements
1265 /AUX12,
1266 ESEL,S,TYPE,,7,
1267 NSLE,S,
1268 STEF,5.67E-8,
1269 GEOM,1,0,
1270 VTYPE,0,800,
1271 WRITE,tubegap,
1272 ESEL,S,TYPE,,17,
1273 NSLE,S,
1274 STEF,5.67E-8,
1275 GEOM,1,0,
1276 VTYPE,0,800,
1277 WRITE,spaces,
1278 ESEL,S,TYPE,,27,

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1279 NSLE,S,
1280 STEF,5.67E-8,
1281 GEOM,1,0,
1282 VTYPE,0,800,
1283 WRITE,shellgap,
1284 ESEL,ALL,
1285 NSEL,ALL,
1286 FINISH
1287 /PREP7,
1288 TYPE,18,
1289 SE,tubegap,
1290 SE,spaces,
1291 SE,shellgap,
1292 /COM,          Delete radiation edge elements
1293 ESEL,S,TYPE,,7,
1294 EDELE,ALL,
1295 ESEL,ALL,
1296 LSEL,S,TYPE,,17,
1297 LSEL,A,TYPE,,27,
1298 LCLEAR,ALL,
1299 LSEL,ALL,
1300 FINISH
1301 /COM,          *****
1302 /COM,          Set solution parameters and apply B.C.'s
1303 /COM,
1304 /COM,          Solve steady-state for initial conditions
1305 /COM,          with WP surface equal to drift ambient
1306 /COM,          temperature from repository model.
1307 /SOLU
1308 ANTYPE,TRAN,NEW,
1309 NROPT,AUTO,
1310 TRNOPT,FULL,
1311 TOFFST,273.15,
1312 LSEL,S,LINE,,7,
1313 LSEL,A,LINE,,8,
1314 NSLL,S,1,
1315 D,ALL,TEMP,DFAMBT,
1316 LSEL,ALL,
1317 NSEL,ALL,
1318 ASEL,S,MAT,,14,
1319 ESLA,S,
1320 BFE,ALL,HGEN,,(FUEL(TM_START)),
1321 ASEL,ALL,
1322 ESEL,ALL,
1323 TIMINT,OFF,
1324 TIME,1e-6,
1325 AUTOTS,ON,
1326 KBC,0,
1327 SOLVE
1328 /COM,          Solve steady-state for initial conditions
1329 /COM,          with WP surface temperatures from repository
1330 /COM,          steady-state solution.
1331 LSEL,S,LINE,,7,
1332 LSEL,A,LINE,,8,
1333 NSLL,S,1,
1334 DDELE,ALL,TEMP,
1335 LSEL,ALL,
1336 NSEL,ALL,
1337 DK,11,TEMP,(WPTOP(TM_START)),,1,
1338 DK,10,TEMP,(WPSID(TM_START)),,1,
1339 DK,9,TEMP,(WPBOT(TM_START)),,1,
1340 ASEL,S,MAT,,14,
1341 ESLA,S,
1342 BFE,ALL,HGEN,,(FUEL(TM_START)),
1343 ASEL,ALL,
1344 ESEL,ALL,
1345 TIMINT,OFF,
1346 TIME,2e-6,
1347 AUTOTS,ON,
1348 KBC,0,

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1349 SOLVE
1350 /COM, *****
1351 /COM, Set time integration parameters
1352 TIMINT,ON,
1353 AUTOTS,ON,
1354 /COM, Time substep ranges from 10 sec to 1/4 loadstep
1355 NSUBST,10,40,4,ON
1356 /COM, Begin Transient
1357 /COM, Apply loads and solve for 0 to .9 years
1358 *DO,TM,TM_START,TME0,TM10
1359 TIME,TM,
1360 ASEL,S,MAT,,14,
1361 ESLA,S,
1362 BFE,ALL,HGEN,,(FUEL(TM)),
1363 ASEL,ALL
1364 ESEL,ALL
1365 DK,11,TEMP,(WPTOP(TM)),,1,
1366 DK,10,TEMP,(WPSID(TM)),,1,
1367 DK, 9,TEMP,(WPBOT(TM)),,1,
1368 SOLVE
1369 *ENDDO
1370 /COM, Apply loads and solve for 1 to 9 years
1371 *DO,TM,TME1,TME9,TM11
1372 TIME,TM,
1373 ASEL,S,MAT,,14,
1374 ESLA,S,
1375 BFE,ALL,HGEN,,(FUEL(TM)),
1376 ASEL,ALL
1377 ESEL,ALL
1378 DK,11,TEMP,(WPTOP(TM)),,1,
1379 DK,10,TEMP,(WPSID(TM)),,1,
1380 DK, 9,TEMP,(WPBOT(TM)),,1,
1381 SOLVE
1382 *ENDDO
1383 /COM, Apply loads and solve for 10 to 90 years
1384 *DO,TM,TME10,TME90,TM110
1385 TIME,TM,
1386 ASEL,S,MAT,,14,
1387 ESLA,S,
1388 BFE,ALL,HGEN,,(FUEL(TM)),
1389 ASEL,ALL
1390 ESEL,ALL
1391 DK,11,TEMP,(WPTOP(TM)),,1,
1392 DK,10,TEMP,(WPSID(TM)),,1,
1393 DK, 9,TEMP,(WPBOT(TM)),,1,
1394 SOLVE
1395 *ENDDO
1396 /COM, Apply loads and solve for 100 to 1000 years
1397 *DO,TM,TME100,TME1000,TM1100
1398 TIME,TM,
1399 ASEL,S,MAT,,14,
1400 ESLA,S,
1401 BFE,ALL,HGEN,,(FUEL(TM)),
1402 ASEL,ALL
1403 ESEL,ALL
1404 DK,11,TEMP,(WPTOP(TM)),,1,
1405 DK,10,TEMP,(WPSID(TM)),,1,
1406 DK, 9,TEMP,(WPBOT(TM)),,1,
1407 SOLVE
1408 *ENDDO
1409 FINISH
1410 SAVE,
1411 /COM, *****
1412 /COM, Create element contour plots of solution results
1413 /COM,
1414 /COM, Sort through solution results for time of max temp.
1415 /POST26,
1416 NSOL,2,(NODE(0.0,(-0.5*PITCH),0.0)),TEMP,,peakclad,
1417 STORE,NEW,
1418 *GET,TMTMAX,VARI,2,EXTREM,TMAX,

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1419 FINISH
1420 /POST1,
1421 /COM,          Create temperature contour plots of WP at peak
1422 /RESET
1423 /TRIAD,OFF,
1424 /NUM, 1,
1425 /PNUM,MAT, 1,
1426 /TYPE,HIDP,
1427 /GLINE,, -1,
1428 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1429 ESEL,U,MAT,,7,
1430 SET,NEAR,,,,TMTMAX,
1431 /TITLE, 40 BWR MPC/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
1432 /SHOW,solupk,grph,0,8,
1433 /CONTOUR,1,128,AUTO,
1434 PLNSOL,TEMP,
1435 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
1436 SET,NEAR,,,,TME10,
1437 /TITLE, 40 BWR MPC/WP at 10 years
1438 /SHOW,solu10,grph,0,8,
1439 /CONTOUR,1,128,USER,
1440 PLNSOL,TEMP,
1441 SET,NEAR,,,,TME50,
1442 /TITLE, 40 BWR MPC/WP at 50 years
1443 /SHOW,solu50,grph,0,8,
1444 /CONTOUR,1,128,USER,
1445 PLNSOL,TEMP,
1446 SET,NEAR,,,,TME100,
1447 /TITLE, 40 BWR MPC/WP at 100 years
1448 /SHOW,solu100,grph,0,8,
1449 /CONTOUR,1,128,USER,
1450 PLNSOL,TEMP,
1451 ESEL,ALL,
1452 FINISH
1453 /COM,          *****
1454 /COM,          Print time/temperature output at specific locations
1455 /COM,          Save profile from center to edge
1456 /COM,
1457 /COM,          Variable Legend: A01i000
1458 /COM,          c = center of assembly
1459 /COM,          h = halfway between center and tube
1460 /COM,          s = inside structural stainless tube layer
1461 /COM,          a = aluminum-born tube layer
1462 /COM,          t = stainless tube cladding
1463 /COM,          g = tube guide
1464 /COM,          m = mpc shell
1465 /COM,          i = inner barrier of DC
1466 /COM,          o = outer barrier of DC
1467 /COM,          ## = ID number of assembly (01 is center)
1468 /COM,          i = side of assembly toward center of WP
1469 /COM,          o = side of assembly toward edge of WP
1470 /COM,          000 = profile center down
1471 /COM,          045 = profile 45 deg down
1472 /COM,          090 = profile center side
1473 /COM,          135 = profile 45 deg up
1474 /COM,          180 = profile center up
1475 /POST26,
1476 NUMVAR,41,
1477 /COM,
1478 /COM,          *****
1479 /COM,          * Temperature Profile from center to bottom of WP (0 deg.) *
1480 /COM,          *****
1481 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t02i000,
1482 NSOL, 3,(NODE(0.0, (0.0-ATWCL),0.0)),TEMP,,a02i000,
1483 NSOL, 4,(NODE(0.0, (0.0-STWCL),0.0)),TEMP,,s02i000,
1484 NSOL, 5,(NODE(0.0, (0.0-STWCL-QCELL),0.0)),TEMP,,h02i000,
1485 NSOL, 6,(NODE(0.0, (-0.5*PITCH),0.0)),TEMP,,c02i000,
1486 NSOL, 7,(NODE(0.0, (-0.5*PITCH-QCELL),0.0)),TEMP,,h02o000,
1487 NSOL, 8,(NODE(0.0, (-0.5*PITCH-HCELL),0.0)),TEMP,,s02o000,
1488 NSOL, 9,(NODE(0.0, (-0.5*PITCH-SCCELL),0.0)),TEMP,,a02o000,

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1489 NSOL,10,(NODE(0.0, (-1.0*PITCH),0.0)),TEMP,,t08i000,
1490 NSOL,11,(NODE(0.0, (-1.0*PITCH-ATWCL),0.0)),TEMP,,a08i000,
1491 NSOL,12,(NODE(0.0, (-1.0*PITCH-STWCL),0.0)),TEMP,,s08i000,
1492 NSOL,13,(NODE(0.0, (-1.0*PITCH-TQPCL),0.0)),TEMP,,h08i000,
1493 NSOL,14,(NODE(0.0, (-1.5*PITCH),0.0)),TEMP,,c08i000,
1494 NSOL,15,(NODE(0.0, (-1.5*PITCH-QCELL),0.0)),TEMP,,h08o000,
1495 NSOL,16,(NODE(0.0, (-1.5*PITCH-HCELL),0.0)),TEMP,,s08o000,
1496 NSOL,17,(NODE(0.0, (-1.5*PITCH-SCCELL),0.0)),TEMP,,a08o000,
1497 NSOL,18,(NODE(0.0, (-2.0*PITCH),0.0)),TEMP,,t18i000,
1498 NSOL,19,(NODE(0.0, (-2.0*PITCH-ATWCL),0.0)),TEMP,,a18i000,
1499 NSOL,20,(NODE(0.0, (-2.0*PITCH-STWCL),0.0)),TEMP,,s18i000,
1500 NSOL,21,(NODE(0.0, (-2.0*PITCH-TQPCL),0.0)),TEMP,,h18i000,
1501 NSOL,22,(NODE(0.0, (-2.5*PITCH),0.0)),TEMP,,c18i000,
1502 NSOL,23,(NODE(0.0, (-2.5*PITCH-QCELL),0.0)),TEMP,,h18o000,
1503 NSOL,24,(NODE(0.0, (-2.5*PITCH-HCELL),0.0)),TEMP,,s18o000,
1504 NSOL,25,(NODE(0.0, (-2.5*PITCH-SCCELL),0.0)),TEMP,,a18o000,
1505 NSOL,26,(NODE(0.0, (-3.0*PITCH),0.0)),TEMP,,t24i000,
1506 NSOL,27,(NODE(0.0, (-3.0*PITCH-ATWCL),0.0)),TEMP,,a24i000,
1507 NSOL,28,(NODE(0.0, (-3.0*PITCH-STWCL),0.0)),TEMP,,s24i000,
1508 NSOL,29,(NODE(0.0, (-3.0*PITCH-TQPCL),0.0)),TEMP,,h24i000,
1509 NSOL,30,(NODE(0.0, (-3.5*PITCH),0.0)),TEMP,,c24i000,
1510 NSOL,31,(NODE(0.0, (-3.5*PITCH-QCELL),0.0)),TEMP,,h24o000,
1511 NSOL,32,(NODE(0.0, (-3.5*PITCH-HCELL),0.0)),TEMP,,s24o000,
1512 NSOL,33,(NODE(0.0, (-3.5*PITCH-SCCELL),0.0)),TEMP,,t24o000,
1513 NSOL,34,(NODE(0.0, (0.0-GY11+TPGPT),0.0)),TEMP,,g24i000,
1514 NSOL,35,(NODE(0.0, (0.0-GY11),0.0)),TEMP,,g24o000,
1515 NSOL,36,(NODE(0.0, (0.0-MIRAD),0.0)),TEMP,,m24i000,
1516 NSOL,37,(NODE(0.0, (0.0-MIRAD-MWALL),0.0)),TEMP,,m24o000,
1517 NSOL,38,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i24i000,
1518 NSOL,39,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i24o000,
1519 NSOL,40,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o24o000,
1520 PRVAR, 2, 3, 4, 5, 6, 7,
1521 PRVAR, 8, 9,10,11,12,13,
1522 PRVAR,14,15,16,17,18,19,
1523 PRVAR,20,21,22,23,24,25,
1524 PRVAR,26,27,28,29,30,31,
1525 PRVAR,32,33,34,35,36,37,
1526 PRVAR,38,39,40,
1527 /COM,
1528 /COM, *****
1529 /COM, * Temperature Profile from center to lower right (45 deg.) *
1530 /COM, *****
1531 NSOL, 2,(NODE( 0.0, -OFFS,0.0)),TEMP,,c02i045,
1532 NSOL, 3,(NODE( QCELL, (-OFFS-QCELL),0.0)),TEMP,,h02o045,
1533 NSOL, 4,(NODE( HCELL, (-OFFS-HCELL),0.0)),TEMP,,s02o045,
1534 NSOL, 5,(NODE( SCELL, (-OFFS-SCCELL),0.0)),TEMP,,a02o045,
1535 NSOL, 6,(NODE( ACELL, (-OFFS-ACELL),0.0)),TEMP,,t02o045,
1536 NSOL, 7,(NODE( (PITCH-ACELL), (ACELL-1.5*PITCH),0.0)),TEMP,,t07i045,
1537 NSOL, 8,(NODE( (PITCH-SCCELL), (SCCELL-1.5*PITCH),0.0)),TEMP,,a07i045,
1538 NSOL, 9,(NODE( (PITCH-HCELL), (HCELL-1.5*PITCH),0.0)),TEMP,,s07i045,
1539 NSOL,10,(NODE( (PITCH-QCELL), (QCELL-1.5*PITCH),0.0)),TEMP,,h07i045,
1540 NSOL,11,(NODE( PITCH, (-1.5*PITCH),0.0)),TEMP,,c07i045,
1541 NSOL,12,(NODE( (PITCH+QCELL), (-1.5*PITCH-QCELL),0.0)),TEMP,,h07o045,
1542 NSOL,13,(NODE( (PITCH+HCELL), (-1.5*PITCH-HCELL),0.0)),TEMP,,s07o045,
1543 NSOL,14,(NODE( (PITCH+SCCELL), (-1.5*PITCH-SCCELL),0.0)),TEMP,,a07o045,
1544 NSOL,15,(NODE( (PITCH+ACELL), (-1.5*PITCH-ACELL),0.0)),TEMP,,t07o045,
1545 NSOL,16,(NODE( (2.0*PITCH-ACELL), (ACELL-2.5*PITCH),0.0)),TEMP,,t16i045,
1546 NSOL,17,(NODE( (2.0*PITCH-SCCELL), (SCCELL-2.5*PITCH),0.0)),TEMP,,a16i045,
1547 NSOL,18,(NODE( (2.0*PITCH-HCELL), (HCELL-2.5*PITCH),0.0)),TEMP,,s16i045,
1548 NSOL,19,(NODE( (2.0*PITCH-QCELL), (QCELL-2.5*PITCH),0.0)),TEMP,,h16i045,
1549 NSOL,20,(NODE( (2.0*PITCH), (-2.5*PITCH),0.0)),TEMP,,c16i045,
1550 NSOL,21,(NODE( (2.0*PITCH+QCELL), (-2.5*PITCH-QCELL),0.0)),TEMP,,h16o045,
1551 NSOL,22,(NODE( (2.0*PITCH+HCELL), (-2.5*PITCH-HCELL),0.0)),TEMP,,s16o045,
1552 NSOL,23,(NODE( (2.0*PITCH+SCCELL), (-2.5*PITCH-SCCELL),0.0)),TEMP,,a16o045,
1553 NSOL,24,(NODE( (2.0*PITCH+ACELL), (-2.5*PITCH-ACELL),0.0)),TEMP,,t16o045,
1554 NSOL,25,(NODE( (GX32-GWALL), (0.0-GY24+SGCD1),0.0)),TEMP,,g16i045,
1555 NSOL,26,(NODE( MI45, (-1.0*MI45),0.0)),TEMP,,m16i045,
1556 NSOL,27,(NODE( MO45, (-1.0*MO45),0.0)),TEMP,,m16o045,
1557 NSOL,28,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i16i045,
1558 NSOL,29,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i16o045,

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1559 NSOL,30,(NODE(          DO45,          (-1.0*DO45),0.0)),TEMP,,o16o045,
1560 /COM, Add centers of assemblies 6, 14, 15, 17, 22, 23
1561 NSOL,31,(NODE(          (1.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c06i045,
1562 NSOL,32,(NODE(          (2.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c14i045,
1563 NSOL,33,(NODE(          (2.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c15i045,
1564 NSOL,34,(NODE(          (1.0*PITCH),      (-2.5*PITCH),0.0)),TEMP,,c17i045,
1565 NSOL,35,(NODE(          (3.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c22i045,
1566 NSOL,36,(NODE(          (3.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c23i045,
1567 PRVAR, 2, 3, 4, 5, 6, 7,
1568 PRVAR, 8, 9,10,11,12,13,
1569 PRVAR,14,15,16,17,18,19,
1570 PRVAR,20,21,22,23,24,25,
1571 PRVAR,26,27,28,29,30,31,
1572 PRVAR,32,33,34,35,36,
1573 /COM,
1574 /COM, *****
1575 /COM, * Temperature Profile from center to side of WP (90 deg.) *
1576 /COM, *****
1577 NSOL, 2,(NODE(          0.0,0.0,0.0)),TEMP,,c01i090,
1578 NSOL, 3,(NODE(          QCELL,0.0,0.0)),TEMP,,h01o090,
1579 NSOL, 4,(NODE(          HCELL,0.0,0.0)),TEMP,,s01o090,
1580 NSOL, 5,(NODE(          SCELL,0.0,0.0)),TEMP,,a01o090,
1581 NSOL, 6,(NODE(          ACELL,0.0,0.0)),TEMP,,t01o090,
1582 NSOL, 7,(NODE(          (PITCH-ACELL),0.0,0.0)),TEMP,,t05i090,
1583 NSOL, 8,(NODE(          (PITCH-SCELL),0.0,0.0)),TEMP,,a05i090,
1584 NSOL, 9,(NODE(          (PITCH-HCELL),0.0,0.0)),TEMP,,s05i090,
1585 NSOL,10,(NODE(          (PITCH-QCELL),0.0,0.0)),TEMP,,h05i090,
1586 NSOL,11,(NODE(          PITCH,0.0,0.0)),TEMP,,c05i090,
1587 NSOL,12,(NODE(          (PITCH+QCELL),0.0,0.0)),TEMP,,h05o090,
1588 NSOL,13,(NODE(          (PITCH+HCELL),0.0,0.0)),TEMP,,s05o090,
1589 NSOL,14,(NODE(          (PITCH+SCELL),0.0,0.0)),TEMP,,a05o090,
1590 NSOL,15,(NODE(          (PITCH+ACELL),0.0,0.0)),TEMP,,t05i090,
1591 NSOL,16,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1592 NSOL,17,(NODE(          (2.0*PITCH-SCELL),0.0,0.0)),TEMP,,a13i090,
1593 NSOL,18,(NODE(          (2.0*PITCH-HCELL),0.0,0.0)),TEMP,,s13i090,
1594 NSOL,19,(NODE(          (2.0*PITCH-QCELL),0.0,0.0)),TEMP,,h13i090,
1595 NSOL,20,(NODE(          (2.0*PITCH),0.0,0.0)),TEMP,,c13i090,
1596 NSOL,21,(NODE(          (2.0*PITCH+QCELL),0.0,0.0)),TEMP,,h13o090,
1597 NSOL,22,(NODE(          (2.0*PITCH+HCELL),0.0,0.0)),TEMP,,s13o090,
1598 NSOL,23,(NODE(          (2.0*PITCH+SCELL),0.0,0.0)),TEMP,,a13o090,
1599 NSOL,26,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1600 NSOL,27,(NODE(          (3.0*PITCH-ACELL),0.0,0.0)),TEMP,,t21i090,
1601 NSOL,28,(NODE(          (3.0*PITCH-SCELL),0.0,0.0)),TEMP,,a21i090,
1602 NSOL,29,(NODE(          (3.0*PITCH-HCELL),0.0,0.0)),TEMP,,s21i090,
1603 NSOL,30,(NODE(          (3.0*PITCH-QCELL),0.0,0.0)),TEMP,,h21i090,
1604 NSOL,31,(NODE(          (3.0*PITCH),0.0,0.0)),TEMP,,c21i090,
1605 NSOL,32,(NODE(          (3.0*PITCH+QCELL),0.0,0.0)),TEMP,,h21o090,
1606 NSOL,33,(NODE(          (3.0*PITCH+HCELL),0.0,0.0)),TEMP,,s21o090,
1607 NSOL,34,(NODE(          (3.0*PITCH+SCELL),0.0,0.0)),TEMP,,t21o090,
1608 NSOL,35,(NODE(          (GX44-GWALL),0.0,0.0)),TEMP,,g04i090,
1609 NSOL,36,(NODE(          GX44,0.0,0.0)),TEMP,,g04o090,
1610 NSOL,37,(NODE(          MIRAD,0.0,0.0)),TEMP,,m04i090,
1611 NSOL,38,(NODE(          (MIRAD+MWALL),0.0,0.0)),TEMP,,m04o090,
1612 NSOL,39,(NODE(          (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
1613 NSOL,40,(NODE(          (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
1614 NSOL,41,(NODE(          DCRAD,0.0,0.0)),TEMP,,o04o090,
1615 PRVAR, 2, 3, 4, 5, 6, 7,
1616 PRVAR, 8, 9,10,11,12,13,
1617 PRVAR,14,15,16,17,18,19,
1618 PRVAR,20,21,22,23,24,25,
1619 PRVAR,26,27,28,29,30,31,
1620 PRVAR,32,33,34,35,36,37,
1621 PRVAR,38,39,40,41,
1622 /COM,
1623 /COM, *****
1624 /COM, * Temperature Profile from center to upper right (135 deg.) *
1625 /COM, *****
1626 NSOL, 2,(NODE(          0.0,          OFFS,0.0)),TEMP,,c01i135,
1627 NSOL, 3,(NODE(          QCELL,          (OFFS+QCELL),0.0)),TEMP,,h01o135,
1628 NSOL, 4,(NODE(          HCELL,          (OFFS+HCELL),0.0)),TEMP,,s01o135,

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1629 NSOL, 5, (NODE(          SCCELL,          (OFFS+SCCELL),0.0)),TEMP,,a01o135,
1630 NSOL, 6, (NODE(          ACELL,          (OFFS+ACELL),0.0)),TEMP,,t01o135,
1631 NSOL, 7, (NODE(          (PITCH-ACELL), (1.5*PITCH-ACELL),0.0)),TEMP,,t04i135,
1632 NSOL, 8, (NODE(          (PITCH-SCCELL), (1.5*PITCH-SCCELL),0.0)),TEMP,,a04i135,
1633 NSOL, 9, (NODE(          (PITCH-HCELL), (1.5*PITCH-HCELL),0.0)),TEMP,,s04i135,
1634 NSOL,10, (NODE(          (PITCH-QCELL), (1.5*PITCH-QCELL),0.0)),TEMP,,h04i135,
1635 NSOL,11, (NODE(          PITCH,          (1.5*PITCH),0.0)),TEMP,,c04i135,
1636 NSOL,12, (NODE(          (PITCH+QCELL), (1.5*PITCH+QCELL),0.0)),TEMP,,h04o135,
1637 NSOL,13, (NODE(          (PITCH+HCELL), (1.5*PITCH+HCELL),0.0)),TEMP,,s04o135,
1638 NSOL,14, (NODE(          (PITCH+SCCELL), (1.5*PITCH+SCCELL),0.0)),TEMP,,a04o135,
1639 NSOL,15, (NODE(          (PITCH+ACELL), (1.5*PITCH+ACELL),0.0)),TEMP,,t04o135,
1640 NSOL,16, (NODE((2.0*PITCH-ACELL), (2.5*PITCH-ACELL),0.0)),TEMP,,t11i135,
1641 NSOL,17, (NODE((2.0*PITCH-SCCELL), (2.5*PITCH-SCCELL),0.0)),TEMP,,a11i135,
1642 NSOL,18, (NODE((2.0*PITCH-HCELL), (2.5*PITCH-HCELL),0.0)),TEMP,,s11i135,
1643 NSOL,19, (NODE((2.0*PITCH-QCELL), (2.5*PITCH-QCELL),0.0)),TEMP,,h11i135,
1644 NSOL,20, (NODE(          (2.0*PITCH),          (2.5*PITCH),0.0)),TEMP,,c11i135,
1645 NSOL,21, (NODE((2.0*PITCH+QCELL), (2.5*PITCH+QCELL),0.0)),TEMP,,h11o135,
1646 NSOL,22, (NODE((2.0*PITCH+HCELL), (2.5*PITCH+HCELL),0.0)),TEMP,,s11o135,
1647 NSOL,23, (NODE((2.0*PITCH+SCCELL), (2.5*PITCH+SCCELL),0.0)),TEMP,,a11o135,
1648 NSOL,24, (NODE((2.0*PITCH+ACELL), (2.5*PITCH+ACELL),0.0)),TEMP,,t11o135,
1649 NSOL,25, (NODE(          (GX32-GWALL),          (GY24-SGCD1),0.0)),TEMP,,g11i135,
1650 NSOL,26, (NODE(          MI45,          (1.0*MI45),0.0)),TEMP,,m11i135,
1651 NSOL,27, (NODE(          MO45,          (1.0*MO45),0.0)),TEMP,,m11o135,
1652 NSOL,28, (NODE(          DI45,          (1.0*DI45),0.0)),TEMP,,i11i135,
1653 NSOL,29, (NODE(          DM45,          (1.0*DM45),0.0)),TEMP,,i11o135,
1654 NSOL,30, (NODE(          DO45,          (1.0*DO45),0.0)),TEMP,,o11o135,
1655 /COM, Add centers of assemblies 5, 10, 12, 13, 20, 21
1656 NSOL,31, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c06i135,
1657 NSOL,32, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c14i135,
1658 NSOL,33, (NODE(          (2.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c15i135,
1659 NSOL,34, (NODE(          (2.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c17i135,
1660 NSOL,35, (NODE(          (3.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c22i135,
1661 NSOL,36, (NODE(          (3.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c23i135,
1662 PRVAR, 2, 3, 4, 5, 6, 7,
1663 PRVAR, 8, 9,10,11,12,13,
1664 PRVAR,14,15,16,17,18,19,
1665 PRVAR,20,21,22,23,24,25,
1666 PRVAR,26,27,28,29,30,31,
1667 PRVAR,32,33,34,35,36,
1668 /COM,
1669 /COM, *****
1670 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1671 /COM, *****
1672 NSOL, 2, (NODE(0.0,          0.0,0.0)),TEMP,,t02i000,
1673 NSOL, 3, (NODE(0.0,          (ATWCL),0.0)),TEMP,,a02i000,
1674 NSOL, 4, (NODE(0.0,          (STWCL),0.0)),TEMP,,s02i000,
1675 NSOL, 5, (NODE(0.0,          (STWCL+QCELL),0.0)),TEMP,,h02i000,
1676 NSOL, 6, (NODE(0.0,          (0.5*PITCH),0.0)),TEMP,,c02i000,
1677 NSOL, 7, (NODE(0.0,          (0.5*PITCH+QCELL),0.0)),TEMP,,h02o000,
1678 NSOL, 8, (NODE(0.0,          (0.5*PITCH+HCELL),0.0)),TEMP,,s02o000,
1679 NSOL, 9, (NODE(0.0,          (0.5*PITCH+SCCELL),0.0)),TEMP,,a02o000,
1680 NSOL,10, (NODE(0.0,          (1.0*PITCH),0.0)),TEMP,,t08i000,
1681 NSOL,11, (NODE(0.0,          (1.0*PITCH+ATWCL),0.0)),TEMP,,a08i000,
1682 NSOL,12, (NODE(0.0,          (1.0*PITCH+STWCL),0.0)),TEMP,,s08i000,
1683 NSOL,13, (NODE(0.0,          (1.0*PITCH+TQPCL),0.0)),TEMP,,h08i000,
1684 NSOL,14, (NODE(0.0,          (1.5*PITCH),0.0)),TEMP,,c08i000,
1685 NSOL,15, (NODE(0.0,          (1.5*PITCH+QCELL),0.0)),TEMP,,h08o000,
1686 NSOL,16, (NODE(0.0,          (1.5*PITCH+HCELL),0.0)),TEMP,,s08o000,
1687 NSOL,17, (NODE(0.0,          (1.5*PITCH+SCCELL),0.0)),TEMP,,a08o000,
1688 NSOL,18, (NODE(0.0,          (2.0*PITCH),0.0)),TEMP,,t18i000,
1689 NSOL,19, (NODE(0.0,          (2.0*PITCH+ATWCL),0.0)),TEMP,,a18i000,
1690 NSOL,20, (NODE(0.0,          (2.0*PITCH+STWCL),0.0)),TEMP,,s18i000,
1691 NSOL,21, (NODE(0.0,          (2.0*PITCH+TQPCL),0.0)),TEMP,,h18i000,
1692 NSOL,22, (NODE(0.0,          (2.5*PITCH),0.0)),TEMP,,c18i000,
1693 NSOL,23, (NODE(0.0,          (2.5*PITCH+QCELL),0.0)),TEMP,,h18o000,
1694 NSOL,24, (NODE(0.0,          (2.5*PITCH+HCELL),0.0)),TEMP,,s18o000,
1695 NSOL,25, (NODE(0.0,          (2.5*PITCH+SCCELL),0.0)),TEMP,,a18o000,
1696 NSOL,26, (NODE(0.0,          (3.0*PITCH),0.0)),TEMP,,t24i000,
1697 NSOL,27, (NODE(0.0,          (3.0*PITCH+ATWCL),0.0)),TEMP,,a24i000,
1698 NSOL,28, (NODE(0.0,          (3.0*PITCH+STWCL),0.0)),TEMP,,s24i000,

```

```

1699 NSOL,29,(NODE(0.0, (3.0*PITCH+TQPC),0.0)),TEMP,,h24i000,
1700 NSOL,30,(NODE(0.0, (3.5*PITCH),0.0)),TEMP,,c24i000,
1701 NSOL,31,(NODE(0.0, (3.5*PITCH+QCELL),0.0)),TEMP,,h24o000,
1702 NSOL,32,(NODE(0.0, (3.5*PITCH+HCELL),0.0)),TEMP,,s24o000,
1703 NSOL,33,(NODE(0.0, (3.5*PITCH+SCELL),0.0)),TEMP,,t24o000,
1704 NSOL,34,(NODE(0.0, (GY11-TPGPT),0.0)),TEMP,,g24i000,
1705 NSOL,35,(NODE(0.0, (GY11),0.0)),TEMP,,g24o000,
1706 NSOL,36,(NODE(0.0, (MIRAD),0.0)),TEMP,,m24i000,
1707 NSOL,37,(NODE(0.0, (MIRAD+MWALL),0.0)),TEMP,,m24o000,
1708 NSOL,38,(NODE(0.0, (DCRAD-OWALL-IWALL),0.0)),TEMP,,i24i000,
1709 NSOL,39,(NODE(0.0, (DCRAD-OWALL),0.0)),TEMP,,i24o000,
1710 NSOL,40,(NODE(0.0, (DCRAD),0.0)),TEMP,,o24o000,
1711 PRVAR, 2, 3, 4, 5, 6, 7,
1712 PRVAR, 8, 9,10,11,12,13,
1713 PRVAR,14,15,16,17,18,19,
1714 PRVAR,20,21,22,23,24,25,
1715 PRVAR,26,27,28,29,30,31,
1716 PRVAR,32,33,34,35,36,37,
1717 PRVAR,38,39,40,
1718 FINISH
1719 /COM, *****
1720 /COM, End of batch input file
1721 /COM, *****
1722 /EXIT,
1723 /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                      03/07/1995
2-D Model of 125 ton burriup credit MPC-DC  Thomas L Lotz
*****
*
* File name: ma40j1.inp                      *
*   40 BWR MPC with Low T.L. Disposal Container *
*   Helium Fill Gas                          *
*
* Material Property file: props01.dat         *
*
* SNF Conductivity file: pwr15e.parm (check for Changes) *
*   GE-7 8x8 SNF Assembly                    *
*
* SNF Heat Loads file:   bwr1049.dat         *
*   SNF Type: 10 years old, 49 GWD/MTU      *
*
* Surface Temp. file:    c21j5a.parm         *
*   25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
*   5.0 m Diameter Drift with Concrete Invert *
*   Drift spacing = 67.5 m                   *
*   WP c/c spacing = 21.554 m                *
*
*****

```

Increase the number of database pages from 16 (256) to 32 Mb

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512

Work space must also be increased (-m 64)

TITLE=

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
 MASS = KILOGRAMS(KG)
 TIME = SECONDS(SEC)
 TEMPERATURE = CENTIGRADE
 CURRENT = AMPS

Define Transient time parameters

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

Read in average effective conductivities from SNF model

*** NOTE *** CP= .750 TIME= 03:54:46
 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= .980 TIME= 03:54:47
 Restore ANSYS parameters from file= c21j5a.parm.

/INPUT FILE= c21j5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define MPC/waste package parameters

(MPC dimensions converted from inches to meters)

Required Constants:

PARAMETER PI = 3.141593

Required container wall parameters:

MIRAD = inner radius of MPC shell (m)
 MWALL = MPC shell thickness (m)
 DCRAD = disposal container outer radius (m)

OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)

PARAMETER MIRAD = .7404100
PARAMETER MWALL = .2540000E-01
PARAMETER DCRAD = .8508000
PARAMETER OWALL = .5000000E-01
PARAMETER IWALL = .2000000E-01

Required outer guide hardware parameters:

Set 1: TPGPL = top/bottom guide plate length (m)
TPGPT = top/bottom guide plate thickness (m)

PARAMETER TPGPL = .1606296
PARAMETER TPGPT = .6350000E-02

Set 2: SGCCW = Width; corner guide to far corner side guide (m)
SGCMW = Width; Side guide corner to Middle side guide (m)
SGCD1 = Vert. Dist. Down to Corner of Guide (m)

PARAMETER SGCCW = .5367528
PARAMETER SGCMW = .1722374
PARAMETER SGCD1 = .1772666

SET 3: GCORV = corner guide Vertical width (m)
GCORH = corner guide Horizontal width (m)
GX32 = X coord. of upper contact from drawing. (m)
GY32 = Y coord. of upper contact from drawing. (m)

PARAMETER GCORV = .1971040
PARAMETER GCORH = .1705864
PARAMETER GX32 = .4739989
PARAMETER GY32 = .5687987

SET 4: GLEN1 = side guide Low width (m)
GLEN2 = side guide High width (m)
GLENT = side guide total width (m)
GWALL = guide thickness (m)

PARAMETER GLEN1 = .1709166
PARAMETER GLEN2 = .3539998
PARAMETER GLENT = .7331964
PARAMETER GWALL = .9525000E-02

Required Tube/Fuel parameters:

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
AWALL = Al/boron tube thickness (m)
TWALL = stainless tube cladding thickness (m)
ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

PARAMETER HCELL = .7620000E-01
PARAMETER SWALL = .6350000E-02
PARAMETER AWALL = .6350000E-02

PARAMETER TWALL = .2387600E-02
 PARAMETER ACTVL = 3.810000
 PARAMETER PEAKF = 1.400000

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)
 ATWCL = Dist. to edge of B-AL plate (m)
 STWCL = Dist. to edge of Steel Bask. Plate (m)
 TQPCL = Top quarter of cell dist. (m)

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 = .8849015E-01
 PARAMETER PITCH = .1825752
 PARAMETER QCELL = .3810000E-01
 PARAMETER SCELL = .8255000E-01
 PARAMETER ACELL = .8890000E-01
 PARAMETER ATWCL = .8737600E-02
 PARAMETER STWCL = .1508760E-01
 PARAMETER TQPCL = .5318760E-01

Determine the required contact points for the outer guide hardware

GX## = x coord. of guide/shell contact
 GY## = y coord. of guide/shell contact

Set 1:

PARAMETER GX11 = .8031480E-01
 PARAMETER GY11 = .7360411

Set 3:

PARAMETER GX31 = .6350603
 PARAMETER GY31 = .3812197

Set 2:

PARAMETER GX24 = .9830753E-01
 PARAMETER GY24 = .7338546
 PARAMETER GX23 = .1078325
 PARAMETER GY23 = .7325156

PARAMETER GX22 = .2705449
 PARAMETER GY22 = .6892114
 PARAMETER GX21 = .2800699
 PARAMETER GY21 = .6853961

Set 4:

PARAMETER GY41 = .4762500E-02
 PARAMETER GX41 = .7403947
 PARAMETER GY44 = .3587623
 PARAMETER GX44 = .6476856
 PARAMETER GY43 = .1878457
 PARAMETER GX43 = .7161850
 PARAMETER GY42 = .1783207
 PARAMETER GX42 = .7186158

Define 45 degree point of reference:

MI45 = x coord. MIRAD at 45 deg.
 MO45 = x coord. MIRAD+MWALL at 45 deg.
 DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 DM45 = x coord. DCRAD-OWALL at 45 deg.
 DO45 = x coord. DCRAD at 45 deg.
 OFFS = 45 degree Y off set to go through centers

PARAMETER MI45 = .5235489
 PARAMETER MO45 = .5415094
 PARAMETER DI45 = .5521090
 PARAMETER DM45 = .5662511
 PARAMETER DO45 = .6016064
 PARAMETER OFFS = .9128760E-01

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:54:48 APR 10, 1995 CP= 1.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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: DIENS (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
	585.9600	588.3900	586.3600
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
	40.50000	39.98000	41.02000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 18
SLOC= 13	39.29000	38.77000	38.08000
	36.69000	36.17000	37.56000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 24
SLOC= 19	35.48000	34.61000	33.92000
	32.36000	31.50000	33.23000
PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 30
SLOC= 25	30.29000	28.90000	27.35000
	26.13000	26.13000	26.48000
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 6
SLOC= 1	428.7200	444.9500	460.9400
	486.0800	495.6600	476.8700
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 12
SLOC= 7	506.0900	517.0700	525.6400
	543.6300	550.6200	536.9900
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 18
SLOC= 13	562.2100	577.3200	589.1000
	611.3500	629.0900	600.5700
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 24
SLOC= 19	645.3200	665.1200	682.0700
	724.0700	761.9500	694.5200
PROPERTY TABLE C	MAT=	3	NUM. POINTS= 30
SLOC= 25	806.3100	888.6000	1095.040
	808.6800	736.9000	1638.780

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
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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= 13	NUM. POINTS= 15		
SLOC= 13 .6270000E-01	.5580000E-01	.4880000E-01	
PROPERTY TABLE KXX MAT= 1	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= 13	NUM. POINTS= 15		
SLOC= 13 .3040000	.3300000	.3540000	
PROPERTY TABLE DENS MAT= 1	NUM. POINTS= 6		
SLOC= 1 1.348000	1.254700	1.161400	.9950000
.8711000	.7740000		
PROPERTY TABLE DENS MAT= 7	NUM. POINTS= 12		
SLOC= 7 .6964000	.6329000	.5804000	.5356000
.4975000	.4643000		
PROPERTY TABLE DENS MAT= 13	NUM. POINTS= 15		
SLOC= 13 .4354000	.3868000	.3482000	
PROPERTY TABLE KXX MAT= 1	NUM. POINTS= 6		
SLOC= 1 .2300000E-01	.2500000E-01	.2600000E-01	.3000000E-01
.3400000E-01	.3700000E-01		
PROPERTY TABLE KXX MAT= 7	NUM. POINTS= 12		
SLOC= 7 .4100000E-01	.4400000E-01	.4700000E-01	.5000000E-01
.5200000E-01	.5500000E-01		
PROPERTY TABLE KXX MAT= 13	NUM. POINTS= 15		
SLOC= 13 .5700000E-01	.6200000E-01	.6700000E-01	
PROPERTY TABLE C MAT= 1	NUM. POINTS= 6		
SLOC= 1 1006.200	1006.600	1007.000	1009.000
1014.000	1021.000		
PROPERTY TABLE C MAT= 7	NUM. POINTS= 12		
SLOC= 7 1030.000	1040.000	1051.000	1063.000
1075.000	1087.000		
PROPERTY TABLE C MAT= 13	NUM. POINTS= 15		
SLOC= 13 1099.000	1121.000	1141.000	
PROPERTY TABLE DENS MAT= 1	NUM. POINTS= 6		
SLOC= 1 1.303700	1.213500	1.123300	.9625000
.8425000	.7485000		
PROPERTY TABLE DENS MAT= 7	NUM. POINTS= 12		
SLOC= 7 .6739000	.6124000	.5615000	.5214000
.4812000	.4512000		
PROPERTY TABLE DENS MAT= 13	NUM. POINTS= 15		
SLOC= 13 .4211000	.3743000	.3368000	
PROPERTY TABLE KXX MAT= 1	NUM. POINTS= 6		
SLOC= 1 .2300000E-01	.2400000E-01	.2600000E-01	.2900000E-01
.3300000E-01	.3600000E-01		
PROPERTY TABLE KXX MAT= 7	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= bwr1049.dat LINE= 0

** History of SNF Assembly Heat Generation Rates **
** Output of PHIA, SCS1: B00000000-01717-1200-3000X Rev.00B **

```

**
** Executable File Name: PHIA00B.EXE
** Output File Name: bwr1049.dat
** Execution Date: 03/07/95
** Start Age (years): 10.0
** Decay Period (years): 10000
** Enrichment (percent): 3.74
** Burnup (MWd/MTU): 49000
** Assembly Type: BWR
** SNF U Mass (MTU/assy): 0.200
**
**
** ASSY(#,1) is the SNF assembly heat in Watts.
** ASSY(#,0) is the time post emplacement in years.
*****

```

PARAMETER ASSY(1,1) =	409.4200 408.7300	409.2500 408.5500	409.0700	408.9000
PARAMETER ASSY(7,1) =	408.3800 407.6800	408.2000 406.8200	408.0300	407.8600
PARAMETER ASSY(13,1) =	405.9700 402.6100	405.1200 401.7900	404.2800	403.4400
PARAMETER ASSY(19,1) =	400.9700 397.7400	400.1500 396.9500	399.3400	398.5400
PARAMETER ASSY(25,1) =	396.1600 393.0600	395.3800 386.0700	394.6000	393.8300
PARAMETER ASSY(31,1) =	379.4900 357.2900	373.4300 352.6900	367.7000	362.3600
PARAMETER ASSY(37,1) =	348.3000 331.0000	343.5600 327.1800	339.0300	334.9300
PARAMETER ASSY(43,1) =	323.5200 310.5600	319.9200 280.3200	316.4600	313.4600
PARAMETER ASSY(49,1) =	255.6100 183.3200	233.4000 169.5700	214.5200	197.6200
PARAMETER ASSY(55,1) =	157.9000 122.2500	147.4800 115.4800	138.1500	129.7800
PARAMETER ASSY(61,1) =	109.3700 90.35000	103.8500 64.29000	99.33000	94.47000
PARAMETER ASSY(67,1) =	51.61000 31.79000	43.92000 29.32000	38.89000	34.91000
PARAMETER ASSY(73,1) =	27.23000 21.02000	25.32000 19.82000	23.69000	22.28000
PARAMETER ASSY(79,1) =	18.76000 15.49000	17.81000 10.52000	16.96000	16.20000
PARAMETER ASSY(85,1) =	8.210000 5.640000	7.000000 5.430000	6.340000	5.950000
PARAMETER ASSY(91,1) =	5.250000 4.510000	5.030000 4.350000	4.830000	4.660000
PARAMETER ASSY(97,1) =	4.210000 3.750000	4.080000	3.960000	3.850000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01	.7000000E-01	.8000000E-01	.9000000E-01

	.1000000	.1500000		
PARAMETER ASSY(13,0) =	.2000000	.2500000	.3000000	.3500000
	.4000000	.4500000		
PARAMETER ASSY(19,0) =	.5000000	.5500000	.6000000	.6500000
	.7000000	.7500000		
PARAMETER ASSY(25,0) =	.8000000	.8500000	.9000000	.9500000
	1.000000	1.500000		
PARAMETER ASSY(31,0) =	2.000000	2.500000	3.000000	3.500000
	4.000000	4.500000		
PARAMETER ASSY(37,0) =	5.000000	5.500000	6.000000	6.500000
	7.000000	7.500000		
PARAMETER ASSY(43,0) =	8.000000	8.500000	9.000000	9.500000
	10.00000	15.00000		
PARAMETER ASSY(49,0) =	20.00000	25.00000	30.00000	35.00000
	40.00000	45.00000		
PARAMETER ASSY(55,0) =	50.00000	55.00000	60.00000	65.00000
	70.00000	75.00000		
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 RCWS BY 2 COLUMNS

RESULT MATRIX SIZE= 101 RCWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 15.821

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= 15.821 INPUT= 1.0000

VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

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

SLOC= 1 .000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1

SLOC= 1 3882.420

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1

SLOC= 1 284.0100

Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

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

SLOC= 1 25.00000

PARAMETER IINC = 2.000000

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

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

SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1

SLOC= 1 .4617156

PARAMETER IINC = 2.000000

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

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2

SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading

outer barrier of 70/30 Copper Nickel (C71500)

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

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

SLOC= 1 .000000E+00

Density (lb/in³ converted to kg/m³)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1

SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1
SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***
SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***
SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2
SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4
SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6
SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8
SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

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

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

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

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

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

KP2= 7 TAN2= .0000 .0000 1.0000
 Define disposal container and MPC outer radius
 (K's 9,10,11,12,13,14,15,16,17,18,19,20)
 (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
 (A's 1,2,3,4,5)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.850800	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.850800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.850800	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.800800	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.800800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.800800	.000000E+00	IN CSYS= 0
KEYPOINT	15	X,Y,Z=	.000000E+00	-.780800	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.780800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.000000E+00	.780800	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.000000E+00	-.765810	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.765810	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.000000E+00	.765810	.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

LINE CONNECTS KEYPOINTS 13 16
 LINE NO.= 6 KP1= 13 TAN1= 1.0000 .0000 .0000
 KP2= 16 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .85080
 LINE NO.= 7 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .85080
 LINE NO.= 8 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 9 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 10 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

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

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

ARC BETWEEN KEYPOINTS 15 AND 16 ORIENTATION KEYPOINT= 1
 RADIUS= .78080
 LINE NO.= 13 KP1= 15 TAN1= -1.0000 .0000 .0000
 KP2= 16 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 16 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .78080
 LINE NO.= 14 KP1= 16 TAN1= .0000 -1.0000 .0000
 KP2= 17 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 14 17
 LINE NO.= 15 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 17 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 12 15
 LINE NO.= 16 KP1= 12 TAN1= .0000 -1.0000 .0000
 KP2= 15 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 17 KP1= 19 TAN1= .0000 1.0000 .0000
 KP2= 18 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 18 KP1= 20 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 17 20
 LINE NO.= 19 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 20 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 18
 LINE NO.= 20 KP1= 15 TAN1= .0000 -1.0000 .0000
 KP2= 18 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 7 12 9
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 11 8 5 10
 (TRAVERSED IN SAME DIRECTION AS LINE 11)

AREA NUMBER = 2

DEFINE AREA BY LIST OF LINES
 LINE LIST = 6 9 16 13
 (TRAVERSED IN SAME DIRECTION AS LINE 6)

AREA NUMBER = 3

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 10 6 14
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 4

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 14 13 20 17 18
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 5

 Define MPC shell inner edge and area
 (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38, 39, 40, 41, 42, 43, 44)
 (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38,39, 40, 41, 42, 43, 44, 45)
 (A's 6)

KEYPOINT 21 X,Y,Z= .000000E+00 .740410 .000000E+00 IN CSYS= 0

KEYPOINT	22	X,Y,Z=	.803148E-01	.736041	.000000E+00	IN CSYS=	0
KEYPOINT	23	X,Y,Z=	.983075E-01	.733855	.000000E+00	IN CSYS=	0
KEYPOINT	24	X,Y,Z=	.107833	.732516	.000000E+00	IN CSYS=	0
KEYPOINT	25	X,Y,Z=	.270545	.689211	.000000E+00	IN CSYS=	0
KEYPOINT	26	X,Y,Z=	.280070	.685396	.000000E+00	IN CSYS=	0
KEYPOINT	27	X,Y,Z=	.473999	.568799	.000000E+00	IN CSYS=	0
KEYPOINT	28	X,Y,Z=	.635060	.381220	.000000E+00	IN CSYS=	0
KEYPOINT	29	X,Y,Z=	.647686	.358762	.000000E+00	IN CSYS=	0
KEYPOINT	30	X,Y,Z=	.716185	.187846	.000000E+00	IN CSYS=	0
KEYPOINT	31	X,Y,Z=	.718616	.178321	.000000E+00	IN CSYS=	0
KEYPOINT	32	X,Y,Z=	.740395	.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	33	X,Y,Z=	.740395	-.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	34	X,Y,Z=	.718616	-.178321	.000000E+00	IN CSYS=	0
KEYPOINT	35	X,Y,Z=	.716185	-.187846	.000000E+00	IN CSYS=	0
KEYPOINT	36	X,Y,Z=	.647686	-.358762	.000000E+00	IN CSYS=	0
KEYPOINT	37	X,Y,Z=	.635060	-.381220	.000000E+00	IN CSYS=	0
KEYPOINT	38	X,Y,Z=	.473999	-.568799	.000000E+00	IN CSYS=	0
KEYPOINT	39	X,Y,Z=	.280070	-.685396	.000000E+00	IN CSYS=	0
KEYPOINT	40	X,Y,Z=	.270545	-.689211	.000000E+00	IN CSYS=	0
KEYPOINT	41	X,Y,Z=	.107833	-.732516	.000000E+00	IN CSYS=	0
KEYPOINT	42	X,Y,Z=	.983075E-01	-.733855	.000000E+00	IN CSYS=	0
KEYPOINT	43	X,Y,Z=	.803148E-01	-.736041	.000000E+00	IN CSYS=	0
KEYPOINT	44	X,Y,Z=	.000000E+00	-.740410	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS		20	21			
LINE NO.=	21	KP1=	20	TAN1=	.0000	1.0000
		KP2=	21	TAN2=	.0000	-1.0000

ARC BETWEEN KEYPOINTS		22 AND	21	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	22	KP1=	22	TAN1=	.9941	-.1085
		KP2=	21	TAN2=	-1.0000	.0000

ARC BETWEEN KEYPOINTS		23 AND	22	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	23	KP1=	23	TAN1=	.9911	-.1328
		KP2=	22	TAN2=	-.9941	.1085

ARC BETWEEN KEYPOINTS		24 AND	23	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	24	KP1=	24	TAN1=	.9893	-.1456
		KP2=	23	TAN2=	-.9911	.1328

ARC BETWEEN KEYPOINTS		25 AND	24	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	25	KP1=	25	TAN1=	.9309	-.3654
		KP2=	24	TAN2=	-.9893	.1456

ARC BETWEEN KEYPOINTS	26 AND 25	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 26	KP1= 26	TAN1= .9257	-.3783 .0000
	KP2= 25	TAN2= -.9309	.3654 .0000
ARC BETWEEN KEYPOINTS	27 AND 26	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 27	KP1= 27	TAN1= .7682	-.6402 .0000
	KP2= 26	TAN2= -.9257	.3783 .0000
ARC BETWEEN KEYPOINTS	28 AND 27	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 28	KP1= 28	TAN1= .5156	-.8568 .0000
	KP2= 27	TAN2= -.7690	.6393 .0000
ARC BETWEEN KEYPOINTS	29 AND 28	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 29	KP1= 29	TAN1= .4748	-.8801 .0000
	KP2= 28	TAN2= -.5051	.8630 .0000
ARC BETWEEN KEYPOINTS	30 AND 29	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 30	KP1= 30	TAN1= .2537	-.9673 .0000
	KP2= 29	TAN2= -.4845	.8748 .0000
ARC BETWEEN KEYPOINTS	31 AND 30	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 31	KP1= 31	TAN1= .2408	-.9706 .0000
	KP2= 30	TAN2= -.2537	.9673 .0000
ARC BETWEEN KEYPOINTS	32 AND 31	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 32	KP1= 32	TAN1= .0064	-1.0000 .0000
	KP2= 31	TAN2= -.2408	.9706 .0000
ARC BETWEEN KEYPOINTS	33 AND 32	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 33	KP1= 33	TAN1= -.0064	-1.0000 .0000
	KP2= 32	TAN2= -.0064	1.0000 .0000
ARC BETWEEN KEYPOINTS	34 AND 33	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 34	KP1= 34	TAN1= -.2408	-.9706 .0000
	KP2= 33	TAN2= .0064	1.0000 .0000
ARC BETWEEN KEYPOINTS	35 AND 34	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 35	KP1= 35	TAN1= -.2537	-.9673 .0000
	KP2= 34	TAN2= .2408	.9706 .0000
ARC BETWEEN KEYPOINTS	36 AND 35	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 36	KP1= 36	TAN1= -.4845	-.8748 .0000
	KP2= 35	TAN2= .2537	.9673 .0000
ARC BETWEEN KEYPOINTS	37 AND 36	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 37	KP1= 37	TAN1= -.5051	-.8630 .0000
	KP2= 36	TAN2= .4748	.8801 .0000
ARC BETWEEN KEYPOINTS	38 AND 37	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 38	KP1= 38	TAN1= -.7690	-.6393 .0000
	KP2= 37	TAN2= .5156	.8568 .0000
ARC BETWEEN KEYPOINTS	39 AND 38	ORIENTATION KEYPOINT=	1
RADIUS= .74041			
LINE NO.= 39	KP1= 39	TAN1= -.9257	-.3783 .0000
	KP2= 38	TAN2= .7682	.6402 .0000

ARC BETWEEN KEYPOINTS 40 AND 39 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 40 KP1= 40 TAN1= -.9309 -.3654 .0000
 KP2= 39 TAN2= .9257 .3783 .0000

ARC BETWEEN KEYPOINTS 41 AND 40 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 41 KP1= 41 TAN1= -.9893 -.1456 .0000
 KP2= 40 TAN2= .9309 .3654 .0000

ARC BETWEEN KEYPOINTS 42 AND 41 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 42 KP1= 42 TAN1= -.9911 -.1328 .0000
 KP2= 41 TAN2= .9893 .1456 .0000

ARC BETWEEN KEYPOINTS 43 AND 42 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 43 KP1= 43 TAN1= -.9941 -.1085 .0000
 KP2= 42 TAN2= .9911 .1328 .0000

ARC BETWEEN KEYPOINTS 44 AND 43 ORIENTATION KEYPOINT= 1
 RADIUS= .74041
 LINE NO.= 44 KP1= 44 TAN1= -1.0000 .0000 .0000
 KP2= 43 TAN2= .9941 .1085 .0000

LINE CONNECTS KEYPOINTS 18 44
 LINE NO.= 45 KP1= 18 TAN1= .0000 -1.0000 .0000
 KP2= 44 TAN2= .0000 1.0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 45 STEP 1

25 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 17 TO 18 STEP 1

27 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 6

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 45 STEP 1

45 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

 Define tube guides
 (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
 (62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
 (79,80,81,82)
 (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
 (63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
 (80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
 (97,98,99,100,101,102,103,104,105,106,107,108,109,110)
 (111,112,113,114,115)
 (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
 (25,26,27,28,29,30,31,32,33,34,35,36,37,38)

Set 1: top plate

KEYPOINT 45 X,Y,Z= .803148E-01 .726516 .000000E+00 IN CSYS= 0
 KEYPOINT 46 X,Y,Z= .000000E+00 .736041 .000000E+00 IN CSYS= 0
 KEYPOINT 47 X,Y,Z= .000000E+00 .726516 .000000E+00 IN CSYS= 0

Set 2: top side guide

KEYPOINT	48	X,Y,Z=	.983075E-01	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.107833	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.270545	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.280070	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.464474	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.464474	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.473999	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.473999	.556588	.000000E+00	IN CSYS= 0

Set 3: top corner

KEYPOINT	56	X,Y,Z=	.464474	.568799	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.464474	.371695	.000000E+00	IN CSYS= 0
KEYPOINT	58	X,Y,Z=	.473999	.381220	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.635060	.371695	.000000E+00	IN CSYS= 0

Set 4: side guide

KEYPOINT	60	X,Y,Z=	.638161	.358762	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.638161	-.358762	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.647686	.187846	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.647686	.178321	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.647686	.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.647686	-.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	66	X,Y,Z=	.647686	-.178321	.000000E+00	IN CSYS= 0
KEYPOINT	67	X,Y,Z=	.647686	-.187846	.000000E+00	IN CSYS= 0

Set 3: bottom corner

KEYPOINT	68	X,Y,Z=	.464474	-.568799	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.464474	-.371695	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.473999	-.381220	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.635060	-.371695	.000000E+00	IN CSYS= 0

Set 2: bottom side guide

KEYPOINT	72	X,Y,Z=	.983075E-01	-.556588	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.107833	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.270545	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.280070	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	76	X,Y,Z=	.464474	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.464474	-.556588	.000000E+00	IN CSYS= 0

KEYPOINT 78 X,Y,Z= .473999 -.566113 .000000E+00 IN CSYS= 0
 KEYPOINT 79 X,Y,Z= .473999 -.556588 .000000E+00 IN CSYS= 0

Set 1: bottom plate

KEYPOINT 80 X,Y,Z= .803148E-01 -.726516 .000000E+00 IN CSYS= 0
 KEYPOINT 81 X,Y,Z= .000000E+00 -.736041 .000000E+00 IN CSYS= 0
 KEYPOINT 82 X,Y,Z= .000000E+00 -.726516 .000000E+00 IN CSYS= 0

Now Fill in the required lines:

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 21 46
 LINE NO.= 46 KP1= 21 TAN1= .0000 1.0000 .0000
 KP2= 46 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 47
 LINE NO.= 47 KP1= 46 TAN1= .0000 1.0000 .0000
 KP2= 47 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 46 22
 LINE NO.= 48 KP1= 46 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 22 45
 LINE NO.= 49 KP1= 22 TAN1= .0000 1.0000 .0000
 KP2= 45 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 45 47
 LINE NO.= 50 KP1= 45 TAN1= 1.0000 .0000 .0000
 KP2= 47 TAN2= -1.0000 .0000 .0000

Set 2: top side guide

LINE CONNECTS KEYPOINTS 48 23
 LINE NO.= 51 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 23 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 52 KP1= 48 TAN1= -.7071 -.7071 .0000
 KP2= 49 TAN2= .7071 .7071 .0000
 LINE CONNECTS KEYPOINTS 24 49
 LINE NO.= 53 KP1= 24 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 54 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 53 48
 LINE NO.= 55 KP1= 53 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000
 LINE CONNECTS KEYPOINTS 50 25
 LINE NO.= 56 KP1= 50 TAN1= .0000 -1.0000 .0000
 KP2= 25 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 26 51
 LINE NO.= 57 KP1= 26 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 58 KP1= 50 TAN1= -1.0000 .0000 .0000
 KP2= 51 TAN2= 1.0000 .0000 .0000

LINE CONNECTS	KEYPOINTS	51	52			
LINE NO.=	59 KP1=	51	TAN1=	-1.0000	.0000	.0000
	KP2=	52	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	52	53			
LINE NO.=	60 KP1=	52	TAN1=	.0000	1.0000	.0000
	KP2=	53	TAN2=	.0000	-1.0000	.0000

Set 3: top corner

LINE CONNECTS	KEYPOINTS	56	27			
LINE NO.=	61 KP1=	56	TAN1=	-1.0000	.0000	.0000
	KP2=	27	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	52	56			
LINE NO.=	62 KP1=	52	TAN1=	.0000	-1.0000	.0000
	KP2=	56	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	27	54			
LINE NO.=	63 KP1=	27	TAN1=	.0000	1.0000	.0000
	KP2=	54	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	54	55			
LINE NO.=	64 KP1=	54	TAN1=	.0000	1.0000	.0000
	KP2=	55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	52	54			
LINE NO.=	65 KP1=	52	TAN1=	-1.0000	.0000	.0000
	KP2=	54	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	53	55			
LINE NO.=	66 KP1=	53	TAN1=	-1.0000	.0000	.0000
	KP2=	55	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	55	58			
LINE NO.=	67 KP1=	55	TAN1=	.0000	1.0000	.0000
	KP2=	58	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	57	53			
LINE NO.=	68 KP1=	57	TAN1=	.0000	-1.0000	.0000
	KP2=	53	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	57	58			
LINE NO.=	69 KP1=	57	TAN1=	-.7071	-.7071	.0000
	KP2=	58	TAN2=	.7071	.7071	.0000

LINE CONNECTS	KEYPOINTS	58	28			
LINE NO.=	70 KP1=	58	TAN1=	-1.0000	.0000	.0000
	KP2=	28	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	59	57			
LINE NO.=	71 KP1=	59	TAN1=	1.0000	.0000	.0000
	KP2=	57	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	28	59			
LINE NO.=	72 KP1=	28	TAN1=	.0000	1.0000	.0000
	KP2=	59	TAN2=	.0000	-1.0000	.0000

Set 4: side guide

LINE CONNECTS	KEYPOINTS	60	29			
LINE NO.=	73 KP1=	60	TAN1=	-1.0000	.0000	.0000
	KP2=	29	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	61	60			
LINE NO.=	74 KP1=	61	TAN1=	.0000	-1.0000	.0000
	KP2=	60	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	29	62			
LINE NO.=	75 KP1=	29	TAN1=	.0000	1.0000	.0000

	KP2=	62	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	62	63			
LINE NO.=	76	KP1=	62	TAN1=	.0000	1.0000
		KP2=	63	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	62	30			
LINE NO.=	77	KP1=	62	TAN1=	-1.0000	.0000
		KP2=	30	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	31	63			
LINE NO.=	78	KP1=	31	TAN1=	1.0000	.0000
		KP2=	63	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	63	64			
LINE NO.=	79	KP1=	63	TAN1=	.0000	1.0000
		KP2=	64	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	64	65			
LINE NO.=	80	KP1=	64	TAN1=	.0000	1.0000
		KP2=	65	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	64	32			
LINE NO.=	81	KP1=	64	TAN1=	-1.0000	.0000
		KP2=	32	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	33	65			
LINE NO.=	82	KP1=	33	TAN1=	1.0000	.0000
		KP2=	65	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	65	66			
LINE NO.=	83	KP1=	65	TAN1=	.0000	1.0000
		KP2=	66	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	66	67			
LINE NO.=	84	KP1=	66	TAN1=	.0000	1.0000
		KP2=	67	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	66	34			
LINE NO.=	85	KP1=	66	TAN1=	-1.0000	.0000
		KP2=	34	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	35	67			
LINE NO.=	86	KP1=	35	TAN1=	1.0000	.0000
		KP2=	67	TAN2=	-1.0000	.0000
LINE CONNECTS	KEYPOINTS	67	36			
LINE NO.=	87	KP1=	67	TAN1=	.0000	1.0000
		KP2=	36	TAN2=	.0000	-1.0000
LINE CONNECTS	KEYPOINTS	36	61			
LINE NO.=	88	KP1=	36	TAN1=	1.0000	.0000
		KP2=	61	TAN2=	-1.0000	.0000

Set 3: bottom corner

LINE CONNECTS	KEYPOINTS	37	71			
LINE NO.=	89	KP1=	37	TAN1=	.0000	-1.0000
		KP2=	71	TAN2=	.0000	1.0000
LINE CONNECTS	KEYPOINTS	69	71			
LINE NO.=	90	KP1=	69	TAN1=	-1.0000	.0000
		KP2=	71	TAN2=	1.0000	.0000
LINE CONNECTS	KEYPOINTS	69	70			
LINE NO.=	91	KP1=	69	TAN1=	-.7071	.7071
		KP2=	70	TAN2=	.7071	-.7071
LINE CONNECTS	KEYPOINTS	37	70			
LINE NO.=	92	KP1=	37	TAN1=	1.0000	.0000

	KP2=	70	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		70	79			
LINE NO.= 93	KP1=	70	TAN1=	.0000	1.0000	.0000
	KP2=	79	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		79	78			
LINE NO.= 94	KP1=	79	TAN1=	.0000	1.0000	.0000
	KP2=	78	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		78	38			
LINE NO.= 95	KP1=	78	TAN1=	.0000	1.0000	.0000
	KP2=	38	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		38	68			
LINE NO.= 96	KP1=	38	TAN1=	1.0000	.0000	.0000
	KP2=	68	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		68	76			
LINE NO.= 97	KP1=	68	TAN1=	.0000	-1.0000	.0000
	KP2=	76	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	77			
LINE NO.= 98	KP1=	76	TAN1=	.0000	-1.0000	.0000
	KP2=	77	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		77	69			
LINE NO.= 99	KP1=	77	TAN1=	.0000	-1.0000	.0000
	KP2=	69	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		76	78			
LINE NO.= 100	KP1=	76	TAN1=	-1.0000	.0000	.0000
	KP2=	78	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		77	79			
LINE NO.= 101	KP1=	77	TAN1=	-1.0000	.0000	.0000
	KP2=	79	TAN2=	1.0000	.0000	.0000

Set 2: bottom side guide

LINE CONNECTS KEYPOINTS		72	77			
LINE NO.= 102	KP1=	72	TAN1=	-1.0000	.0000	.0000
	KP2=	77	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		72	73			
LINE NO.= 103	KP1=	72	TAN1=	-.7071	.7071	.0000
	KP2=	73	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		76	75			
LINE NO.= 104	KP1=	76	TAN1=	1.0000	.0000	.0000
	KP2=	75	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		75	74			
LINE NO.= 105	KP1=	75	TAN1=	1.0000	.0000	.0000
	KP2=	74	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		74	73			
LINE NO.= 106	KP1=	74	TAN1=	1.0000	.0000	.0000
	KP2=	73	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		73	41			
LINE NO.= 107	KP1=	73	TAN1=	.0000	1.0000	.0000
	KP2=	41	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		42	72			
LINE NO.= 108	KP1=	42	TAN1=	.0000	-1.0000	.0000
	KP2=	72	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		40	74			
LINE NO.= 109	KP1=	40	TAN1=	.0000	-1.0000	.0000

KP2= 74 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 75 39
 LINE NO.= 110 KP1= 75 TAN1= .0000 1.0000 .0000
 KP2= 39 TAN2= .0000 -1.0000 .0000

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 80 43
 LINE NO.= 111 KP1= 80 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 82 80
 LINE NO.= 112 KP1= 82 TAN1= -1.0000 .0000 .0000
 KP2= 80 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 81
 LINE NO.= 113 KP1= 82 TAN1= .0000 1.0000 .0000
 KP2= 81 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 43 81
 LINE NO.= 114 KP1= 43 TAN1= 1.0000 .0000 .0000
 KP2= 81 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 81 44
 LINE NO.= 115 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 44 TAN2= .0000 -1.0000 .0000

Radiation/Back Fill Gas Gaps:

Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 46 48 22
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 7

Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 53 54 56
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 57 59 62 61
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 9

Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 28 63 64 67 70
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 10

Set 4: SIDE

DEFINE AREA BY LIST OF LINES

LINE LIST = 30 75 77
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 32 78 79 81
 (TRAVERSED IN SAME DIRECTION AS LINE 32)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 34 82 83 85
(TRAVERSED IN SAME DIRECTION AS LINE 34)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 36 86 87
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 14
Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 38 92 93 94 95
(TRAVERSED IN SAME DIRECTION AS LINE 38)

AREA NUMBER = 15
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 96 97 104 110
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 41 109 106 107
(TRAVERSED IN SAME DIRECTION AS LINE 41)

AREA NUMBER = 17
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 114 115
(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 18
SOLID GUIDES:
Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 48 49 50
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 19
Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 51 52 53
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 55 60 59 58 54
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 56 58 57
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 22
Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 61 62 65 63
(TRAVERSED IN SAME DIRECTION AS LINE 61)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 65 60 66 64
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 66 68 69 67
(TRAVERSED IN SAME DIRECTION AS LINE 66)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 70 69 71 72
(TRAVERSED IN SAME DIRECTION AS LINE 70)

AREA NUMBER = 26

Set 4: SIDE

DEFINE AREA BY LIST OF LINES

LINE LIST = 73 74 88 87 84 83 80 79 76 75
(TRAVERSED IN SAME DIRECTION AS LINE 73)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES

LINE LIST = 31 77 76 78
(TRAVERSED IN SAME DIRECTION AS LINE 31)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 33 81 80 82
(TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 35 85 84 86
(TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 30

Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 89 90 91 92
(TRAVERSED IN SAME DIRECTION AS LINE 89)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES

LINE LIST = 91 93 101 99
(TRAVERSED IN SAME DIRECTION AS LINE 91)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 94 100 98
(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 95 96 97
(TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 34

Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 98 104 105 106 103
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 40 110 105 109
(TRAVERSED IN SAME DIRECTION AS LINE 40)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 42 107 103 108
(TRAVERSED IN SAME DIRECTION AS LINE 42)

AREA NUMBER = 37

Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 111 112 113 114
(TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 38

Define center edge half-tube

(K's 83,84,85,86,87,88,89,90,91,92,93,94)

(L's 116,117,118,119,120,121,122,123,124,125,126,127,128)

(129,130,131,132,133)

(A's 39,40,41,42,43,44,45)

KEYPOINT	83	X,Y,Z=	.000000E+00	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	84	X,Y,Z=	.000000E+00	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	85	X,Y,Z=	.000000E+00	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	86	X,Y,Z=	.000000E+00	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	87	X,Y,Z=	.000000E+00	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	88	X,Y,Z=	.000000E+00	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	89	X,Y,Z=	.889000E-01	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	90	X,Y,Z=	.825500E-01	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	91	X,Y,Z=	.762000E-01	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	92	X,Y,Z=	.889000E-01	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	93	X,Y,Z=	.825500E-01	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	94	X,Y,Z=	.762000E-01	.167488	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	83	84
LINE NO.= 116	KP1= 83	TAN1= .0000 -1.0000 .0000
	KP2= 84	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	84	85
LINE NO.= 117	KP1= 84	TAN1= .0000 -1.0000 .0000
	KP2= 85	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	86	87
LINE NO.= 118	KP1= 86	TAN1= .0000 -1.0000 .0000
	KP2= 87	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	87	88
LINE NO.= 119	KP1= 87	TAN1= .0000 -1.0000 .0000

	KP2=	88	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		89	83			
LINE NO.= 120	KP1=	89	TAN1=	1.0000	.0000	.0000
	KP2=	83	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		84	90			
LINE NO.= 121	KP1=	84	TAN1=	-1.0000	.0000	.0000
	KP2=	90	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		85	91			
LINE NO.= 122	KP1=	85	TAN1=	-1.0000	.0000	.0000
	KP2=	91	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		86	94			
LINE NO.= 123	KP1=	86	TAN1=	-1.0000	.0000	.0000
	KP2=	94	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		87	93			
LINE NO.= 124	KP1=	87	TAN1=	-1.0000	.0000	.0000
	KP2=	93	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		88	92			
LINE NO.= 125	KP1=	88	TAN1=	-1.0000	.0000	.0000
	KP2=	92	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		90	89			
LINE NO.= 126	KP1=	90	TAN1=	-.7071	.7071	.0000
	KP2=	89	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		91	90			
LINE NO.= 127	KP1=	91	TAN1=	-.7071	.7071	.0000
	KP2=	90	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		94	93			
LINE NO.= 128	KP1=	94	TAN1=	-.7071	-.7071	.0000
	KP2=	93	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		93	92			
LINE NO.= 129	KP1=	93	TAN1=	-.7071	-.7071	.0000
	KP2=	92	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		85	86			
LINE NO.= 130	KP1=	85	TAN1=	.0000	-1.0000	.0000
	KP2=	86	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		91	94			
LINE NO.= 131	KP1=	91	TAN1=	.0000	-1.0000	.0000
	KP2=	94	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		90	93			
LINE NO.= 132	KP1=	90	TAN1=	.0000	-1.0000	.0000
	KP2=	93	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		89	92			
LINE NO.= 133	KP1=	89	TAN1=	.0000	-1.0000	.0000
	KP2=	92	TAN2=	.0000	1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 130 123 131 122
(TRAVERSED IN SAME DIRECTION AS LINE 130)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES

LINE LIST = 116 121 126 120
(TRAVERSED IN SAME DIRECTION AS LINE 116)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES

LINE LIST = 117 122 127 121
(TRAVERSED IN SAME DIRECTION AS LINE 117)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES

LINE LIST = 118 124 128 123
(TRAVERSED IN SAME DIRECTION AS LINE 118)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES

LINE LIST = 119 125 129 124
(TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 43

DEFINE AREA BY LIST OF LINES

LINE LIST = 131 128 132 127
(TRAVERSED IN SAME DIRECTION AS LINE 131)

AREA NUMBER = 44

DEFINE AREA BY LIST OF LINES

LINE LIST = 132 129 133 126
(TRAVERSED IN SAME DIRECTION AS LINE 132)

AREA NUMBER = 45

Define center full-tube

(K's 95,96,97,98,99,100,101,102,103,104,105,106)

(L's 134,135,136,137,138,139,140,141,142,143,144,145)

(146,147,148,149,150,151,152,153)

(A's 46,47,48,49,50,51,52,53,54)

KEYPOINT	95	X,Y,Z=	.936752E-01	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	96	X,Y,Z=	.271475	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	97	X,Y,Z=	.100025	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	98	X,Y,Z=	.265125	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	99	X,Y,Z=	.106375	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	100	X,Y,Z=	.258775	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	101	X,Y,Z=	.106375	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	102	X,Y,Z=	.258775	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	103	X,Y,Z=	.100025	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	104	X,Y,Z=	.265125	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	105	X,Y,Z=	.936752E-01	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	106	X,Y,Z=	.271475	.180188	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS	95	97			
LINE NO.= 134	KP1= 95	TAN1=	-.7071	-.7071	.0000
	KP2= 97	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	97	99			
LINE NO.= 135	KP1= 97	TAN1=	-.7071	-.7071	.0000
	KP2= 99	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	101	103			
LINE NO.= 136	KP1= 101	TAN1=	.7071	-.7071	.0000

	KP2=	103	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		103	105			
LINE NO.= 137	KP1=	103	TAN1=	.7071	-.7071	.0000
	KP2=	105	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		96	98			
LINE NO.= 138	KP1=	96	TAN1=	.7071	-.7071	.0000
	KP2=	98	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		98	100			
LINE NO.= 139	KP1=	98	TAN1=	.7071	-.7071	.0000
	KP2=	100	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		102	104			
LINE NO.= 140	KP1=	102	TAN1=	-.7071	-.7071	.0000
	KP2=	104	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		104	106			
LINE NO.= 141	KP1=	104	TAN1=	-.7071	-.7071	.0000
	KP2=	106	TAN2=	.7071	.7071	.0000
LINE CONNECTS KEYPOINTS		96	95			
LINE NO.= 142	KP1=	96	TAN1=	1.0000	.0000	.0000
	KP2=	95	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		97	98			
LINE NO.= 143	KP1=	97	TAN1=	-1.0000	.0000	.0000
	KP2=	98	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		99	100			
LINE NO.= 144	KP1=	99	TAN1=	-1.0000	.0000	.0000
	KP2=	100	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		101	102			
LINE NO.= 145	KP1=	101	TAN1=	-1.0000	.0000	.0000
	KP2=	102	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		103	104			
LINE NO.= 146	KP1=	103	TAN1=	-1.0000	.0000	.0000
	KP2=	104	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		105	106			
LINE NO.= 147	KP1=	105	TAN1=	-1.0000	.0000	.0000
	KP2=	106	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		95	105			
LINE NO.= 148	KP1=	95	TAN1=	.0000	-1.0000	.0000
	KP2=	105	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		97	103			
LINE NO.= 149	KP1=	97	TAN1=	.0000	-1.0000	.0000
	KP2=	103	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		99	101			
LINE NO.= 150	KP1=	99	TAN1=	.0000	-1.0000	.0000
	KP2=	101	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		100	102			
LINE NO.= 151	KP1=	100	TAN1=	.0000	-1.0000	.0000
	KP2=	102	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		98	104			
LINE NO.= 152	KP1=	98	TAN1=	.0000	-1.0000	.0000
	KP2=	104	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		106	96			
LINE NO.= 153	KP1=	106	TAN1=	.0000	1.0000	.0000
	KP2=	96	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 144 151 145 150
(TRAVERSED IN SAME DIRECTION AS LINE 144)

AREA NUMBER = 46

DEFINE AREA BY LIST OF LINES

LINE LIST = 142 138 143 134
(TRAVERSED IN SAME DIRECTION AS LINE 142)

AREA NUMBER = 47

DEFINE AREA BY LIST OF LINES

LINE LIST = 143 139 144 135
(TRAVERSED IN SAME DIRECTION AS LINE 143)

AREA NUMBER = 48

DEFINE AREA BY LIST OF LINES

LINE LIST = 145 140 146 136
(TRAVERSED IN SAME DIRECTION AS LINE 145)

AREA NUMBER = 49

DEFINE AREA BY LIST OF LINES

LINE LIST = 146 141 147 137
(TRAVERSED IN SAME DIRECTION AS LINE 146)

AREA NUMBER = 50

DEFINE AREA BY LIST OF LINES

LINE LIST = 148 134 149 137
(TRAVERSED IN SAME DIRECTION AS LINE 148)

AREA NUMBER = 51

DEFINE AREA BY LIST OF LINES

LINE LIST = 149 135 150 136
(TRAVERSED IN SAME DIRECTION AS LINE 149)

AREA NUMBER = 52

DEFINE AREA BY LIST OF LINES

LINE LIST = 151 139 152 140
(TRAVERSED IN SAME DIRECTION AS LINE 151)

AREA NUMBER = 53

DEFINE AREA BY LIST OF LINES

LINE LIST = 152 138 153 141
(TRAVERSED IN SAME DIRECTION AS LINE 152)

AREA NUMBER = 54

Define edge half-tube

(K's 107,108,109,110,111,112,113,114,115,116,117)

(L's 154,155,156,157,158,159,160,161,162,163,164,165)

(166,167,168,169)

(A's 55,56,57,58,59,60)

KEYPOINT	107	X,Y,Z=	.000000E+00	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	108	X,Y,Z=	.762000E-01	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	109	X,Y,Z=	.000000E+00	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	110	X,Y,Z=	.762000E-01	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	111	X,Y,Z=	.000000E+00	.721563	.000000E+00	IN CSYS= 0

KEYPOINT	112	X,Y,Z=	.825500E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	113	X,Y,Z=	.000000E+00	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	114	X,Y,Z=	.825500E-01	.556463	.000000E+00	IN CSYS= 0
KEYPOINT	115	X,Y,Z=	.889000E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	116	X,Y,Z=	.000000E+00	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	117	X,Y,Z=	.889000E-01	.550113	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		116	113			
LINE NO.=	154	KP1=	116	TAN1=	.0000	-1.0000 .0000
		KP2=	113	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		113	109			
LINE NO.=	155	KP1=	113	TAN1=	.0000	-1.0000 .0000
		KP2=	109	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		107	111			
LINE NO.=	156	KP1=	107	TAN1=	.0000	-1.0000 .0000
		KP2=	111	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		114	117			
LINE NO.=	157	KP1=	114	TAN1=	-.7071	.7071 .0000
		KP2=	117	TAN2=	.7071	-.7071 .0000

LINE CONNECTS KEYPOINTS		110	114			
LINE NO.=	158	KP1=	110	TAN1=	-.7071	.7071 .0000
		KP2=	114	TAN2=	.7071	-.7071 .0000

LINE CONNECTS KEYPOINTS		112	115			
LINE NO.=	159	KP1=	112	TAN1=	-1.0000	.0000 .0000
		KP2=	115	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		108	112			
LINE NO.=	160	KP1=	108	TAN1=	-.7071	-.7071 .0000
		KP2=	112	TAN2=	.7071	.7071 .0000

LINE CONNECTS KEYPOINTS		116	117			
LINE NO.=	161	KP1=	116	TAN1=	-1.0000	.0000 .0000
		KP2=	117	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		113	114			
LINE NO.=	162	KP1=	113	TAN1=	-1.0000	.0000 .0000
		KP2=	114	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		109	110			
LINE NO.=	163	KP1=	109	TAN1=	-1.0000	.0000 .0000
		KP2=	110	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		108	107			
LINE NO.=	164	KP1=	108	TAN1=	1.0000	.0000 .0000
		KP2=	107	TAN2=	-1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		111	112			
LINE NO.=	165	KP1=	111	TAN1=	-1.0000	.0000 .0000
		KP2=	112	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		109	107			
LINE NO.=	166	KP1=	109	TAN1=	.0000	-1.0000 .0000
		KP2=	107	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		110	108			
LINE NO.=	167	KP1=	110	TAN1=	.0000	-1.0000 .0000
		KP2=	108	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		114	112			
LINE NO.=	168	KP1=	114	TAN1=	.0000	-1.0000 .0000

KP2= 112 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 115 117
 LINE NO.= 169 KP1= 115 TAN1= .0000 1.0000 .0000
 KP2= 117 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 166 163 167 164
 (TRAVERSED IN SAME DIRECTION AS LINE 166)

AREA NUMBER = 55

DEFINE AREA BY LIST OF LINES
 LINE LIST = 161 157 162 154
 (TRAVERSED IN SAME DIRECTION AS LINE 161)

AREA NUMBER = 56

DEFINE AREA BY LIST OF LINES
 LINE LIST = 162 158 163 155
 (TRAVERSED IN SAME DIRECTION AS LINE 162)

AREA NUMBER = 57

DEFINE AREA BY LIST OF LINES
 LINE LIST = 164 160 165 156
 (TRAVERSED IN SAME DIRECTION AS LINE 164)

AREA NUMBER = 58

DEFINE AREA BY LIST OF LINES
 LINE LIST = 167 158 168 160
 (TRAVERSED IN SAME DIRECTION AS LINE 167)

AREA NUMBER = 59

DEFINE AREA BY LIST OF LINES
 LINE LIST = 168 157 169 159
 (TRAVERSED IN SAME DIRECTION AS LINE 168)

AREA NUMBER = 60

Define edge full-tube
 (K's 118,119,120,121,122,123,124,125,126,127,128,129)
 (L's 170,171,172,173,174,175,176,177,178,179,180,181)
 (182,183,184,185,186,187,188)
 (A's 61,62,63,64,65,66,67,68)

KEYPOINT	118	X,Y,Z=	.471526	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	119	X,Y,Z=	.623926	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	120	X,Y,Z=	.471526	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	121	X,Y,Z=	.623926	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	122	X,Y,Z=	.465176	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	123	X,Y,Z=	.630276	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	124	X,Y,Z=	.465176	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	125	X,Y,Z=	.630276	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	126	X,Y,Z=	.458826	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	127	X,Y,Z=	.630276	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	128	X,Y,Z=	.458826	.180188	.000000E+00	IN CSYS=	0

KEYPOINT 129 X,Y,Z= .630276 .180188 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS	122	126			
LINE NO.= 170 KP1=	122	TAN1=	.7071	.7071	.0000
KP2=	126	TAN2=	-.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	118	122			
LINE NO.= 171 KP1=	118	TAN1=	.7071	.7071	.0000
KP2=	122	TAN2=	-.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	120	124			
LINE NO.= 172 KP1=	120	TAN1=	.7071	-.7071	.0000
KP2=	124	TAN2=	-.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	124	128			
LINE NO.= 173 KP1=	124	TAN1=	.7071	-.7071	.0000
KP2=	128	TAN2=	-.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	123	127			
LINE NO.= 174 KP1=	123	TAN1=	.0000	1.0000	.0000
KP2=	127	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	119	123			
LINE NO.= 175 KP1=	119	TAN1=	-.7071	.7071	.0000
KP2=	123	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	121	125			
LINE NO.= 176 KP1=	121	TAN1=	-.7071	-.7071	.0000
KP2=	125	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	129	125			
LINE NO.= 177 KP1=	129	TAN1=	.0000	1.0000	.0000
KP2=	125	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	127	126			
LINE NO.= 178 KP1=	127	TAN1=	1.0000	.0000	.0000
KP2=	126	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	122	123			
LINE NO.= 179 KP1=	122	TAN1=	-1.0000	.0000	.0000
KP2=	123	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	118	119			
LINE NO.= 180 KP1=	118	TAN1=	-1.0000	.0000	.0000
KP2=	119	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	120	121			
LINE NO.= 181 KP1=	120	TAN1=	-1.0000	.0000	.0000
KP2=	121	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	124	125			
LINE NO.= 182 KP1=	124	TAN1=	-1.0000	.0000	.0000
KP2=	125	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	128	129			
LINE NO.= 183 KP1=	128	TAN1=	-1.0000	.0000	.0000
KP2=	129	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	126	128			
LINE NO.= 184 KP1=	126	TAN1=	.0000	-1.0000	.0000
KP2=	128	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	122	124			
LINE NO.= 185 KP1=	122	TAN1=	.0000	-1.0000	.0000
KP2=	124	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	118	120			
LINE NO.= 186 KP1=	118	TAN1=	.0000	-1.0000	.0000
KP2=	120	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 119 121
 LINE NO.= 187 KP1= 119 TAN1= .0000 -1.0000 .0000
 KP2= 121 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 125 123
 LINE NO.= 188 KP1= 125 TAN1= .0000 1.0000 .0000
 KP2= 123 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 180 187 181 186
 (TRAVERSED IN SAME DIRECTION AS LINE 180)

AREA NUMBER = 61

DEFINE AREA BY LIST OF LINES
 LINE LIST = 178 174 179 170
 (TRAVERSED IN SAME DIRECTION AS LINE 178)

AREA NUMBER = 62

DEFINE AREA BY LIST OF LINES
 LINE LIST = 179 175 180 171
 (TRAVERSED IN SAME DIRECTION AS LINE 179)

AREA NUMBER = 63

DEFINE AREA BY LIST OF LINES
 LINE LIST = 181 176 182 172
 (TRAVERSED IN SAME DIRECTION AS LINE 181)

AREA NUMBER = 64

DEFINE AREA BY LIST OF LINES
 LINE LIST = 182 177 183 173
 (TRAVERSED IN SAME DIRECTION AS LINE 182)

AREA NUMBER = 65

DEFINE AREA BY LIST OF LINES
 LINE LIST = 184 170 185 173
 (TRAVERSED IN SAME DIRECTION AS LINE 184)

AREA NUMBER = 66

DEFINE AREA BY LIST OF LINES
 LINE LIST = 185 171 186 172
 (TRAVERSED IN SAME DIRECTION AS LINE 185)

AREA NUMBER = 67

DEFINE AREA BY LIST OF LINES
 LINE LIST = 187 175 188 176
 (TRAVERSED IN SAME DIRECTION AS LINE 187)

AREA NUMBER = 68

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Set element shapes and sizes for tubes
 8x8 mesh in fuel with 2
 divisions per tube layer

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

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 130 TO 133 STEP 1

4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 142 TO 153 STEP 1

16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 166 TO 169 STEP 1

20 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 178 TO 188 STEP 1

31 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 8, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 120 TO 125 STEP 1
6 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 161 TO 165 STEP 1
11 LINES (OF 188 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 116 TO 119 STEP 1
4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 126 TO 129 STEP 1
8 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 134 TO 141 STEP 1
16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 154 TO 160 STEP 1
23 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 170 TO 177 STEP 1
31 LINES (OF 188 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 188 STEP 1
188 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless, then aluminum
MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 45
MAXIMUM ELEMENT NUMBER = 32

GENERATE NODES AND ELEMENTS
IN AREAS 46 TO 46 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 126
MAXIMUM ELEMENT NUMBER = 96

GENERATE NODES AND ELEMENTS
IN AREAS 55 TO 55 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 171
MAXIMUM ELEMENT NUMBER = 128

GENERATE NODES AND ELEMENTS
IN AREAS 61 TO 61 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 252
MAXIMUM ELEMENT NUMBER = 192

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 41 TO 42 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 272
MAXIMUM ELEMENT NUMBER = 208

GENERATE NODES AND ELEMENTS
IN AREAS 44 TO 44 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 286
MAXIMUM ELEMENT NUMBER = 224

GENERATE NODES AND ELEMENTS
IN AREAS 48 TO 49 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 322
MAXIMUM ELEMENT NUMBER = 256

GENERATE NODES AND ELEMENTS
IN AREAS 52 TO 53 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 350
MAXIMUM ELEMENT NUMBER = 288

GENERATE NODES AND ELEMENTS
IN AREAS 57 TO 59 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 384
MAXIMUM ELEMENT NUMBER = 320

GENERATE NODES AND ELEMENTS
IN AREAS 63 TO 64 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 420
MAXIMUM ELEMENT NUMBER = 352

GENERATE NODES AND ELEMENTS
IN AREAS 67 TO 68 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 448
MAXIMUM ELEMENT NUMBER = 384

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 468
MAXIMUM ELEMENT NUMBER = 400

GENERATE NODES AND ELEMENTS
IN AREAS 45 TO 45 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 482
MAXIMUM ELEMENT NUMBER = 416

GENERATE NODES AND ELEMENTS
IN AREAS 47 TO 50 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 518
MAXIMUM ELEMENT NUMBER = 448

GENERATE NODES AND ELEMENTS
IN AREAS 51 TO 54 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 546
MAXIMUM ELEMENT NUMBER = 480

GENERATE NODES AND ELEMENTS
IN AREAS 56 TO 60 IN STEPS OF 4

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 572
MAXIMUM ELEMENT NUMBER = 504

GENERATE NODES AND ELEMENTS
IN AREAS 62 TO 65 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 608
MAXIMUM ELEMENT NUMBER = 536

GENERATE NODES AND ELEMENTS
IN AREAS 66 TO 66 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 622
MAXIMUM ELEMENT NUMBER = 552

Copy tube mesh

center half tube above and below

(A's 69-75,76-82)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 848
 MAXIMUM ELEMENT NUMBER = 744
 (A's 83-89,90-96,97-103)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1187
 MAXIMUM ELEMENT NUMBER = 1032

center fuel tube above and below
 (A's 104-112,113-121)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1605
 MAXIMUM ELEMENT NUMBER = 1416
 (A's 122-130,131-139,140-148)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2232
 MAXIMUM ELEMENT NUMBER = 1992
 (A's 149-157)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .183 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2441
 MAXIMUM ELEMENT NUMBER = 2184
 (A's 158-166,167-175)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2859
 MAXIMUM ELEMENT NUMBER = 2568
 (A's 176-184,185-193,194-202)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3486
 MAXIMUM ELEMENT NUMBER = 3144

side edge fuel tube above and below
 (A's 203-210)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3681
 MAXIMUM ELEMENT NUMBER = 3320
 (A's 211-218,219-226)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 4071
 MAXIMUM ELEMENT NUMBER = 3672

edge half tube bottom (13)
 (A's 227-232)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 55 TO 60 IN STEPS OF 1

MAXIMUM NODE NUMBER = 4176
 MAXIMUM ELEMENT NUMBER = 3760

Define thin stainless layers
 (K's 380,381,382,383,384,385,286,387,388,389, through 397)
 (A's 233 - 301)

KEYPOINT	380	X,Y,Z=	.912876E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	381	X,Y,Z=	.912876E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	382	X,Y,Z=	.912876E-01	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	383	X,Y,Z=	.936752E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	384	X,Y,Z=	.271475	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	385	X,Y,Z=	.276250	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	386	X,Y,Z=	.456438	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	387	X,Y,Z=	.456438	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	388	X,Y,Z=	.456438	.367538	.000000E+00	IN CSYS= 0
KEYPOINT	389	X,Y,Z=	.458826	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	390	X,Y,Z=	.630276	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	391	X,Y,Z=	.630276	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	392	X,Y,Z=	.458826	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	393	X,Y,Z=	.456438	-.367538	.000000E+00	IN CSYS= 0
KEYPOINT	394	X,Y,Z=	.456438	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	395	X,Y,Z=	.456438	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	396	X,Y,Z=	.276250	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	397	X,Y,Z=	.271475	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	398	X,Y,Z=	.936752E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	399	X,Y,Z=	.912876E-01	-.550113	.000000E+00	IN CSYS= 0
KEYPOINT	400	X,Y,Z=	.912876E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	401	X,Y,Z=	.912876E-01	-.721563	.000000E+00	IN CSYS= 0

DEFINE AREA BY LIST OF KEYPOINTS
 KEYPOINT LIST = 152 116 117 153

AREA NUMBER = 233

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 117 382 381 153

AREA NUMBER = 234

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 381 383 213 153

AREA NUMBER = 235

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 117 115 380 382

AREA NUMBER = 236

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 153 213 207 149

AREA NUMBER = 237

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 213 383 384 212

AREA NUMBER = 238

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 212 384 385 285

AREA NUMBER = 239

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 285 385 386 284

AREA NUMBER = 240

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 212 285 279 206

AREA NUMBER = 241

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 284 386 388 278

AREA NUMBER = 242

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 278 388 387 272

AREA NUMBER = 243

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 272 387 389 333

AREA NUMBER = 244

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 272 333 327 266

AREA NUMBER = 245

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 333 389 390 332

AREA NUMBER = 246

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 278 272 273 279

AREA NUMBER = 247

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 206 279 273 200

AREA NUMBER = 248

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 273 267 194

AREA NUMBER = 249

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 200 206 207 201

AREA NUMBER = 250

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 207 201

AREA NUMBER = 251

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 201 195 137

AREA NUMBER = 252

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 141 149 146 140

AREA NUMBER = 253

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 88 134 137 92

AREA NUMBER = 254

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 137 195 105

AREA NUMBER = 255

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 92 105 95 89

AREA NUMBER = 256

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 105 195 194 106

AREA NUMBER = 257

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 194 267 261

AREA NUMBER = 258

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 106 261 255 96

AREA NUMBER = 259

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 261 267 266 260

AREA NUMBER = 260

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 266 327 128

AREA NUMBER = 261

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 128 126 254

AREA NUMBER = 262

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 128 327 326 129

AREA NUMBER = 263

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 126 345

AREA NUMBER = 264

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 345 339 290

AREA NUMBER = 265

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 345 126 127 344

AREA NUMBER = 266

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 255 297

AREA NUMBER = 267

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 255 297

AREA NUMBER = 268

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 297 291 218

AREA NUMBER = 269

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 95 225

AREA NUMBER = 270

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 95 225

AREA NUMBER = 271

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 83 164

AREA NUMBER = 272

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 225 219 161

AREA NUMBER = 273

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 219 237

AREA NUMBER = 274

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 158 176

AREA NUMBER = 275

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 177 237 231 173

AREA NUMBER = 276

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 237 219 218 236

AREA NUMBER = 277

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 236 218 291 309

AREA NUMBER = 278

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 236 309 303 230

AREA NUMBER = 279

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 309 291 290 308

AREA NUMBER = 280

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 308 290 339 357

AREA NUMBER = 281

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 308 357 351 302

AREA NUMBER = 282

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 357 339 338 356

AREA NUMBER = 283

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 350 391 392 351

AREA NUMBER = 284

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 351 392 394 302

AREA NUMBER = 285

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 302 394 393 320

AREA NUMBER = 286

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 320 393 395 314

AREA NUMBER = 287

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 320 302 303 321

AREA NUMBER = 288

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 230 303 321

AREA NUMBER = 289

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 321 315 242

AREA NUMBER = 290

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 248 230 231 249

AREA NUMBER = 291

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 173 231 249

AREA NUMBER = 292

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 173 170 188

AREA NUMBER = 293

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 189 249 243 185

AREA NUMBER = 294

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 243 398 400 185

AREA NUMBER = 295

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 185 400 399 363

AREA NUMBER = 296

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 363 185 182 362

AREA NUMBER = 297

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 363 399 401 368

AREA NUMBER = 298

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 398 243 242 397

AREA NUMBER = 299

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 242 315 396 397

AREA NUMBER = 300

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 315 314 395 396

AREA NUMBER = 301

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

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

GENERATE NODES AND ELEMENTS
IN AREAS 233 TO 301 IN STEPS OF 1

NUMBER OF AREAS MESHED = 69
MAXIMUM NODE NUMBER = 4268
MAXIMUM ELEMENT NUMBER = 4123

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 20.680 TIME= 03:55:10
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Create mesh in tube guides
(L's 686,687,688)

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SET DIVISIONS ON LINE 47 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 48 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 49 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 50 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 51 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 52 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 53 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 55 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 56 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 57 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 58 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 59 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 60 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 61 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 62 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 63 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 64 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 65 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 66 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 67 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 68 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 69 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 70 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 71 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 72 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 73 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 74 (IF SELECTED AND UNMESHED)
TO NDIV = 38, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 75 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 76 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 77 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 78 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 79 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 80 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 81 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 82 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 83 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 84 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 85 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 86 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 87 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 88 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 89 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 90 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 91 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 92 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 93 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 94 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 95 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 96 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 97 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 98 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 99 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 100 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 101 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 102 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 103 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 104 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 105 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 106 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 107 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 108 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 109 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 110 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 111 (IF SELECTED AND UNMESHED)


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TO NDIV = 2, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 112 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 113 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 114 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 59 STEP 1
2 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 54 STEP 1
3 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 686 KP1= 49 KP2= 52
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1
2 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 80 STEP 1
4 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 83 TO 84 STEP 1
6 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 87 TO 87 STEP 1
7 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 687 KP1= 29 KP2= 36
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 104 TO 106 STEP 1
3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 688 KP1= 76 KP2= 73
ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 688 STEP 1
688 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.
MATERIAL NUMBER SET TO 1
ELEMENT TYPE SET TO 1
```

GENERATE NODES AND ELEMENTS
IN AREAS 19 TO 38 IN STEPS OF 1

*** WARNING *** CP= 21.930 TIME= 03:55:12
Meshing of area 21 produced 10 poorly shaped elements.

*** NOTE *** CP= 21.930 TIME= 03:55:12
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4167 4168 4169 4170 4171 4185 4186 4187 4188 4189

*** WARNING *** CP= 22.280 TIME= 03:55:12
Meshing of area 27 produced 28 poorly shaped elements.

*** NOTE *** CP= 22.280 TIME= 03:55:12
Worst shape angle is 27 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4274 4275 4276 4277 4278 4286 4287 4290 4291 4299
4300 4301 4302 4303 4312 4313 4314 4315 4316 4324
4325 4328 4329 4337 4338 4339 4340 4341

*** WARNING *** CP= 22.580 TIME= 03:55:12
Meshing of area 35 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.580 TIME= 03:55:12
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4438 4439 4440 4441 4442 4443 4444 4445 4446 4447

NUMBER OF AREAS MESHED = 20
MAXIMUM NODE NUMBER = 4871
MAXIMUM ELEMENT NUMBER = 4515

Create mesh in MPC shell
(L's 689,690,691)

SET DIVISIONS ON LINE 22 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 23 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 25 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 29 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 30 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 32 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 34 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 36 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 37 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 38 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 39 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 41 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 43 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 44 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 44 STEP 1

23 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 689 KP1= 21 KP2= 44

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 689 STEP 1

689 LINES (OF 689 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 17 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 18 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 21 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 45 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

CONCATENATE LINES
LINES = 17 18

COMPOSITE LINE NO.= 690 KP1= 18 KP2= 20

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

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 6 TO 6 IN STEPS OF 1

*** WARNING *** CP= 24.840 TIME= 03:55:14
Meshing of area 6 produced 54 poorly shaped elements.

*** NOTE *** CP= 24.840 TIME= 03:55:14
Worst shape angle is 36 degrees.

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

4540	4541	4542	4543	4544	4545	4546	4547	4548	4611
4613	4614	4615	4616	4617	4651	4652	4653	4705	4706
4707	4708	4709	4710	4711	4712	4713	4756	4757	4758
4759	4760	4761	4762	4763	4764	4816	4817	4818	4852
4853	4854	4856	4857	4860	4921	4922	4923	4924	4925
4926	4927	4928	4929						

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 5430
 MAXIMUM ELEMENT NUMBER = 4953
 Assume vacuum between shell and inner barrier

SET DIVISIONS ON LINE 14 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 13 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 19 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 20 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

CONCATENATE LINES
 LINES = 14 13

COMPOSITE LINE NO.= 691 KP1= 17 KP2= 15

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

No MAT,7,
 No TYPE,1,
 No AMESH,5,
 Delete concatenated lines
 (L's freed up 686,687,688,689,690,691)

DELETE SELECTED LINES FROM 686 TO 691 BY 1

DELETED 6 LINES

 Create mesh in inner and outer barrier

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 10 STEP 1

4 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 73, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 691 STEP 1

685 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 6 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 15 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 16 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

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

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

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

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 6018
MAXIMUM ELEMENT NUMBER = 5391

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 = 6459
MAXIMUM ELEMENT NUMBER = 5829

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

SET DIVISIONS ON LINE 46 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 115 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

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 7 TO 7 IN STEPS OF 1
** AREA 7 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 28.640 TIME= 03:55:18
Meshing of area 7 produced 1 poorly shaped elements..

*** NOTE *** CP= 28.640 TIME= 03:55:18
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
5830

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6459
MAXIMUM ELEMENT NUMBER = 5833

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	8 TO	11 IN STEPS OF	1
** AREA	9 MESHED WITH	82 QUADRILATERALS,	21 TRIANGLES **
** AREA	10 MESHED WITH	78 QUADRILATERALS,	19 TRIANGLES **
** AREA	11 MESHED WITH	24 QUADRILATERALS,	7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 6704
 MAXIMUM ELEMENT NUMBER = 6168

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	12 TO	13 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 6746
 MAXIMUM ELEMENT NUMBER = 6232

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	14 TO	16 IN STEPS OF	1
** AREA	14 MESHED WITH	25 QUADRILATERALS,	11 TRIANGLES **
** AREA	15 MESHED WITH	74 QUADRILATERALS,	23 TRIANGLES **
** AREA	16 MESHED WITH	75 QUADRILATERALS,	21 TRIANGLES **

NUMBER OF AREAS MESHED = 3
 MAXIMUM NODE NUMBER = 6901
 MAXIMUM ELEMENT NUMBER = 6461

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	17 TO	17 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 6985
 MAXIMUM ELEMENT NUMBER = 6565

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	18 TO	18 IN STEPS OF	1
** AREA	18 MESHED WITH	3 QUADRILATERALS,	1 TRIANGLES **

*** WARNING *** CP= 31.910 TIME= 03:55:22
Meshing of area 18 produced 1 poorly shaped elements.

*** NOTE *** CP= 31.910 TIME= 03:55:22
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
6566

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6985
MAXIMUM ELEMENT NUMBER = 6569

Define mesh and radiation surface elements for
tube/guides gap
(L's 686,687)
(A's 302)

LINE CONNECTS KEYPOINTS 47 111
LINE NO.= 686 KP1= 47 TAN1= .0000 1.0000 .0000
KP2= 111 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 366 82
LINE NO.= 687 KP1= 366 TAN1= .0000 1.0000 .0000
KP2= 82 TAN2= .0000 -1.0000 .0000

Select lines around tubes

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 686 TO 686 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 165 TO 165 STEP 1

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 159 TO 159 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 580 TO 580 STEP 1

4 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 581 TO 581 STEP 1

5 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 575 TO 575 STEP 1

6 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 577 TO 577 STEP 1

7 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 583 TO 583 STEP 1

8 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 585 TO 585 STEP 1

9 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 588 TO 588 STEP 1

10 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 591 TO 591 STEP 1

11 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 593 TO 593 STEP 1

12 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 596 TO 596 STEP 1

13 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 600 TO 600 STEP 1

14 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 601 TO 601 STEP 1

15 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 512 TO 512 STEP 1

16 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 517 TO 517 STEP 1

17 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 506 TO 506 STEP 1

18 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 624 TO 624 STEP 1

19 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 177 TO 177 STEP 1

20 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 188 TO 188 STEP 1

21 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 174 TO 174 STEP 1

22 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 629 TO 629 STEP 1

23 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 531 TO 531 STEP 1

24 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 536 TO 536 STEP 1

25 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 525 TO 525 STEP 1

26 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 652 TO 652 STEP 1

27 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 550 TO 550 STEP 1

28 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 555 TO 555 STEP 1

29 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 544 TO 544 STEP 1

30 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 653 TO 653 STEP 1

31 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 654 TO 654 STEP 1

32 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 656 TO 656 STEP 1

33 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 658 TO 658 STEP 1

34 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 661 TO 661 STEP 1

35 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 685 TO 685 STEP 1

36 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 684 TO 684 STEP 1

37 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 682 TO 682 STEP 1

38 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 673 TO 673 STEP 1

39 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 675 TO 675 STEP 1

40 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 679 TO 679 STEP 1

41 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 680 TO 680 STEP 1

42 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 570 TO 570 STEP 1

43 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 567 TO 567 STEP 1

44 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 687 TO 687 STEP 1

45 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Select lines around tube guides

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 112 TO 112 STEP 1

46 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

47 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 43 TO 43 STEP 1

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

49 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 102 TO 102 STEP 1

50 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 99 TO 99 STEP 1

51 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

53 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 37 TO 37 STEP 1

54 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

55 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

56 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

57 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

58 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 72 TO 72 STEP 1

59 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

60 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

61 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

62 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

63 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 23 STEP 1

64 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 49 TO 49 STEP 1

65 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 50 TO 50 STEP 1

66 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

Define area

DEFINE AREA BY LIST OF LINES

LINE LIST = ALL SELECTED LINES

(TRAVERSED IN SAME DIRECTION AS LINE 23)

AREA NUMBER = 302

Create radiation surface elements

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

339 NODES (OF 6985 DEFINED) SELECTED FROM

66 SELECTED LINES BY NSLL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 7

GENERATE ELEMENTS ON SURFACE DEFINED BY SELECTED NODES

TYPE= 7 REAL= 1 MATERIAL= 1 ESYS= 0

NUMBER OF ELEMENTS GENERATED= 337

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=

IN RANGE 1 TO 6985 STEP 1

6985 NODES (OF 6985 DEFINED) SELECTED BY NSEL COMMAND.

Mesh gap

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:

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

SET DIVISIONS ON LINE 686 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 687 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS 302 TO 302 IN STEPS OF 1

** AREA 302 MESHED WITH 102 QUADRILATERALS, 190 TRIANGLES **

*** WARNING ***

CP= 51.630 TIME= 03:55:42

Meshing of area 302 produced 7 poorly shaped elements.

*** NOTE ***

CP= 51.630 TIME= 03:55:42

Worst aspect ratio is 92.192168 : 1.

*** NOTE ***

CP= 51.630 TIME= 03:55:42

Worst shape angle is 2 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
6914 6922 6978 6979 7110 7133 7159

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7198

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

Create other radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 22 TO 22 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7202

GENERATE NODES AND ELEMENTS
ON LINES 25 TO 27 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7225

GENERATE NODES AND ELEMENTS
ON LINES 28 TO 38 IN STEPS OF 2

NUMBER OF LINES MESHED = 6
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7287

GENERATE NODES AND ELEMENTS
ON LINES 39 TO 41 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7310

GENERATE NODES AND ELEMENTS
ON LINES 44 TO 44 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7314

GENERATE NODES AND ELEMENTS
ON LINES 46 TO 48 IN STEPS OF 2

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7319

GENERATE NODES AND ELEMENTS
ON LINES 53 TO 54 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7340

GENERATE NODES AND ELEMENTS
ON LINES 56 TO 57 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7366

GENERATE NODES AND ELEMENTS
 ON LINES 59 TO 59 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7374

GENERATE NODES AND ELEMENTS
 ON LINES 61 TO 64 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7380

GENERATE NODES AND ELEMENTS
 ON LINES 67 TO 70 IN STEPS OF 3

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7402

GENERATE NODES AND ELEMENTS
 ON LINES 75 TO 75 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7410

GENERATE NODES AND ELEMENTS
 ON LINES 77 TO 79 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7426

GENERATE NODES AND ELEMENTS
 ON LINES 81 TO 83 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7442

GENERATE NODES AND ELEMENTS
 ON LINES 85 TO 87 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7458

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 97 IN STEPS OF 1

NUMBER OF LINES MESHED = 6
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7486

GENERATE NODES AND ELEMENTS
 ON LINES 104 TO 104 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7494

GENERATE NODES AND ELEMENTS
 ON LINES 106 TO 107 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7515

GENERATE NODES AND ELEMENTS
ON LINES 109 TO 110 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7541

GENERATE NODES AND ELEMENTS
ON LINES 114 TO 115 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7546
MPC shell/inner barrier gap

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 17 TO 18 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7692

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 13 TO 14 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7838

***** ROUTINE COMPLETED ***** CP = 51.960

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

6806 ELEMENTS (OF 7838 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=
40 BWR MPC/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

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

685 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

977 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:55:51 APR 10, 1995 CP= 60.140
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

339 NODES (OF 7016 DEFINED) SELECTED FROM
337 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= tubegap.sub

*** WARNING *** CP= 60.480 TIME= 03:55:51
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= 337 NUMBER OF NODES= 339

800 ZONES CREATE 1600 RAYS

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

348 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

346 NODES (OF 7016 DEFINED) SELECTED FROM
348 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= 75.890 TIME= 03:56:07
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= 348 NUMBER OF NODES= 346

800 ZONES CREATE 1600 RAYS

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

292 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

294 NODES (OF 7016 DEFINED) SELECTED FROM
292 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= shellgap.sub

*** WARNING *** CP= 96.010 TIME= 03:56:27
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 292 NUMBER OF NODES= 294

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.060

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:56:40 APR 10, 1995 CP= 109.060
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 7839 tubegap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7839

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7839

SUPERELEMENT 7840 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7840

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7840

SUPERELEMENT 7841 shellgap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7841

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7841
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7841 DEFINED) SELECTED BY ESEL COMMAND.

DELETE ALL SELECTED ELEMENTS.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

7504 ELEMENTS (OF 7504 DEFINED) SELECTED BY ESEL COMMAND.

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

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 109.640 TIME= 03:56:41
Nodes cannot be cleared from line 13 because area 3 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.660 TIME= 03:56:41
Nodes cannot be cleared from line 14 because area 4 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.680 TIME= 03:56:41
Nodes cannot be cleared from line 17 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.700 TIME= 03:56:41
Nodes cannot be cleared from line 18 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.720 TIME= 03:56:41
Nodes cannot be cleared from line 22 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.730 TIME= 03:56:41
Nodes cannot be cleared from line 25 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.730 TIME= 03:56:41
Nodes cannot be cleared from line 27 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.740 TIME= 03:56:41
Nodes cannot be cleared from line 28 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.740 TIME= 03:56:41
Nodes cannot be cleared from line 30 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.750 TIME= 03:56:41
Nodes cannot be cleared from line 32 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.750 TIME= 03:56:41
Nodes cannot be cleared from line 34 because area 13 is meshed. Only

elements are deleted.

*** NOTE *** CP= 109.750 TIME= 03:56:41
Nodes cannot be cleared from line 36 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.760 TIME= 03:56:41
Nodes cannot be cleared from line 38 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.760 TIME= 03:56:41
Nodes cannot be cleared from line 39 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.770 TIME= 03:56:41
Nodes cannot be cleared from line 41 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.770 TIME= 03:56:41
Nodes cannot be cleared from line 44 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.780 TIME= 03:56:41
Nodes cannot be cleared from line 46 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.780 TIME= 03:56:41
Nodes cannot be cleared from line 48 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.780 TIME= 03:56:41
Nodes cannot be cleared from line 53 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.790 TIME= 03:56:41
Nodes cannot be cleared from line 54 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.790 TIME= 03:56:41
Nodes cannot be cleared from line 56 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.800 TIME= 03:56:41
Nodes cannot be cleared from line 57 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.800 TIME= 03:56:41
Nodes cannot be cleared from line 59 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.810 TIME= 03:56:41
Nodes cannot be cleared from line 61 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.810 TIME= 03:56:41
Nodes cannot be cleared from line 62 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.810 TIME= 03:56:41
Nodes cannot be cleared from line 63 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.810 TIME= 03:56:41
Nodes cannot be cleared from line 64 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.820 TIME= 03:56:41
Nodes cannot be cleared from line 67 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.820 TIME= 03:56:41
Nodes cannot be cleared from line 70 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.830 TIME= 03:56:41
Nodes cannot be cleared from line 75 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.830 TIME= 03:56:41
Nodes cannot be cleared from line 77 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.830 TIME= 03:56:41
Nodes cannot be cleared from line 78 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.840 TIME= 03:56:41
Nodes cannot be cleared from line 79 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.840 TIME= 03:56:41
Nodes cannot be cleared from line 81 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.840 TIME= 03:56:41
Nodes cannot be cleared from line 82 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.850 TIME= 03:56:41
Nodes cannot be cleared from line 83 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.850 TIME= 03:56:41
Nodes cannot be cleared from line 85 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.850 TIME= 03:56:41
Nodes cannot be cleared from line 86 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.860 TIME= 03:56:41
Nodes cannot be cleared from line 87 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.860 TIME= 03:56:41
Nodes cannot be cleared from line 92 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.870 TIME= 03:56:41
Nodes cannot be cleared from line 93 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.870 TIME= 03:56:41
Nodes cannot be cleared from line 94 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.870 TIME= 03:56:41
Nodes cannot be cleared from line 95 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.880 TIME= 03:56:41
Nodes cannot be cleared from line 96 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.880 TIME= 03:56:41
Nodes cannot be cleared from line 97 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.880 TIME= 03:56:41
Nodes cannot be cleared from line 104 because area 16 is meshed. Only

elements are deleted.

*** NOTE *** CP= 109.890 TIME= 03:56:41
Nodes cannot be cleared from line 106 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.890 TIME= 03:56:41
Nodes cannot be cleared from line 107 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.890 TIME= 03:56:41
Nodes cannot be cleared from line 109 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.900 TIME= 03:56:41
Nodes cannot be cleared from line 110 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.900 TIME= 03:56:41
Nodes cannot be cleared from line 114 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 109.910 TIME= 03:56:41
Nodes cannot be cleared from line 115 because area 18 is meshed. Only
elements are deleted.

CLEARED 52 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.920

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= 109.930 TIME= 03:56:41
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 7 TO 7 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 7016 BY 1
REAL= 26.1409103 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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= 111.800 TIME= 03:56:43
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 03:56:43 APR 10, 1995 CP= 111.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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= 113.170 TIME= 03:56:44
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 113.740 TIME= 03:56:45
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER1
 TIME AT END OF THE LOAD STEP1.0000E-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 = 5207.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .37700	IXX = 1018.	IXX = 1018.
YC = .46170E-08	IYY = 1033.	IYY = 293.3
ZC = .00000E+00	IZZ = 2052.	IZZ = 1312.
	IXY = -.2533E-05	IXY = .6532E-05
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
 1 5207.87

Range of element maximum matrix coefficients in global coordinates
 Maximum= 517.858581 at element 972.
 Minimum= 9.524656763E-10 at element 7841.

*** WARNING *** CP= 139.850 TIME= 03:57:13
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	16.930	.002
18	3	MATRIX50	.440	.147

Time at end of element matrix formulation CP= 139.85.
 HT FLOW CONVERGENCE VALUE= .1009E+05 CRITERION= 10.09

Estimated number of active DOF= 6869.
Maximum wavefront= 691.

Time at end of matrix triangularization CP= 229.36.
Equation solver maximum pivot= 1604.85465 at node 3170 TEMP.
Equation solver minimum pivot= 0.234557569 at node 6681 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 495.5
HT FLOW CONVERGENCE VALUE= 1906. CRITERION= .2606
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -177.1
HT FLOW CONVERGENCE VALUE= 301.5 CRITERION= .7077
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -67.31
HT FLOW CONVERGENCE VALUE= 94.01 CRITERION= .3638
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.21
HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .2720
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.251
HT FLOW CONVERGENCE VALUE= 1.746 CRITERION= .2598
EQUIL ITER 6 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3291
HT FLOW CONVERGENCE VALUE= .3681 CRITERION= .2606
EQUIL ITER 7 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5938E-01
HT FLOW CONVERGENCE VALUE= .4634E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 7

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	9.650	.001
18	3	MATRIX50	.580	.193

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	1.480	.000
18	3	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 6869
R.M.S. WAVEFRONT SIZE = 269.8

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
4.938 MB WRITTEN ON ELEMENT MATRIX FILE: ma40j1.emat
3.078 MB WRITTEN ON ELEMENT SAVED DATA FILE: ma40j1.esav
12.609 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ma40j1.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ma40j1.dsub
3.734 MB WRITTEN ON RESULTS FILE: ma40j1.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 8 TO 8 STEP 1
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 7016 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 147

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.961 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.991 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.059 .00000E+00 EXPANSION KEY = 1

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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 = 147

*** WARNING *** CP= 940.730 TIME= 04:10:43
This load step will be a static (steady-state) step.

*** NOTE *** CP= 941.300 TIME= 04:10:44
The step data was checked and warning messages were found.
Please review output or errors file (ma40j1.err) for these warning
messages.

*** NOTE *** CP= 941.300 TIME= 04:10:44
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:10:44 APR 10, 1995 CP= 941.300
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
TIME AT END OF THE LOAD STEP.20000E-05
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 0
MAXIMUM NUMBER OF SUBSTEPS 0
MINIMUM NUMBER OF SUBSTEPS 1
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS OFF
TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
CONVERGENCE CONTROLS. USE DEFAULTS
PRINT OUTPUT CONTROLS NO PRINTOUT
DATABASE OUTPUT CONTROLS. ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1654E+05 CRITERION= 16.54
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.16
HT FLOW CONVERGENCE VALUE= 52.61 CRITERION= .2738
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.46
HT FLOW CONVERGENCE VALUE= 14.71 CRITERION= .2729
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.105
HT FLOW CONVERGENCE VALUE= 1.084 CRITERION= .2611
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2830
HT FLOW CONVERGENCE VALUE= .2769 CRITERION= .2607
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2393E-01
HT FLOW CONVERGENCE VALUE= .2043E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 5
*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 12
*** 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 4 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.961 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.991 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.059 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 1215.050 TIME= 04:15:21
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 04:15:21 APR 10, 1995 CP= 1215.050
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .2043E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1388E-03
 HT FLOW CONVERGENCE VALUE= .4119E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 13
 *** TIME = .788942 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .7661 OSCILLATION LIMIT = .6044
 *** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3728E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6069E-04
 HT FLOW CONVERGENCE VALUE= .4695E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 14
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .2025 OSCILLATION LIMIT = .1598
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .3363E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8296E-04
 HT FLOW CONVERGENCE VALUE= .1086E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 15
 *** TIME = 3.94470 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .9317E-01 OSCILLATION LIMIT = .2205
 *** AUTO TIME STEP: NEXT TIME INC = 5.3665 INCREASED (FACTOR = 2.2674)

HT FLOW CONVERGENCE VALUE= .2959E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5903E-04
 HT FLOW CONVERGENCE VALUE= .1694E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 16
 *** TIME = 9.31124 TIME INC = 5.36654
 *** RESPONSE EIGENVALUE = .3304E-01 OSCILLATION LIMIT = .1773
 *** AUTO TIME STEP: NEXT TIME INC = 7.8894 INCREASED (FACTOR = 1.4701)

HT FLOW CONVERGENCE VALUE= .2697E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1795E-04
 HT FLOW CONVERGENCE VALUE= .1683E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 17
 *** TIME = 17.2006 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .1163E-01 OSCILLATION LIMIT = .9178E-01
 *** AUTO STEP TIME: NEXT TIME INC = 7.8894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2521E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2367E-04
 HT FLOW CONVERGENCE VALUE= .1351E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 18
 *** TIME = 25.0900 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .6575E-02 OSCILLATION LIMIT = .5187E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.4676 DECREASED (FACTOR = .8198)

HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1531E-04
 HT FLOW CONVERGENCE VALUE= .9882E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 19
 *** TIME = 31.5576 TIME INC = 6.46756
 *** RESPONSE EIGENVALUE = .4853E-02 OSCILLATION LIMIT = .3139E-01

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 04:26:09 APR 10, 1995 CP= 1855.320
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 261.5 CRITERION= .3694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7356
HT FLOW CONVERGENCE VALUE= .6757 CRITERION= .2598
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1162
HT FLOW CONVERGENCE VALUE= .1320 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 21
*** TIME = 78925.6 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1631E-05 OSCILLATION LIMIT = .1287
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 261.9 CRITERION= .3688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7364
HT FLOW CONVERGENCE VALUE= .7526 CRITERION= .2603
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1116
HT FLOW CONVERGENCE VALUE= .1281 CRITERION= .2605 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 23
*** TIME = 157820. TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8144E-06 OSCILLATION LIMIT = .6425E-01
*** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 784.5 CRITERION= .8267
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.207
HT FLOW CONVERGENCE VALUE= 2.344 CRITERION= .2597
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4887
HT FLOW CONVERGENCE VALUE= .5219 CRITERION= .2599
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4184E-01
HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .2595 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 26
*** TIME = 394502. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .3485E-06 OSCILLATION LIMIT = .8248E-01
*** AUTO STEP TIME: NEXT TIME INC = .23668E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 784.8 CRITERION= .8264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.207
HT FLOW CONVERGENCE VALUE= 2.378 CRITERION= .2603
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4932
HT FLOW CONVERGENCE VALUE= .5221 CRITERION= .2606
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .2981E-01 CRITERION= .2602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 29
*** TIME = 631184. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .4345E-06 OSCILLATION LIMIT = .1028
*** AUTO TIME STEP: NEXT TIME INC = .71005E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 2353. CRITERION= 2.367
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 6.620
HT FLOW CONVERGENCE VALUE= 7.194 CRITERION= .2602
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.784
HT FLOW CONVERGENCE VALUE= 1.807 CRITERION= .2605
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1602
HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .2592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 32
*** TIME = .134123E+07 TIME INC = 710046.
*** RESPONSE EIGENVALUE = .3970E-06 OSCILLATION LIMIT = .2819
*** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 2614. CRITERION= 2.626
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.356
HT FLOW CONVERGENCE VALUE= 7.947 CRITERION= .2607

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.969
 HT FLOW CONVERGENCE VALUE= 1.959 CRITERION= .2611
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1721
 HT FLOW CONVERGENCE VALUE= .1158 CRITERION= .2596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 35
 *** TIME = .213017E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4239E-06 OSCILLATION LIMIT = .3344
 *** AUTO TIME STEP: NEXT TIME INC = .51281E+06 DECREASED (FACTOR = .6500)

HT FLOW CONVERGENCE VALUE= 1698. CRITERION= 1.717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.781
 HT FLOW CONVERGENCE VALUE= 4.805 CRITERION= .2593
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.191
 HT FLOW CONVERGENCE VALUE= 1.180 CRITERION= .2596
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1017
 HT FLOW CONVERGENCE VALUE= .6614E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 38
 *** TIME = .264298E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .4099E-06 OSCILLATION LIMIT = .2102
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1698. CRITERION= 1.717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.781
 HT FLOW CONVERGENCE VALUE= 4.597 CRITERION= .2598
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.181
 HT FLOW CONVERGENCE VALUE= 1.161 CRITERION= .2601
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1003
 HT FLOW CONVERGENCE VALUE= .6409E-01 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 41
 *** TIME = .315579E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .4418E-06 OSCILLATION LIMIT = .2265

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:49:08 APR 10, 1995 CP= 3214.360
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 335.0 CRITERION= .4236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8842
 HT FLOW CONVERGENCE VALUE= 1.051 CRITERION= .2596
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2475
 HT FLOW CONVERGENCE VALUE= .2261 CRITERION= .2598 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 43
 *** TIME = .366860E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .3147E-06 OSCILLATION LIMIT = .1614
 *** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 335.1 CRITERION= .4240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8766
 HT FLOW CONVERGENCE VALUE= .7955 CRITERION= .2594
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2122
 HT FLOW CONVERGENCE VALUE= .2301 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 45
 *** TIME = .418141E+07 TIME INC = 512811.
 *** RESPONSE EIGENVALUE = .2263E-05 OSCILLATION LIMIT = 1.161
 *** AUTO TIME STEP: NEXT TIME INC = .22091E+06 DECREASED (FACTOR = .4308)

HT FLOW CONVERGENCE VALUE= 144.3 CRITERION= .2968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3776
 HT FLOW CONVERGENCE VALUE= .4239 CRITERION= .2592

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8407E-01
 HT FLOW CONVERGENCE VALUE= .7954E-01 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 47
 *** TIME = .440232E+07 TIME INC = 220908.
 *** RESPONSE EIGENVALUE = .7594E-07 OSCILLATION LIMIT = .1678E-01
 *** AUTO STEP TIME: NEXT TIME INC = .22091E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.4 CRITERION= .2967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3776
 HT FLOW CONVERGENCE VALUE= .3556 CRITERION= .2592
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7758E-01
 HT FLOW CONVERGENCE VALUE= .8358E-01 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 49
 *** TIME = .462323E+07 TIME INC = 220908.
 *** RESPONSE EIGENVALUE = .1041E-05 OSCILLATION LIMIT = .2299
 *** AUTO TIME STEP: NEXT TIME INC = .48050E+06 INCREASED (FACTOR = 2.1751)

HT FLOW CONVERGENCE VALUE= 313.9 CRITERION= .4071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8213
 HT FLOW CONVERGENCE VALUE= .8133 CRITERION= .2591
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2097
 HT FLOW CONVERGENCE VALUE= .2103 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 51
 *** TIME = .510373E+07 TIME INC = 480498.
 *** RESPONSE EIGENVALUE = .8517E-06 OSCILLATION LIMIT = .4093
 *** AUTO STEP TIME: NEXT TIME INC = .48050E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 314.1 CRITERION= .4071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8213
 HT FLOW CONVERGENCE VALUE= .8050 CRITERION= .2591
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2059
 HT FLOW CONVERGENCE VALUE= .2077 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 53
 *** TIME = .558423E+07 TIME INC = 480498.
 *** RESPONSE EIGENVALUE = .7594E-06 OSCILLATION LIMIT = .3649
 *** AUTO STEP TIME: NEXT TIME INC = .48050E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 314.3 CRITERION= .4072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8213
 HT FLOW CONVERGENCE VALUE= .8004 CRITERION= .2589
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2078
 HT FLOW CONVERGENCE VALUE= .2072 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 55
 *** TIME = .606472E+07 TIME INC = 480498.
 *** RESPONSE EIGENVALUE = .7548E-06 OSCILLATION LIMIT = .3627
 *** AUTO TIME STEP: NEXT TIME INC = .24683E+06 DECREASED (FACTOR = .5137)

HT FLOW CONVERGENCE VALUE= 161.7 CRITERION= .3051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4219
 HT FLOW CONVERGENCE VALUE= .3928 CRITERION= .2588
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8989E-01
 HT FLOW CONVERGENCE VALUE= .9250E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 57
 *** TIME = .631155E+07 TIME INC = 246827.
 *** RESPONSE EIGENVALUE = .5534E-06 OSCILLATION LIMIT = .1366

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:07:29 APR 10, 1995 CP= 4302.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 99.97 CRITERION= .2773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2602
 HT FLOW CONVERGENCE VALUE= .2533 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 58
 *** TIME = .655838E+07 TIME INC = 246827.
 *** RESPONSE EIGENVALUE = .2546E-06 OSCILLATION LIMIT = .6283E-01
 *** AUTO STEP TIME: NEXT TIME INC = .24683E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 100.1 CRITERION= .2773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2602
 HT FLOW CONVERGENCE VALUE= .2233 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 59
 *** TIME = .680521E+07 TIME INC = 246827.
 *** RESPONSE EIGENVALUE = .8057E-06 OSCILLATION LIMIT = .1989
 *** AUTO TIME STEP: NEXT TIME INC = .62060E+06 INCREASED (FACTOR = 2.5143)

HT FLOW CONVERGENCE VALUE= 251.6 CRITERION= .3608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6541
 HT FLOW CONVERGENCE VALUE= .5759 CRITERION= .2587
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1642
 HT FLOW CONVERGENCE VALUE= .1722 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 61
 *** TIME = .742581E+07 TIME INC = 620601.
 *** RESPONSE EIGENVALUE = .1884E-05 OSCILLATION LIMIT = 1.169
 *** AUTO TIME STEP: NEXT TIME INC = .26542E+06 DECREASED (FACTOR = .4277)

HT FLOW CONVERGENCE VALUE= 107.7 CRITERION= .2799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2798
 HT FLOW CONVERGENCE VALUE= .2513 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 62
 *** TIME = .769123E+07 TIME INC = 265418.
 *** RESPONSE EIGENVALUE = .4751E-06 OSCILLATION LIMIT = .1261
 *** AUTO STEP TIME: NEXT TIME INC = .26542E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.8 CRITERION= .2799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2798
 HT FLOW CONVERGENCE VALUE= .2465 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 63
 *** TIME = .795664E+07 TIME INC = 265418.
 *** RESPONSE EIGENVALUE = .5600E-06 OSCILLATION LIMIT = .1486
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 2.9724)

HT FLOW CONVERGENCE VALUE= 320.5 CRITERION= .4116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8315
 HT FLOW CONVERGENCE VALUE= .7313 CRITERION= .2583
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2145
 HT FLOW CONVERGENCE VALUE= .2224 CRITERION= .2579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 65
 *** TIME = .874558E+07 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1824E-05 OSCILLATION LIMIT = 1.439
 *** AUTO TIME STEP: NEXT TIME INC = .27417E+06 DECREASED (FACTOR = .3475)

HT FLOW CONVERGENCE VALUE= 111.5 CRITERION= .2810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2890
 HT FLOW CONVERGENCE VALUE= .2637 CRITERION= .2578
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6248E-01
 HT FLOW CONVERGENCE VALUE= .6408E-01 CRITERION= .2577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 67
 *** TIME = .901975E+07 TIME INC = 274167.
 *** RESPONSE EIGENVALUE = .8954E-06 OSCILLATION LIMIT = .2455
 *** AUTO STEP TIME: NEXT TIME INC = .27417E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 111.6      CRITERION= .2808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2890
HT FLOW CONVERGENCE VALUE= .2651      CRITERION= .2577
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6301E-01
HT FLOW CONVERGENCE VALUE= .6483E-01  CRITERION= .2576    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 69
*** TIME = .929392E+07 TIME INC = 274167.
*** RESPONSE EIGENVALUE = .8670E-06 OSCILLATION LIMIT = .2377
*** AUTO TIME STEP: NEXT TIME INC = .17339E+06 DECREASED (FACTOR = .6324)

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HT FLOW CONVERGENCE VALUE= 70.59      CRITERION= .2671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1828
HT FLOW CONVERGENCE VALUE= .1645      CRITERION= .2576    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 70
*** TIME = .946731E+07 TIME INC = 173393.
*** RESPONSE EIGENVALUE = .8732E-06 OSCILLATION LIMIT = .1514

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 05:24:21 APR 10, 1995 CP= 5297.050
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 52.44      CRITERION= .2629
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1359
HT FLOW CONVERGENCE VALUE= .1179      CRITERION= .2577    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 71
*** TIME = .964070E+07 TIME INC = 173393.
*** RESPONSE EIGENVALUE = .4206E-06 OSCILLATION LIMIT = .7293E-01
*** AUTO STEP TIME: NEXT TIME INC = .17339E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 52.40      CRITERION= .2629
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1359
HT FLOW CONVERGENCE VALUE= .1084      CRITERION= .2575    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 72
*** TIME = .981410E+07 TIME INC = 173393.
*** RESPONSE EIGENVALUE = .3069E-05 OSCILLATION LIMIT = .5322
*** AUTO STEP TIME: NEXT TIME INC = .17339E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 52.46      CRITERION= .2628
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1359
HT FLOW CONVERGENCE VALUE= .1116      CRITERION= .2575    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 73
*** TIME = .998749E+07 TIME INC = 173393.
*** RESPONSE EIGENVALUE = .1108E-05 OSCILLATION LIMIT = .1920
*** AUTO TIME STEP: NEXT TIME INC = .45144E+06 INCREASED (FACTOR = 2.6036)

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HT FLOW CONVERGENCE VALUE= 136.5      CRITERION= .2914
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537
HT FLOW CONVERGENCE VALUE= .3041      CRITERION= .2574
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8274E-01
HT FLOW CONVERGENCE VALUE= .8781E-01  CRITERION= .2573    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 75
*** TIME = .104389E+08 TIME INC = 451441.
*** RESPONSE EIGENVALUE = .2063E-05 OSCILLATION LIMIT = .9314
*** AUTO TIME STEP: NEXT TIME INC = .24236E+06 DECREASED (FACTOR = .5368)

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HT FLOW CONVERGENCE VALUE= 73.37      CRITERION= .2675
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1899

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HT FLOW CONVERGENCE VALUE= .1645 CRITERION= .2573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 76
 *** TIME = .106813E+08 TIME INC = 242355.
 *** RESPONSE EIGENVALUE = .1017E-05 OSCILLATION LIMIT = .2466
 *** AUTO STEP TIME: NEXT TIME INC = .24236E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.34 CRITERION= .2675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1899
 HT FLOW CONVERGENCE VALUE= .1626 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 77
 *** TIME = .109236E+08 TIME INC = 242355.
 *** RESPONSE EIGENVALUE = .7118E-06 OSCILLATION LIMIT = .1725
 *** AUTO TIME STEP: NEXT TIME INC = .70243E+06 INCREASED (FACTOR = 2.8983)

HT FLOW CONVERGENCE VALUE= 212.7 CRITERION= .3337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5504
 HT FLOW CONVERGENCE VALUE= .4714 CRITERION= .2572
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1370
 HT FLOW CONVERGENCE VALUE= .1436 CRITERION= .2569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 79
 *** TIME = .116261E+08 TIME INC = 702429.
 *** RESPONSE EIGENVALUE = .2301E-05 OSCILLATION LIMIT = 1.616
 *** AUTO TIME STEP: NEXT TIME INC = .23414E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 70.94 CRITERION= .2666
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1835
 HT FLOW CONVERGENCE VALUE= .1614 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 80
 *** TIME = .118602E+08 TIME INC = 234143.
 *** RESPONSE EIGENVALUE = .7936E-06 OSCILLATION LIMIT = .1858
 *** AUTO STEP TIME: NEXT TIME INC = .23414E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 71.01 CRITERION= .2664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1835
 HT FLOW CONVERGENCE VALUE= .1567 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 81
 *** TIME = .120944E+08 TIME INC = 234143.
 *** RESPONSE EIGENVALUE = .6747E-06 OSCILLATION LIMIT = .1580
 *** AUTO TIME STEP: NEXT TIME INC = .52871E+06 INCREASED (FACTOR = 2.2581)

HT FLOW CONVERGENCE VALUE= 160.3 CRITERION= .3027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4143
 HT FLOW CONVERGENCE VALUE= .3493 CRITERION= .2567
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9784E-01
 HT FLOW CONVERGENCE VALUE= .1041 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 83
 *** TIME = .126231E+08 TIME INC = 528714.
 *** RESPONSE EIGENVALUE = .2466E-05 OSCILLATION LIMIT = 1.304

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:41:56 APR 10, 1995 CP= 6335.000
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 128.2 CRITERION= .2868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3310
 HT FLOW CONVERGENCE VALUE= .2922 CRITERION= .2566
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8034E-01
 HT FLOW CONVERGENCE VALUE= .8210E-01 CRITERION= .2564 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 85
*** TIME = .131518E+08 TIME INC = 528714.
*** RESPONSE EIGENVALUE = .1758E-05 OSCILLATION LIMIT = .9294
*** AUTO TIME STEP: NEXT TIME INC = .28445E+06 DECREASED (FACTOR = .5380)

HT FLOW CONVERGENCE VALUE= 68.95 CRITERION= .2655
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1781
HT FLOW CONVERGENCE VALUE= .1551 CRITERION= .2563 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 86
*** TIME = .134362E+08 TIME INC = 284453.
*** RESPONSE EIGENVALUE = .1006E-05 OSCILLATION LIMIT = .2861
*** AUTO STEP TIME: NEXT TIME INC = .28445E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.04 CRITERION= .2654
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1781
HT FLOW CONVERGENCE VALUE= .1479 CRITERION= .2563 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 87
*** TIME = .137207E+08 TIME INC = 284453.
*** RESPONSE EIGENVALUE = .1134E-05 OSCILLATION LIMIT = .3226
*** AUTO STEP TIME: NEXT TIME INC = .28445E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.99 CRITERION= .2655
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1781
HT FLOW CONVERGENCE VALUE= .1408 CRITERION= .2562 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 88
*** TIME = .140051E+08 TIME INC = 284453.
*** RESPONSE EIGENVALUE = .2727E-05 OSCILLATION LIMIT = .7757
*** AUTO TIME STEP: NEXT TIME INC = .18335E+06 DECREASED (FACTOR = .6446)

HT FLOW CONVERGENCE VALUE= 44.54 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1148
HT FLOW CONVERGENCE VALUE= .9113E-01 CRITERION= .2561 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 89
*** TIME = .141885E+08 TIME INC = 183348.
*** RESPONSE EIGENVALUE = .1649E-05 OSCILLATION LIMIT = .3024
*** AUTO STEP TIME: NEXT TIME INC = .18335E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.49 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1148
HT FLOW CONVERGENCE VALUE= .9025E-01 CRITERION= .2560 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 90
*** TIME = .143718E+08 TIME INC = 183348.
*** RESPONSE EIGENVALUE = .2690E-05 OSCILLATION LIMIT = .4931
*** AUTO STEP TIME: NEXT TIME INC = .18335E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.56 CRITERION= .2598
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1148
HT FLOW CONVERGENCE VALUE= .9272E-01 CRITERION= .2560 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 91
*** TIME = .145552E+08 TIME INC = 183348.
*** RESPONSE EIGENVALUE = .1583E-05 OSCILLATION LIMIT = .2903
*** AUTO TIME STEP: NEXT TIME INC = .31584E+06 INCREASED (FACTOR = 1.7226)

HT FLOW CONVERGENCE VALUE= 76.67 CRITERION= .2672
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1977
HT FLOW CONVERGENCE VALUE= .1622 CRITERION= .2559 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 92
*** TIME = .148710E+08 TIME INC = 315840.
*** RESPONSE EIGENVALUE = .1650E-05 OSCILLATION LIMIT = .5213
*** AUTO STEP TIME: NEXT TIME INC = .31584E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.76 CRITERION= .2671

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1977
 HT FLOW CONVERGENCE VALUE= .1601 CRITERION= .2559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 93
 *** TIME = .151869E+08 TIME INC = 315840.
 *** RESPONSE EIGENVALUE = .1592E-05 OSCILLATION LIMIT = .5030
 *** AUTO STEP TIME: NEXT TIME INC = .31584E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.72 CRITERION= .2671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1977
 HT FLOW CONVERGENCE VALUE= .1567 CRITERION= .2557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 94
 *** TIME = .155027E+08 TIME INC = 315840.
 *** RESPONSE EIGENVALUE = .2182E-05 OSCILLATION LIMIT = .6891
 *** AUTO TIME STEP: NEXT TIME INC = .27612E+06 DECREASED (FACTOR = .8742)

HT FLOW CONVERGENCE VALUE= 67.16 CRITERION= .2643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1729
 HT FLOW CONVERGENCE VALUE= .1377 CRITERION= .2556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 95
 *** TIME = .157788E+08 TIME INC = 276122.
 *** RESPONSE EIGENVALUE = .1825E-05 OSCILLATION LIMIT = .5040

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:59:28 APR 10, 1995 CP= 7370.250
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 55.62 CRITERION= .2616
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1435
 HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 96
 *** TIME = .160550E+08 TIME INC = 276122.
 *** RESPONSE EIGENVALUE = .2531E-05 OSCILLATION LIMIT = .6989
 *** AUTO STEP TIME: NEXT TIME INC = .27612E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 55.69 CRITERION= .2615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1435
 HT FLOW CONVERGENCE VALUE= .1130 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 97
 *** TIME = .163311E+08 TIME INC = 276122.
 *** RESPONSE EIGENVALUE = .2619E-05 OSCILLATION LIMIT = .7233
 *** AUTO TIME STEP: NEXT TIME INC = .19089E+06 DECREASED (FACTOR = .6913)

HT FLOW CONVERGENCE VALUE= 38.47 CRITERION= .2583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7726E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 98
 *** TIME = .165220E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2497E-05 OSCILLATION LIMIT = .4767
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.53 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7773E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 99
 *** TIME = .167129E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2942E-05 OSCILLATION LIMIT = .5617
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.48 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7818E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 100
 *** TIME = .169037E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2226E-05 OSCILLATION LIMIT = .4249
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.54 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7833E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 101
 *** TIME = .170946E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2412E-05 OSCILLATION LIMIT = .4604
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.49 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7787E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 102
 *** TIME = .172855E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2486E-05 OSCILLATION LIMIT = .4745
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.55 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7831E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 103
 *** TIME = .174764E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2343E-05 OSCILLATION LIMIT = .4473
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.50 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7780E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 104
 *** TIME = .176673E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2497E-05 OSCILLATION LIMIT = .4767
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.57 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7825E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 105
 *** TIME = .178582E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2338E-05 OSCILLATION LIMIT = .4463
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.52 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7775E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 106
 *** TIME = .180491E+08 TIME INC = 190887.
 *** RESPONSE EIGENVALUE = .2495E-05 OSCILLATION LIMIT = .4764
 *** AUTO STEP TIME: NEXT TIME INC = .19089E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.58 CRITERION= .2577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
 HT FLOW CONVERGENCE VALUE= .7820E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 107
 *** TIME = .182400E+08 TIME INC = 190887.

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*** RESPONSE EIGENVALUE = .2337E-05  OSCILLATION LIMIT = .4460
*** AUTO STEP TIME:  NEXT TIME INC = .19089E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 38.53  CRITERION= .2577
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
  HT FLOW CONVERGENCE VALUE= .7770E-01 CRITERION= .2547  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED.  CUM ITER = 108
*** TIME = .184308E+08  TIME INC = 190887.
*** RESPONSE EIGENVALUE = .2492E-05  OSCILLATION LIMIT = .4758
*** AUTO STEP TIME:  NEXT TIME INC = .19089E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 38.59  CRITERION= .2576
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
  HT FLOW CONVERGENCE VALUE= .7814E-01 CRITERION= .2546  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED.  CUM ITER = 109
*** TIME = .186217E+08  TIME INC = 190887.
*** RESPONSE EIGENVALUE = .2336E-05  OSCILLATION LIMIT = .4459
*** AUTO STEP TIME:  NEXT TIME INC = .19089E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 38.54  CRITERION= .2575
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9919E-01
  HT FLOW CONVERGENCE VALUE= .7765E-01 CRITERION= .2545  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED.  CUM ITER = 110
*** TIME = .188126E+08  TIME INC = 190887.
*** RESPONSE EIGENVALUE = .2489E-05  OSCILLATION LIMIT = .4752
*** AUTO STEP TIME:  NEXT TIME INC = .12198E+06  DECREASED (FACTOR = .6390)

  HT FLOW CONVERGENCE VALUE= 24.68  CRITERION= .2557
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6339E-01
  HT FLOW CONVERGENCE VALUE= .4950E-01 CRITERION= .2545  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED.  CUM ITER = 111
*** TIME = .189346E+08  TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2387E-05  OSCILLATION LIMIT = .2911

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX 06:23:39 APR 10, 1995 CP= 8805.360
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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  HT FLOW CONVERGENCE VALUE= 21.18  CRITERION= .2554
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
  HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .2544  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 1 COMPLETED.  CUM ITER = 112
*** TIME = .190566E+08  TIME INC = 121979.
*** RESPONSE EIGENVALUE = .3648E-05  OSCILLATION LIMIT = .4450
*** AUTO STEP TIME:  NEXT TIME INC = .12198E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.23  CRITERION= .2553
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
  HT FLOW CONVERGENCE VALUE= .4257E-01 CRITERION= .2544  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED.  CUM ITER = 113
*** TIME = .191785E+08  TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2944E-05  OSCILLATION LIMIT = .3591
*** AUTO STEP TIME:  NEXT TIME INC = .12198E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.18  CRITERION= .2553
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
  HT FLOW CONVERGENCE VALUE= .4229E-01 CRITERION= .2543  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 114
*** TIME = .193005E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .3007E-05 OSCILLATION LIMIT = .3668
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.23 CRITERION= .2552
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4264E-01 CRITERION= .2544 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 115
*** TIME = .194225E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2858E-05 OSCILLATION LIMIT = .3486
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.18 CRITERION= .2552
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4226E-01 CRITERION= .2543 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 116
*** TIME = .195445E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .3064E-05 OSCILLATION LIMIT = .3737
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.24 CRITERION= .2551
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4262E-01 CRITERION= .2543 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 117
*** TIME = .196665E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2851E-05 OSCILLATION LIMIT = .3478
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.19 CRITERION= .2552
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4224E-01 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 118
*** TIME = .197884E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .3060E-05 OSCILLATION LIMIT = .3733
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.24 CRITERION= .2551
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4259E-01 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 119
*** TIME = .199104E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2846E-05 OSCILLATION LIMIT = .3471
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.19 CRITERION= .2551
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4223E-01 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 120
*** TIME = .200324E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .3058E-05 OSCILLATION LIMIT = .3730
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.24 CRITERION= .2550
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
HT FLOW CONVERGENCE VALUE= .4257E-01 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 121
*** TIME = .201544E+08 TIME INC = 121979.
*** RESPONSE EIGENVALUE = .2841E-05 OSCILLATION LIMIT = .3466
*** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.20 CRITERION= .2550
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01

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HT FLOW CONVERGENCE VALUE= .4222E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 122
 *** TIME = .202764E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3054E-05 OSCILLATION LIMIT = .3726
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.25 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4254E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 123
 *** TIME = .203983E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2837E-05 OSCILLATION LIMIT = .3461
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.20 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4220E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 124
 *** TIME = .205203E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3051E-05 OSCILLATION LIMIT = .3722
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.25 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4252E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 125
 *** TIME = .206423E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2834E-05 OSCILLATION LIMIT = .3457
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.20 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4219E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 126
 *** TIME = .207643E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3048E-05 OSCILLATION LIMIT = .3717
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.25 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4250E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 127
 *** TIME = .208863E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2831E-05 OSCILLATION LIMIT = .3454
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.21 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4217E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 128
 *** TIME = .210082E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3044E-05 OSCILLATION LIMIT = .3713
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.26 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4248E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 129
 *** TIME = .211302E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2829E-05 OSCILLATION LIMIT = .3451
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.21 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4216E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 130
 *** TIME = .212522E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3041E-05 OSCILLATION LIMIT = .3709
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.26 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 131
 *** TIME = .213742E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2827E-05 OSCILLATION LIMIT = .3448
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.21 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4214E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 132
 *** TIME = .214961E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3037E-05 OSCILLATION LIMIT = .3705
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.27 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4243E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 133
 *** TIME = .216181E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2825E-05 OSCILLATION LIMIT = .3446
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.22 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4213E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 134
 *** TIME = .217401E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3034E-05 OSCILLATION LIMIT = .3701
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.27 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4241E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 135
 *** TIME = .218621E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .2823E-05 OSCILLATION LIMIT = .3444
 *** AUTO STEP TIME: NEXT TIME INC = .12198E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.22 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5449E-01
 HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 136
 *** TIME = .219841E+08 TIME INC = 121979.
 *** RESPONSE EIGENVALUE = .3030E-05 OSCILLATION LIMIT = .3696
 *** AUTO TIME STEP: NEXT TIME INC = .10629E+06 DECREASED (FACTOR = .8714)

HT FLOW CONVERGENCE VALUE= 18.54 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4748E-01
 HT FLOW CONVERGENCE VALUE= .3684E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 137
 *** TIME = .220904E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .2817E-05 OSCILLATION LIMIT = .2994

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:03:15 APR 10, 1995 CP= 11137.550
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.19 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3192E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 138
 *** TIME = .221966E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3491E-05 OSCILLATION LIMIT = .3711
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.24 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3209E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 139
 *** TIME = .223029E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3578E-05 OSCILLATION LIMIT = .3803
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.19 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3193E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 140
 *** TIME = .224092E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3647E-05 OSCILLATION LIMIT = .3876
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.24 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3214E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 141
 *** TIME = .225155E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3350E-05 OSCILLATION LIMIT = .3561
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.20 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3192E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 142
 *** TIME = .226218E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3661E-05 OSCILLATION LIMIT = .3891
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.24 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3212E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 143
 *** TIME = .227281E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3363E-05 OSCILLATION LIMIT = .3575
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.20 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3191E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 144

*** TIME = .228344E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3648E-05 OSCILLATION LIMIT = .3878
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.25 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3210E-01 CRITERION= .2532 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 145
 *** TIME = .229407E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3369E-05 OSCILLATION LIMIT = .3581
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.20 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3190E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 146
 *** TIME = .230470E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3637E-05 OSCILLATION LIMIT = .3866
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.25 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3209E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 147
 *** TIME = .231533E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3374E-05 OSCILLATION LIMIT = .3587
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.20 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3189E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 148
 *** TIME = .232596E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3628E-05 OSCILLATION LIMIT = .3856
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.25 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3207E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 149
 *** TIME = .233659E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3378E-05 OSCILLATION LIMIT = .3590
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.21 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3188E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 150
 *** TIME = .234721E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3620E-05 OSCILLATION LIMIT = .3848
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.25 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3206E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 151
 *** TIME = .235784E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3380E-05 OSCILLATION LIMIT = .3593
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.21 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3187E-01 CRITERION= .2529 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 152
*** TIME = .236847E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3613E-05 OSCILLATION LIMIT = .3841
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.25 CRITERION= .2535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3204E-01 CRITERION= .2529 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 153
*** TIME = .237910E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3382E-05 OSCILLATION LIMIT = .3595
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.21 CRITERION= .2535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3186E-01 CRITERION= .2529 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 154
*** TIME = .238973E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3607E-05 OSCILLATION LIMIT = .3834
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.26 CRITERION= .2534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3203E-01 CRITERION= .2529 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 155
*** TIME = .240036E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3383E-05 OSCILLATION LIMIT = .3596
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.21 CRITERION= .2534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3185E-01 CRITERION= .2528 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 156
*** TIME = .241099E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3602E-05 OSCILLATION LIMIT = .3828
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.26 CRITERION= .2533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3201E-01 CRITERION= .2528 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 157
*** TIME = .242162E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3384E-05 OSCILLATION LIMIT = .3597
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.21 CRITERION= .2533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3184E-01 CRITERION= .2527 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 158
*** TIME = .243225E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3597E-05 OSCILLATION LIMIT = .3823
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.26 CRITERION= .2533
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .3200E-01 CRITERION= .2527 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 159
*** TIME = .244288E+08 TIME INC = 106292.
*** RESPONSE EIGENVALUE = .3385E-05 OSCILLATION LIMIT = .3598
*** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.22 CRITERION= .2532

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3183E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 160
 *** TIME = .245351E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3592E-05 OSCILLATION LIMIT = .3818
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.26 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3198E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 161
 *** TIME = .246414E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3385E-05 OSCILLATION LIMIT = .3598
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.22 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3182E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 162
 *** TIME = .247477E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3588E-05 OSCILLATION LIMIT = .3814
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.26 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3197E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 163
 *** TIME = .248539E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3386E-05 OSCILLATION LIMIT = .3599
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.22 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3181E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 164
 *** TIME = .249602E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3584E-05 OSCILLATION LIMIT = .3809
 *** AUTO STEP TIME: NEXT TIME INC = .10629E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.27 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
 HT FLOW CONVERGENCE VALUE= .3196E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 165
 *** TIME = .250665E+08 TIME INC = 106292.
 *** RESPONSE EIGENVALUE = .3386E-05 OSCILLATION LIMIT = .3599
 *** AUTO STEP TIME: NEXT TIME INC = 89790. DECREASED (FACTOR = .8447)

HT FLOW CONVERGENCE VALUE= 13.70 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3516E-01
 HT FLOW CONVERGENCE VALUE= .2679E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 166
 *** TIME = .251563E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3601E-05 OSCILLATION LIMIT = .3233
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.75 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3516E-01
 HT FLOW CONVERGENCE VALUE= .2692E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 167
 *** TIME = .252461E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3631E-05 OSCILLATION LIMIT = .3260

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:50:20 APR 10, 1995 CP= 13835.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 168
 *** TIME = .253359E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3841E-05 OSCILLATION LIMIT = .3449
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.18 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2377E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 169
 *** TIME = .254257E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4108E-05 OSCILLATION LIMIT = .3689
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 170
 *** TIME = .255155E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4346E-05 OSCILLATION LIMIT = .3902
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.18 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2378E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 171
 *** TIME = .256053E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3925E-05 OSCILLATION LIMIT = .3524
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 172
 *** TIME = .256951E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4307E-05 OSCILLATION LIMIT = .3867
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.18 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2377E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 173
 *** TIME = .257848E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3957E-05 OSCILLATION LIMIT = .3553
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 174
 *** TIME = .258746E+08 TIME INC = 89789.7

*** RESPONSE EIGENVALUE = .4278E-05 OSCILLATION LIMIT = .3841
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.18 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2376E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 175
 *** TIME = .259644E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3979E-05 OSCILLATION LIMIT = .3573
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2367E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 176
 *** TIME = .260542E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4255E-05 OSCILLATION LIMIT = .3821
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.18 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2375E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 177
 *** TIME = .261440E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .3995E-05 OSCILLATION LIMIT = .3587
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.14 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2367E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 178
 *** TIME = .262338E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4238E-05 OSCILLATION LIMIT = .3805
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2374E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 179
 *** TIME = .263236E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4006E-05 OSCILLATION LIMIT = .3597
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2366E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 180
 *** TIME = .264134E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4225E-05 OSCILLATION LIMIT = .3793
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 181
 *** TIME = .265032E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4014E-05 OSCILLATION LIMIT = .3604
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2365E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 182
*** TIME = .265930E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4214E-05 OSCILLATION LIMIT = .3784
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2372E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 183
*** TIME = .266827E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4020E-05 OSCILLATION LIMIT = .3610
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2365E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 184
*** TIME = .267725E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4206E-05 OSCILLATION LIMIT = .3776
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2371E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 185
*** TIME = .268623E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4025E-05 OSCILLATION LIMIT = .3614
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2364E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 186
*** TIME = .269521E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4198E-05 OSCILLATION LIMIT = .3770
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 187
*** TIME = .270419E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4028E-05 OSCILLATION LIMIT = .3617
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2364E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 188
*** TIME = .271317E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4192E-05 OSCILLATION LIMIT = .3764
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 189
*** TIME = .272215E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4031E-05 OSCILLATION LIMIT = .3619
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01

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HT FLOW CONVERGENCE VALUE= .2363E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 190
*** TIME = .273113E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4186E-05 OSCILLATION LIMIT = .3759
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 191
*** TIME = .274011E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4033E-05 OSCILLATION LIMIT = .3621
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2363E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 192
*** TIME = .274909E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4181E-05 OSCILLATION LIMIT = .3754
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 193
*** TIME = .275806E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4035E-05 OSCILLATION LIMIT = .3623
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.15 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2362E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 194
*** TIME = .276704E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4177E-05 OSCILLATION LIMIT = .3750
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.19 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2367E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 195
*** TIME = .277602E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4037E-05 OSCILLATION LIMIT = .3625
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.16 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 196
*** TIME = .278500E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4172E-05 OSCILLATION LIMIT = .3746
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.20 CRITERION= .2519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
HT FLOW CONVERGENCE VALUE= .2366E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 197
*** TIME = .279398E+08 TIME INC = 89789.7
*** RESPONSE EIGENVALUE = .4038E-05 OSCILLATION LIMIT = .3626
*** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.16 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 198
 *** TIME = .280296E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4168E-05 OSCILLATION LIMIT = .3743
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.20 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2365E-01 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 199
 *** TIME = .281194E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4039E-05 OSCILLATION LIMIT = .3627
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.16 CRITERION= .2518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2360E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 200
 *** TIME = .282092E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4164E-05 OSCILLATION LIMIT = .3739
 *** AUTO STEP TIME: NEXT TIME INC = 89790. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.20 CRITERION= .2518
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113E-01
 HT FLOW CONVERGENCE VALUE= .2364E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 201
 *** TIME = .282990E+08 TIME INC = 89789.7
 *** RESPONSE EIGENVALUE = .4041E-05 OSCILLATION LIMIT = .3628
 *** AUTO STEP TIME: NEXT TIME INC = 51455. DECREASED (FACTOR = .5731)

HT FLOW CONVERGENCE VALUE= 6.964 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1784E-01
 HT FLOW CONVERGENCE VALUE= .1356E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 202
 *** TIME = .283504E+08 TIME INC = 51454.8
 *** RESPONSE EIGENVALUE = .3887E-05 OSCILLATION LIMIT = .2000
 *** AUTO STEP TIME: NEXT TIME INC = 51455. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.003 CRITERION= .2515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1784E-01
 HT FLOW CONVERGENCE VALUE= .1352E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 203
 *** TIME = .284019E+08 TIME INC = 51454.8
 *** RESPONSE EIGENVALUE = .4923E-05 OSCILLATION LIMIT = .2533
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 6218.59052 .00000000E+00 .00000000E+00 .00000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 114.16 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 115.23 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 117.89 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 17166.610 TIME= 08:51:44
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 08:51:44 APR 10, 1995 CP= 17166.620
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 9.602 CRITERION= .2516
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1866E-01 CRITERION= .2514 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 204
*** TIME = .284808E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .5028E-05  OSCILLATION LIMIT = .3967
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.639    CRITERION= .2516
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1865E-01 CRITERION= .2514    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  2 COMPLETED.  CUM ITER =  205
*** TIME = .285597E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4099E-05  OSCILLATION LIMIT = .3234
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.602    CRITERION= .2516
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1860E-01 CRITERION= .2514    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  3 COMPLETED.  CUM ITER =  206
*** TIME = .286386E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4895E-05  OSCILLATION LIMIT = .3862
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.640    CRITERION= .2516
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1860E-01 CRITERION= .2514    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  4 COMPLETED.  CUM ITER =  207
*** TIME = .287174E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4640E-05  OSCILLATION LIMIT = .3660
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.603    CRITERION= .2515
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1859E-01 CRITERION= .2513    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  5 COMPLETED.  CUM ITER =  208
*** TIME = .287963E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4860E-05  OSCILLATION LIMIT = .3834
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.640    CRITERION= .2515
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1859E-01 CRITERION= .2513    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  6 COMPLETED.  CUM ITER =  209
*** TIME = .288752E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4662E-05  OSCILLATION LIMIT = .3678
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.604    CRITERION= .2515
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1859E-01 CRITERION= .2513    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  7 COMPLETED.  CUM ITER =  210
*** TIME = .289541E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4828E-05  OSCILLATION LIMIT = .3809
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.641    CRITERION= .2515
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1859E-01 CRITERION= .2513    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  8 COMPLETED.  CUM ITER =  211
*** TIME = .290330E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4682E-05  OSCILLATION LIMIT = .3694
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.605    CRITERION= .2514
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1858E-01 CRITERION= .2512    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 212
*** TIME = .291119E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4808E-05 OSCILLATION LIMIT = .3794
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.642 CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1858E-01 CRITERION= .2512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 213
*** TIME = .291908E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4696E-05 OSCILLATION LIMIT = .3705
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.606 CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1858E-01 CRITERION= .2512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 214
*** TIME = .292697E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4794E-05 OSCILLATION LIMIT = .3782
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.642 CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .2512 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 215
*** TIME = .293486E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4706E-05 OSCILLATION LIMIT = .3713
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.607 CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 216
*** TIME = .294275E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4783E-05 OSCILLATION LIMIT = .3774
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.643 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 217
*** TIME = .295064E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4713E-05 OSCILLATION LIMIT = .3718
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.607 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 218
*** TIME = .295853E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4775E-05 OSCILLATION LIMIT = .3767
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.644 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1856E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 219
*** TIME = .296642E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4718E-05 OSCILLATION LIMIT = .3722
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.608 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01

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HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 220
 *** TIME = .297431E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4768E-05 OSCILLATION LIMIT = .3762
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.644 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1856E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 221
 *** TIME = .298220E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4722E-05 OSCILLATION LIMIT = .3725
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.609 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1856E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 222
 *** TIME = .299009E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4763E-05 OSCILLATION LIMIT = .3758
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.645 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1855E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 223
 *** TIME = .299798E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4725E-05 OSCILLATION LIMIT = .3728
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.610 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1856E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 224
 *** TIME = .300586E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4758E-05 OSCILLATION LIMIT = .3754
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.646 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 225
 *** TIME = .301375E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4727E-05 OSCILLATION LIMIT = .3729
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.611 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1855E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 226
 *** TIME = .302164E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4754E-05 OSCILLATION LIMIT = .3751
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.646 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 227
 *** TIME = .302953E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4729E-05 OSCILLATION LIMIT = .3731
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.611 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1855E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 228
 *** TIME = .303742E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4750E-05 OSCILLATION LIMIT = .3748
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.647 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 229
 *** TIME = .304531E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4730E-05 OSCILLATION LIMIT = .3732
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.612 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 230
 *** TIME = .305320E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4747E-05 OSCILLATION LIMIT = .3745
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.648 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 231
 *** TIME = .306109E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4732E-05 OSCILLATION LIMIT = .3733
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.613 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 232
 *** TIME = .306898E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4744E-05 OSCILLATION LIMIT = .3742
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.649 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1852E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 233
 *** TIME = .307687E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4733E-05 OSCILLATION LIMIT = .3734
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.614 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 234
 *** TIME = .308476E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4741E-05 OSCILLATION LIMIT = .3740
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.649 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1852E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 235
 *** TIME = .309265E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4734E-05 OSCILLATION LIMIT = .3735

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.615 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1854E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 236
 *** TIME = .310054E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4738E-05 OSCILLATION LIMIT = .3738
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.650 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1852E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 237
 *** TIME = .310843E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4735E-05 OSCILLATION LIMIT = .3736
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.616 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 238
 *** TIME = .311632E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4736E-05 OSCILLATION LIMIT = .3736
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.651 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1851E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 239
 *** TIME = .312421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4736E-05 OSCILLATION LIMIT = .3737
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.616 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 240
 *** TIME = .313209E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4733E-05 OSCILLATION LIMIT = .3734
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.651 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1851E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 241
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4737E-05 OSCILLATION LIMIT = .3737
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.617 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 242
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4731E-05 OSCILLATION LIMIT = .3732
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.652 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1850E-01 CRITERION= .2505 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 243

*** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4738E-05 OSCILLATION LIMIT = .3738

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:56:33 APR 10, 1995 CP= 20800.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 62.03 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1203 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 244
 *** TIME = .323466E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6430E-05 OSCILLATION LIMIT = 5.073
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.08 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1201 CRITERION= .2502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 245
 *** TIME = .331355E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7560E-05 OSCILLATION LIMIT = 5.964
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.06 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1207 CRITERION= .2500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 246
 *** TIME = .339245E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7787E-05 OSCILLATION LIMIT = 6.143
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.11 CRITERION= .2575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1196 CRITERION= .2498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 247
 *** TIME = .347134E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7156E-05 OSCILLATION LIMIT = 5.645
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.10 CRITERION= .2573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1201 CRITERION= .2495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 248
 *** TIME = .355023E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7644E-05 OSCILLATION LIMIT = 6.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.14 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1195 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 249
 *** TIME = .362913E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7299E-05 OSCILLATION LIMIT = 5.759
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.13 CRITERION= .2569

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1199 CRITERION= .2491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 250
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7554E-05 OSCILLATION LIMIT = 5.959
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.17 CRITERION= .2567
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1193 CRITERION= .2489 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 251
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7378E-05 OSCILLATION LIMIT = 5.821
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.16 CRITERION= .2565
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .2487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 252
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7506E-05 OSCILLATION LIMIT = 5.922
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.20 CRITERION= .2563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1190 CRITERION= .2485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 253
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7427E-05 OSCILLATION LIMIT = 5.859
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.19 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .2482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 254
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7482E-05 OSCILLATION LIMIT = 5.903
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.23 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1187 CRITERION= .2480 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 255
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7458E-05 OSCILLATION LIMIT = 5.884
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1186 CRITERION= .2478 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 256
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7470E-05 OSCILLATION LIMIT = 5.893
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.27 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1182 CRITERION= .2476 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 257
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7477E-05 OSCILLATION LIMIT = 5.899
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.25 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1181 CRITERION= .2474 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 258
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7466E-05 OSCILLATION LIMIT = 5.890
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.30 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1177 CRITERION= .2472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 259
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7492E-05 OSCILLATION LIMIT = 5.911
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.28 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1176 CRITERION= .2469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 260
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7466E-05 OSCILLATION LIMIT = 5.890
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.33 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2467 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 261
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7502E-05 OSCILLATION LIMIT = 5.919
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.32 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 262
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7469E-05 OSCILLATION LIMIT = 5.893
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.36 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2463 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 263
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7514E-05 OSCILLATION LIMIT = 5.928
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.35 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1173 CRITERION= .2461 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 264
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7476E-05 OSCILLATION LIMIT = 5.898
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.39 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1171 CRITERION= .2459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 265
 *** TIME = .489143E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7523E-05  OSCILLATION LIMIT = 5.935
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.38  CRITERION= .2536
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1172  CRITERION= .2456  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 266
*** TIME = .497033E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7483E-05  OSCILLATION LIMIT = 5.903
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.42  CRITERION= .2534
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1168  CRITERION= .2454  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 267
*** TIME = .504922E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7534E-05  OSCILLATION LIMIT = 5.944
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.41  CRITERION= .2532
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1166  CRITERION= .2452  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 268
*** TIME = .512811E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7490E-05  OSCILLATION LIMIT = 5.909
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.46  CRITERION= .2530
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1159  CRITERION= .2450  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 269
*** TIME = .520701E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7542E-05  OSCILLATION LIMIT = 5.950
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.44  CRITERION= .2528
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1156  CRITERION= .2448  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 270
*** TIME = .528590E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7498E-05  OSCILLATION LIMIT = 5.915
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.49  CRITERION= .2526
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1150  CRITERION= .2446  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 271
*** TIME = .536480E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7552E-05  OSCILLATION LIMIT = 5.958
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.47  CRITERION= .2524
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1148  CRITERION= .2443  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 272
*** TIME = .544369E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7504E-05  OSCILLATION LIMIT = 5.920
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.52  CRITERION= .2522
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
  HT FLOW CONVERGENCE VALUE= .1139  CRITERION= .2441  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 273
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7557E-05 OSCILLATION LIMIT = 5.962
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.50 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1139 CRITERION= .2439 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 274
*** TIME = .560148E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7510E-05 OSCILLATION LIMIT = 5.925
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.55 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .2437 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 275
*** TIME = .568037E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7563E-05 OSCILLATION LIMIT = 5.967
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.54 CRITERION= .2516
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1135 CRITERION= .2435 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 276
*** TIME = .575927E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7512E-05 OSCILLATION LIMIT = 5.927
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.58 CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1133 CRITERION= .2433 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 277
*** TIME = .583816E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7566E-05 OSCILLATION LIMIT = 5.969
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.57 CRITERION= .2512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1132 CRITERION= .2430 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 278
*** TIME = .591705E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7515E-05 OSCILLATION LIMIT = 5.929
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.61 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1129 CRITERION= .2428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 279
*** TIME = .599595E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7568E-05 OSCILLATION LIMIT = 5.971
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.60 CRITERION= .2508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1129 CRITERION= .2426 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 280
*** TIME = .607484E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7517E-05 OSCILLATION LIMIT = 5.931
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.64 CRITERION= .2505
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587

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HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .2424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 281
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7571E-05 OSCILLATION LIMIT = 5.973
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.63 CRITERION= .2503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .2422 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 282
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7519E-05 OSCILLATION LIMIT = 5.932
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.68 CRITERION= .2501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .2420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 283
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7573E-05 OSCILLATION LIMIT = 5.975

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:14 APR 10, 1995 CP= 24457.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 33.42 CRITERION= .2443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .7726E-01 CRITERION= .2417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 284
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1028E-04 OSCILLATION LIMIT = 8.112
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.45 CRITERION= .2440
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .7153E-01 CRITERION= .2415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 285
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1205E-04 OSCILLATION LIMIT = 9.504
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.43 CRITERION= .2438
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6682E-01 CRITERION= .2414 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 286
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1161E-04 OSCILLATION LIMIT = 9.163
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.46 CRITERION= .2436
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .7042E-01 CRITERION= .2412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 287
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 9.629
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.44 CRITERION= .2435
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6761E-01 CRITERION= .2410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 288
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1179E-04 OSCILLATION LIMIT = 9.304
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6958E-01 CRITERION= .2408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 289
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.561
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.45 CRITERION= .2431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6793E-01 CRITERION= .2406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 290
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1191E-04 OSCILLATION LIMIT = 9.395
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6904E-01 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 291
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1207E-04 OSCILLATION LIMIT = 9.526
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.46 CRITERION= .2427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6806E-01 CRITERION= .2402 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 292
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1197E-04 OSCILLATION LIMIT = 9.446
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.49 CRITERION= .2425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6866E-01 CRITERION= .2400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 293
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1205E-04 OSCILLATION LIMIT = 9.511
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.47 CRITERION= .2423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6807E-01 CRITERION= .2399 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 294
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1201E-04 OSCILLATION LIMIT = 9.476
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.50 CRITERION= .2422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6838E-01 CRITERION= .2397 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 295
 *** TIME = .725825E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1205E-04 OSCILLATION LIMIT = 9.507

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

HT FLOW CONVERGENCE VALUE= 33.48 CRITERION= .2420
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6800E-01 CRITERION= .2395 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 296

*** TIME = .733715E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1204E-04 OSCILLATION LIMIT = 9.496

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

HT FLOW CONVERGENCE VALUE= 33.51 CRITERION= .2418
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6816E-01 CRITERION= .2393 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 297

*** TIME = .741604E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1205E-04 OSCILLATION LIMIT = 9.511

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

HT FLOW CONVERGENCE VALUE= 33.49 CRITERION= .2416
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6791E-01 CRITERION= .2391 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 298

*** TIME = .749493E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1205E-04 OSCILLATION LIMIT = 9.510

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

HT FLOW CONVERGENCE VALUE= 33.52 CRITERION= .2414
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6796E-01 CRITERION= .2389 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 299

*** TIME = .757383E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1206E-04 OSCILLATION LIMIT = 9.518

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

HT FLOW CONVERGENCE VALUE= 33.50 CRITERION= .2412
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6779E-01 CRITERION= .2387 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 300

*** TIME = .765272E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1207E-04 OSCILLATION LIMIT = 9.521

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

HT FLOW CONVERGENCE VALUE= 33.53 CRITERION= .2410
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6778E-01 CRITERION= .2385 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 301

*** TIME = .773162E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1208E-04 OSCILLATION LIMIT = 9.528

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

HT FLOW CONVERGENCE VALUE= 33.51 CRITERION= .2409
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6766E-01 CRITERION= .2383 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 302

*** TIME = .781051E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1208E-04 OSCILLATION LIMIT = 9.529

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

HT FLOW CONVERGENCE VALUE= 33.53 CRITERION= .2407
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6761E-01 CRITERION= .2382 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 303

*** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1209E-04 OSCILLATION LIMIT = 9.539
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.51 CRITERION= .2405
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6752E-01 CRITERION= .2380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 304
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1209E-04 OSCILLATION LIMIT = 9.537
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.54 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6744E-01 CRITERION= .2378 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 305
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = 9.551
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.52 CRITERION= .2401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6736E-01 CRITERION= .2376 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 306
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1210E-04 OSCILLATION LIMIT = 9.544
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.55 CRITERION= .2399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6728E-01 CRITERION= .2374 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 307
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.563
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.53 CRITERION= .2397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6719E-01 CRITERION= .2372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 308
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = 9.551
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.56 CRITERION= .2396
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6708E-01 CRITERION= .2370 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 309
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 9.576
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.54 CRITERION= .2394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6703E-01 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 310
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.558
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2392
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6693E-01 CRITERION= .2367 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 311
*** TIME = .852056E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1215E-04 OSCILLATION LIMIT = 9.588
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.55 CRITERION= .2390
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6688E-01 CRITERION= .2365 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 312
*** TIME = .859945E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.565
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.58 CRITERION= .2388
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6676E-01 CRITERION= .2363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 313
*** TIME = .867834E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 9.601
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.56 CRITERION= .2386
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6673E-01 CRITERION= .2361 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 314
*** TIME = .875724E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1213E-04 OSCILLATION LIMIT = 9.573
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.59 CRITERION= .2385
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6660E-01 CRITERION= .2359 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 315
*** TIME = .883613E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1218E-04 OSCILLATION LIMIT = 9.613
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.57 CRITERION= .2383
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6658E-01 CRITERION= .2357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 316
*** TIME = .891503E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 9.580
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.60 CRITERION= .2381
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6644E-01 CRITERION= .2355 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 317
*** TIME = .899392E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1220E-04 OSCILLATION LIMIT = 9.625
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.58 CRITERION= .2379
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .6640E-01 CRITERION= .2353 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 318
*** TIME = .907281E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1215E-04 OSCILLATION LIMIT = 9.587
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.61 CRITERION= .2377

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6627E-01 CRITERION= .2352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 319
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1222E-04 OSCILLATION LIMIT = 9.638
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.59 CRITERION= .2375
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6626E-01 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 320
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 9.594
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.61 CRITERION= .2373
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6611E-01 CRITERION= .2348 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 321
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 9.650
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.59 CRITERION= .2372
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6610E-01 CRITERION= .2346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 322
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 9.602
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.62 CRITERION= .2370
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .6594E-01 CRITERION= .2344 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 323
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1225E-04 OSCILLATION LIMIT = 9.661

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:07:59 APR 10, 1995 CP= 28070.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.71 CRITERION= .2353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6539E-01
 HT FLOW CONVERGENCE VALUE= .5551E-01 CRITERION= .2342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 324
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1097E-04 OSCILLATION LIMIT = 8.657
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .2351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6186E-01
 HT FLOW CONVERGENCE VALUE= .5229E-01 CRITERION= .2340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 325
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1229E-04 OSCILLATION LIMIT = 9.694
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .2349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5764E-01
 HT FLOW CONVERGENCE VALUE= .4986E-01 CRITERION= .2339 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 326
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 9.898
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6149E-01
 HT FLOW CONVERGENCE VALUE= .5174E-01 CRITERION= .2337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 327
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1242E-04 OSCILLATION LIMIT = 9.799
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .2346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5873E-01
 HT FLOW CONVERGENCE VALUE= .5026E-01 CRITERION= .2336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 328
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 9.862
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .2345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6070E-01
 HT FLOW CONVERGENCE VALUE= .5128E-01 CRITERION= .2334 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 329
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 9.823
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .2343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5929E-01
 HT FLOW CONVERGENCE VALUE= .5041E-01 CRITERION= .2332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 330
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 9.857
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2341
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6027E-01
 HT FLOW CONVERGENCE VALUE= .5099E-01 CRITERION= .2331 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 331
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 9.841
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .2340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5961E-01
 HT FLOW CONVERGENCE VALUE= .5043E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 332
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 9.855
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6002E-01
 HT FLOW CONVERGENCE VALUE= .5075E-01 CRITERION= .2327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 333
 *** TIME = .102562E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1249E-04  OSCILLATION LIMIT = 9.856
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.73  CRITERION= .2336
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5979E-01
    HT FLOW CONVERGENCE VALUE= .5041E-01 CRITERION= .2326  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 334
*** TIME = .103351E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1249E-04  OSCILLATION LIMIT = 9.854
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.75  CRITERION= .2335
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5988E-01
    HT FLOW CONVERGENCE VALUE= .5059E-01 CRITERION= .2324  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 335
*** TIME = .104140E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1251E-04  OSCILLATION LIMIT = 9.869
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.73  CRITERION= .2333
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5988E-01
    HT FLOW CONVERGENCE VALUE= .5036E-01 CRITERION= .2322  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 336
*** TIME = .104929E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1249E-04  OSCILLATION LIMIT = 9.855
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.76  CRITERION= .2331
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5981E-01
    HT FLOW CONVERGENCE VALUE= .5045E-01 CRITERION= .2321  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 337
*** TIME = .105718E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1253E-04  OSCILLATION LIMIT = 9.881
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.74  CRITERION= .2330
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5993E-01
    HT FLOW CONVERGENCE VALUE= .5030E-01 CRITERION= .2319  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 338
*** TIME = .106507E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1249E-04  OSCILLATION LIMIT = 9.857
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.76  CRITERION= .2328
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5977E-01
    HT FLOW CONVERGENCE VALUE= .5034E-01 CRITERION= .2317  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 339
*** TIME = .107296E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1254E-04  OSCILLATION LIMIT = 9.893
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.74  CRITERION= .2326
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5995E-01
    HT FLOW CONVERGENCE VALUE= .5023E-01 CRITERION= .2316  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 340
*** TIME = .108085E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1250E-04  OSCILLATION LIMIT = 9.859
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.76  CRITERION= .2325
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5974E-01
    HT FLOW CONVERGENCE VALUE= .5023E-01 CRITERION= .2314  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 341
*** TIME = .108874E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 9.904
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .2323
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5996E-01
HT FLOW CONVERGENCE VALUE= .5015E-01 CRITERION= .2312 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 342
*** TIME = .109663E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 9.862
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2321
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
HT FLOW CONVERGENCE VALUE= .5013E-01 CRITERION= .2311 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 343
*** TIME = .110452E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.915
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2320
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5996E-01
HT FLOW CONVERGENCE VALUE= .5007E-01 CRITERION= .2309 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 344
*** TIME = .111241E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 9.865
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2318
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
HT FLOW CONVERGENCE VALUE= .5004E-01 CRITERION= .2307 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 345
*** TIME = .112030E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.925
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2316
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5995E-01
HT FLOW CONVERGENCE VALUE= .4999E-01 CRITERION= .2306 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 346
*** TIME = .112818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 9.868
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5972E-01
HT FLOW CONVERGENCE VALUE= .4994E-01 CRITERION= .2304 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 347
*** TIME = .113607E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 9.935
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5994E-01
HT FLOW CONVERGENCE VALUE= .4991E-01 CRITERION= .2302 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 348
*** TIME = .114396E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 9.872
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.78 CRITERION= .2312
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5972E-01

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HT FLOW CONVERGENCE VALUE= .4985E-01 CRITERION= .2301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 349
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1261E-04 OSCILLATION LIMIT = 9.945
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.76 CRITERION= .2310
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5993E-01
 HT FLOW CONVERGENCE VALUE= .4983E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 350
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 9.875
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.78 CRITERION= .2308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5972E-01
 HT FLOW CONVERGENCE VALUE= .4976E-01 CRITERION= .2297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 351
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1262E-04 OSCILLATION LIMIT = 9.955
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.76 CRITERION= .2307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5992E-01
 HT FLOW CONVERGENCE VALUE= .4974E-01 CRITERION= .2296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 352
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 9.879
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .2305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5972E-01
 HT FLOW CONVERGENCE VALUE= .4967E-01 CRITERION= .2294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 353
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1263E-04 OSCILLATION LIMIT = 9.965
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.76 CRITERION= .2303
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5991E-01
 HT FLOW CONVERGENCE VALUE= .4966E-01 CRITERION= .2292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 354
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1253E-04 OSCILLATION LIMIT = 9.883
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .2302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
 HT FLOW CONVERGENCE VALUE= .4957E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 355
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1264E-04 OSCILLATION LIMIT = 9.974
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5990E-01
 HT FLOW CONVERGENCE VALUE= .4957E-01 CRITERION= .2289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 356
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1253E-04 OSCILLATION LIMIT = 9.887
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .2298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
 HT FLOW CONVERGENCE VALUE= .4947E-01 CRITERION= .2287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 357
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1265E-04 OSCILLATION LIMIT = 9.984
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5989E-01
 HT FLOW CONVERGENCE VALUE= .4948E-01 CRITERION= .2286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 358
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 9.891
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .2295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
 HT FLOW CONVERGENCE VALUE= .4938E-01 CRITERION= .2284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 359
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1267E-04 OSCILLATION LIMIT = 9.993
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.77 CRITERION= .2293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5988E-01
 HT FLOW CONVERGENCE VALUE= .4939E-01 CRITERION= .2282 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 360
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 9.895
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .2292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
 HT FLOW CONVERGENCE VALUE= .4929E-01 CRITERION= .2281 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 361
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1268E-04 OSCILLATION LIMIT = 10.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.78 CRITERION= .2290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5987E-01
 HT FLOW CONVERGENCE VALUE= .4930E-01 CRITERION= .2279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 362
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1255E-04 OSCILLATION LIMIT = 9.899
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .2288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5973E-01
 HT FLOW CONVERGENCE VALUE= .4919E-01 CRITERION= .2277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 363
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1269E-04 OSCILLATION LIMIT = 10.01

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:08:55 APR 10, 1995 CP= 31673.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 13.91 CRITERION= .2282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6012E-01
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .2276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 364
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 8.240
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5734E-01
 HT FLOW CONVERGENCE VALUE= .4142E-01 CRITERION= .2274 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 365
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.087
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.92 CRITERION= .2279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5619E-01
 HT FLOW CONVERGENCE VALUE= .4055E-01 CRITERION= .2273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 366
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1158E-04 OSCILLATION LIMIT = 9.136
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5742E-01
 HT FLOW CONVERGENCE VALUE= .4127E-01 CRITERION= .2272 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 367
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1158E-04 OSCILLATION LIMIT = 9.133
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.92 CRITERION= .2276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5658E-01
 HT FLOW CONVERGENCE VALUE= .4071E-01 CRITERION= .2270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 368
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1154E-04 OSCILLATION LIMIT = 9.106
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5716E-01
 HT FLOW CONVERGENCE VALUE= .4109E-01 CRITERION= .2269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 369
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1160E-04 OSCILLATION LIMIT = 9.151
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.92 CRITERION= .2273
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5678E-01
 HT FLOW CONVERGENCE VALUE= .4076E-01 CRITERION= .2267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 370
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1153E-04 OSCILLATION LIMIT = 9.099
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5702E-01
 HT FLOW CONVERGENCE VALUE= .4096E-01 CRITERION= .2266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 371

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*** TIME = .132542E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1161E-04    OSCILLATION LIMIT = 9.163
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.92    CRITERION= .2270
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5689E-01
    HT FLOW CONVERGENCE VALUE= .4075E-01    CRITERION= .2264    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 372
*** TIME = .133331E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1153E-04    OSCILLATION LIMIT = 9.094
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.94    CRITERION= .2269
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5694E-01
    HT FLOW CONVERGENCE VALUE= .4085E-01    CRITERION= .2263    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 373
*** TIME = .134120E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1163E-04    OSCILLATION LIMIT = 9.173
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.92    CRITERION= .2267
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5696E-01
    HT FLOW CONVERGENCE VALUE= .4073E-01    CRITERION= .2262    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 374
*** TIME = .134909E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04    OSCILLATION LIMIT = 9.091
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.94    CRITERION= .2266
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5691E-01
    HT FLOW CONVERGENCE VALUE= .4076E-01    CRITERION= .2260    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 375
*** TIME = .135698E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1164E-04    OSCILLATION LIMIT = 9.182
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.92    CRITERION= .2264
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5700E-01
    HT FLOW CONVERGENCE VALUE= .4068E-01    CRITERION= .2259    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 376
*** TIME = .136487E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04    OSCILLATION LIMIT = 9.090
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.95    CRITERION= .2263
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5689E-01
    HT FLOW CONVERGENCE VALUE= .4068E-01    CRITERION= .2257    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 377
*** TIME = .137276E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1165E-04    OSCILLATION LIMIT = 9.189
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.92    CRITERION= .2261
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5702E-01
    HT FLOW CONVERGENCE VALUE= .4063E-01    CRITERION= .2256    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 378
*** TIME = .138065E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04    OSCILLATION LIMIT = 9.089
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.95    CRITERION= .2260
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5688E-01
    HT FLOW CONVERGENCE VALUE= .4061E-01    CRITERION= .2254    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 379
*** TIME = .138853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1166E-04 OSCILLATION LIMIT = 9.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5703E-01
HT FLOW CONVERGENCE VALUE= .4058E-01 CRITERION= .2253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 380
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.089
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.95 CRITERION= .2257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5689E-01
HT FLOW CONVERGENCE VALUE= .4054E-01 CRITERION= .2252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 381
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1166E-04 OSCILLATION LIMIT = 9.202
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2256
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5704E-01
HT FLOW CONVERGENCE VALUE= .4053E-01 CRITERION= .2250 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 382
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.088
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.95 CRITERION= .2254
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5689E-01
HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 383
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1167E-04 OSCILLATION LIMIT = 9.208
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2253
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5704E-01
HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2247 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 384
*** TIME = .142798E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.089
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.95 CRITERION= .2251
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5690E-01
HT FLOW CONVERGENCE VALUE= .4040E-01 CRITERION= .2246 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 385
*** TIME = .143587E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1168E-04 OSCILLATION LIMIT = 9.214
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2250
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5704E-01
HT FLOW CONVERGENCE VALUE= .4040E-01 CRITERION= .2244 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 386
*** TIME = .144376E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.089
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.95 CRITERION= .2249

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5691E-01
 HT FLOW CONVERGENCE VALUE= .4031E-01 CRITERION= .2243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 387
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1169E-04 OSCILLATION LIMIT = 9.220
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5705E-01
 HT FLOW CONVERGENCE VALUE= .4032E-01 CRITERION= .2242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 388
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.95 CRITERION= .2246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5692E-01
 HT FLOW CONVERGENCE VALUE= .4025E-01 CRITERION= .2240 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 389
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1169E-04 OSCILLATION LIMIT = 9.225
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.93 CRITERION= .2244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5705E-01
 HT FLOW CONVERGENCE VALUE= .4027E-01 CRITERION= .2239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 390
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.090
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5693E-01
 HT FLOW CONVERGENCE VALUE= .4018E-01 CRITERION= .2237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 391
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1170E-04 OSCILLATION LIMIT = 9.231
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5705E-01
 HT FLOW CONVERGENCE VALUE= .4021E-01 CRITERION= .2236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 392
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.091
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5694E-01
 HT FLOW CONVERGENCE VALUE= .4012E-01 CRITERION= .2234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 393
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1171E-04 OSCILLATION LIMIT = 9.236
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5705E-01
 HT FLOW CONVERGENCE VALUE= .4015E-01 CRITERION= .2233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 394
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1152E-04 OSCILLATION LIMIT = 9.092
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2237
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5695E-01
 HT FLOW CONVERGENCE VALUE= .4005E-01 CRITERION= .2231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 395
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1171E-04 OSCILLATION LIMIT = 9.241
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5705E-01
 HT FLOW CONVERGENCE VALUE= .4009E-01 CRITERION= .2230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 396
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1153E-04 OSCILLATION LIMIT = 9.093
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5695E-01
 HT FLOW CONVERGENCE VALUE= .3999E-01 CRITERION= .2229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 397
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1172E-04 OSCILLATION LIMIT = 9.247
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5706E-01
 HT FLOW CONVERGENCE VALUE= .4004E-01 CRITERION= .2227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 398
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1153E-04 OSCILLATION LIMIT = 9.094
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5696E-01
 HT FLOW CONVERGENCE VALUE= .3992E-01 CRITERION= .2226 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 399
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1173E-04 OSCILLATION LIMIT = 9.252
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5706E-01
 HT FLOW CONVERGENCE VALUE= .3995E-01 CRITERION= .2224 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 400
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1153E-04 OSCILLATION LIMIT = 9.096
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5697E-01
 HT FLOW CONVERGENCE VALUE= .3984E-01 CRITERION= .2223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 401
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1173E-04 OSCILLATION LIMIT = 9.257
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.94 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5706E-01
 HT FLOW CONVERGENCE VALUE= .3988E-01 CRITERION= .2221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 402
 *** TIME = .156999E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1153E-04  OSCILLATION LIMIT = 9.097
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96  CRITERION= .2226
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5698E-01
HT FLOW CONVERGENCE VALUE= .3977E-01  CRITERION= .2220  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 403
*** TIME = .157788E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1174E-04  OSCILLATION LIMIT = 9.261

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX 14:12:16 APR 10, 1995 CP= 35317.600
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 9.383  CRITERION= .2222
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6684E-01
HT FLOW CONVERGENCE VALUE= .4229E-01  CRITERION= .2219  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 404
*** TIME = .158577E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9159E-05  OSCILLATION LIMIT = 7.226
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.404  CRITERION= .2220
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6685E-01
HT FLOW CONVERGENCE VALUE= .4193E-01  CRITERION= .2217  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 405
*** TIME = .159366E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9592E-05  OSCILLATION LIMIT = 7.568
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.384  CRITERION= .2219
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6418E-01
HT FLOW CONVERGENCE VALUE= .4033E-01  CRITERION= .2216  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 406
*** TIME = .160155E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9628E-05  OSCILLATION LIMIT = 7.596
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.405  CRITERION= .2217
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6638E-01
HT FLOW CONVERGENCE VALUE= .4150E-01  CRITERION= .2214  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 407
*** TIME = .160944E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9664E-05  OSCILLATION LIMIT = 7.624
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.385  CRITERION= .2216
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6479E-01
HT FLOW CONVERGENCE VALUE= .4059E-01  CRITERION= .2213  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 408
*** TIME = .161733E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9595E-05  OSCILLATION LIMIT = 7.570
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.406  CRITERION= .2214
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6596E-01
HT FLOW CONVERGENCE VALUE= .4123E-01  CRITERION= .2211  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 409
*** TIME = .162522E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9683E-05 OSCILLATION LIMIT = 7.639
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.385 CRITERION= .2213
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6513E-01
HT FLOW CONVERGENCE VALUE= .4070E-01 CRITERION= .2210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 410
*** TIME = .163311E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9581E-05 OSCILLATION LIMIT = 7.559
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.407 CRITERION= .2212
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6574E-01
HT FLOW CONVERGENCE VALUE= .4104E-01 CRITERION= .2208 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 411
*** TIME = .164100E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9696E-05 OSCILLATION LIMIT = 7.649
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.386 CRITERION= .2210
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6533E-01
HT FLOW CONVERGENCE VALUE= .4075E-01 CRITERION= .2207 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 412
*** TIME = .164888E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9573E-05 OSCILLATION LIMIT = 7.552
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.407 CRITERION= .2209
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6562E-01
HT FLOW CONVERGENCE VALUE= .4092E-01 CRITERION= .2205 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 413
*** TIME = .165677E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9704E-05 OSCILLATION LIMIT = 7.656
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.387 CRITERION= .2207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6544E-01
HT FLOW CONVERGENCE VALUE= .4075E-01 CRITERION= .2204 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 414
*** TIME = .166466E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9567E-05 OSCILLATION LIMIT = 7.548
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.408 CRITERION= .2206
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6556E-01
HT FLOW CONVERGENCE VALUE= .4083E-01 CRITERION= .2202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 415
*** TIME = .167255E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9710E-05 OSCILLATION LIMIT = 7.660
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.387 CRITERION= .2204
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6551E-01
HT FLOW CONVERGENCE VALUE= .4074E-01 CRITERION= .2201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 416
*** TIME = .168044E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9563E-05 OSCILLATION LIMIT = 7.544
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.409 CRITERION= .2203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6554E-01

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HT FLOW CONVERGENCE VALUE= .4075E-01 CRITERION= .2199 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 417
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9714E-05 OSCILLATION LIMIT = 7.664
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.388 CRITERION= .2201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6556E-01
 HT FLOW CONVERGENCE VALUE= .4071E-01 CRITERION= .2198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 418
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9560E-05 OSCILLATION LIMIT = 7.542
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.409 CRITERION= .2200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6554E-01
 HT FLOW CONVERGENCE VALUE= .4069E-01 CRITERION= .2196 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 419
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9717E-05 OSCILLATION LIMIT = 7.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.389 CRITERION= .2198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6559E-01
 HT FLOW CONVERGENCE VALUE= .4067E-01 CRITERION= .2195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 420
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9557E-05 OSCILLATION LIMIT = 7.540
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.410 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6554E-01
 HT FLOW CONVERGENCE VALUE= .4063E-01 CRITERION= .2193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 421
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9720E-05 OSCILLATION LIMIT = 7.669
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.389 CRITERION= .2195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6562E-01
 HT FLOW CONVERGENCE VALUE= .4063E-01 CRITERION= .2192 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 422
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9555E-05 OSCILLATION LIMIT = 7.539
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.411 CRITERION= .2194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6555E-01
 HT FLOW CONVERGENCE VALUE= .4058E-01 CRITERION= .2190 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 423
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9723E-05 OSCILLATION LIMIT = 7.671
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.390 CRITERION= .2192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6564E-01
 HT FLOW CONVERGENCE VALUE= .4059E-01 CRITERION= .2189 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 424
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9554E-05 OSCILLATION LIMIT = 7.537
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.411 CRITERION= .2191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6557E-01
 HT FLOW CONVERGENCE VALUE= .4053E-01 CRITERION= .2187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 425
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9725E-05 OSCILLATION LIMIT = 7.673
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.391 CRITERION= .2189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6566E-01
 HT FLOW CONVERGENCE VALUE= .4055E-01 CRITERION= .2186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 426
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9552E-05 OSCILLATION LIMIT = 7.536
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.412 CRITERION= .2188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6559E-01
 HT FLOW CONVERGENCE VALUE= .4048E-01 CRITERION= .2185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 427
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9728E-05 OSCILLATION LIMIT = 7.675
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.392 CRITERION= .2186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6567E-01
 HT FLOW CONVERGENCE VALUE= .4050E-01 CRITERION= .2183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 428
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9551E-05 OSCILLATION LIMIT = 7.535
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.413 CRITERION= .2185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6560E-01
 HT FLOW CONVERGENCE VALUE= .4043E-01 CRITERION= .2182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 429
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9730E-05 OSCILLATION LIMIT = 7.676
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.392 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6569E-01
 HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .2180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 430
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9549E-05 OSCILLATION LIMIT = 7.534
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.413 CRITERION= .2182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6562E-01
 HT FLOW CONVERGENCE VALUE= .4038E-01 CRITERION= .2179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 431
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9732E-05 OSCILLATION LIMIT = 7.678
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.393 CRITERION= .2180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6570E-01
 HT FLOW CONVERGENCE VALUE= .4041E-01 CRITERION= .2177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 432
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9548E-05 OSCILLATION LIMIT = 7.533

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

HT FLOW CONVERGENCE VALUE= 9.414 CRITERION= .2179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6564E-01
 HT FLOW CONVERGENCE VALUE= .4028E-01 CRITERION= .2176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 433
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9734E-05 OSCILLATION LIMIT = 7.679
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.394 CRITERION= .2178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6572E-01
 HT FLOW CONVERGENCE VALUE= .4031E-01 CRITERION= .2174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 434
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9547E-05 OSCILLATION LIMIT = 7.532
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.415 CRITERION= .2176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6566E-01
 HT FLOW CONVERGENCE VALUE= .4022E-01 CRITERION= .2173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 435
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9736E-05 OSCILLATION LIMIT = 7.681
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.394 CRITERION= .2175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6573E-01
 HT FLOW CONVERGENCE VALUE= .4026E-01 CRITERION= .2171 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 436
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9546E-05 OSCILLATION LIMIT = 7.531
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.415 CRITERION= .2173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6568E-01
 HT FLOW CONVERGENCE VALUE= .4017E-01 CRITERION= .2170 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 437
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9737E-05 OSCILLATION LIMIT = 7.682
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.395 CRITERION= .2172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6575E-01
 HT FLOW CONVERGENCE VALUE= .4021E-01 CRITERION= .2168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 438
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9545E-05 OSCILLATION LIMIT = 7.531
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.416 CRITERION= .2170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6570E-01
 HT FLOW CONVERGENCE VALUE= .4012E-01 CRITERION= .2167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 439
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9739E-05 OSCILLATION LIMIT = 7.684
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.396 CRITERION= .2169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6576E-01
 HT FLOW CONVERGENCE VALUE= .4017E-01 CRITERION= .2165 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 440

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*** TIME = .186979E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9544E-05    OSCILLATION LIMIT = 7.530
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.417    CRITERION= .2167
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6572E-01
    HT FLOW CONVERGENCE VALUE= .4007E-01    CRITERION= .2164    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED.    CUM ITER = 441
*** TIME = .187768E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9741E-05    OSCILLATION LIMIT = 7.685
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.396    CRITERION= .2166
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6578E-01
    HT FLOW CONVERGENCE VALUE= .4011E-01    CRITERION= .2162    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED.    CUM ITER = 442
*** TIME = .188557E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9544E-05    OSCILLATION LIMIT = 7.529
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.418    CRITERION= .2164
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6574E-01
    HT FLOW CONVERGENCE VALUE= .4001E-01    CRITERION= .2161    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED.    CUM ITER = 443
*** TIME = .189346E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9743E-05    OSCILLATION LIMIT = 7.686

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    15:16:06 APR 10, 1995 CP= 38969.510
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 6.449    CRITERION= .2162
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6091E-01
    HT FLOW CONVERGENCE VALUE= .3676E-01    CRITERION= .2160    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 1 COMPLETED.    CUM ITER = 444
*** TIME = .190135E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8215E-05    OSCILLATION LIMIT = 6.481
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.470    CRITERION= .2160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5887E-01
    HT FLOW CONVERGENCE VALUE= .3499E-01    CRITERION= .2158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 2 COMPLETED.    CUM ITER = 445
*** TIME = .190924E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8888E-05    OSCILLATION LIMIT = 7.012
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.450    CRITERION= .2159
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5937E-01
    HT FLOW CONVERGENCE VALUE= .3514E-01    CRITERION= .2157    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 3 COMPLETED.    CUM ITER = 446
*** TIME = .191712E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8709E-05    OSCILLATION LIMIT = 6.871
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.470    CRITERION= .2158
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5918E-01
    HT FLOW CONVERGENCE VALUE= .3505E-01    CRITERION= .2156    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 447
*** TIME = .192501E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8888E-05 OSCILLATION LIMIT = 7.012
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.450 CRITERION= .2157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5936E-01
HT FLOW CONVERGENCE VALUE= .3510E-01 CRITERION= .2154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 448
*** TIME = .193290E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8700E-05 OSCILLATION LIMIT = 6.864
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.471 CRITERION= .2155
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5921E-01
HT FLOW CONVERGENCE VALUE= .3500E-01 CRITERION= .2153 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 449
*** TIME = .194079E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8889E-05 OSCILLATION LIMIT = 7.013
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.450 CRITERION= .2154
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5936E-01
HT FLOW CONVERGENCE VALUE= .3504E-01 CRITERION= .2152 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 450
*** TIME = .194868E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8698E-05 OSCILLATION LIMIT = 6.863
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.471 CRITERION= .2153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5924E-01
HT FLOW CONVERGENCE VALUE= .3495E-01 CRITERION= .2151 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 451
*** TIME = .195657E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8890E-05 OSCILLATION LIMIT = 7.014
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.451 CRITERION= .2151
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5937E-01
HT FLOW CONVERGENCE VALUE= .3498E-01 CRITERION= .2149 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 452
*** TIME = .196446E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8696E-05 OSCILLATION LIMIT = 6.861
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.471 CRITERION= .2150
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5927E-01
HT FLOW CONVERGENCE VALUE= .3491E-01 CRITERION= .2148 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 453
*** TIME = .197235E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8891E-05 OSCILLATION LIMIT = 7.014
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.451 CRITERION= .2149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5938E-01
HT FLOW CONVERGENCE VALUE= .3493E-01 CRITERION= .2147 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 454
*** TIME = .198024E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8694E-05 OSCILLATION LIMIT = 6.859
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.472 CRITERION= .2148

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5929E-01
 HT FLOW CONVERGENCE VALUE= .3485E-01 CRITERION= .2145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 455
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8892E-05 OSCILLATION LIMIT = 7.015
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.451 CRITERION= .2146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5939E-01
 HT FLOW CONVERGENCE VALUE= .3489E-01 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 456
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8692E-05 OSCILLATION LIMIT = 6.858
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.472 CRITERION= .2145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5931E-01
 HT FLOW CONVERGENCE VALUE= .3481E-01 CRITERION= .2143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 457
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8893E-05 OSCILLATION LIMIT = 7.016
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.452 CRITERION= .2144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5940E-01
 HT FLOW CONVERGENCE VALUE= .3484E-01 CRITERION= .2142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 458
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8691E-05 OSCILLATION LIMIT = 6.856
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.472 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5933E-01
 HT FLOW CONVERGENCE VALUE= .3477E-01 CRITERION= .2140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 459
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8894E-05 OSCILLATION LIMIT = 7.017
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.452 CRITERION= .2141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5941E-01
 HT FLOW CONVERGENCE VALUE= .3481E-01 CRITERION= .2139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 460
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8689E-05 OSCILLATION LIMIT = 6.855
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.473 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5935E-01
 HT FLOW CONVERGENCE VALUE= .3473E-01 CRITERION= .2138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 461
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8895E-05 OSCILLATION LIMIT = 7.018
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.452 CRITERION= .2139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5943E-01
 HT FLOW CONVERGENCE VALUE= .3478E-01 CRITERION= .2137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 462
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8687E-05 OSCILLATION LIMIT = 6.854
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.473 CRITERION= .2137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5937E-01
 HT FLOW CONVERGENCE VALUE= .3470E-01 CRITERION= .2135 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 463
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8896E-05 OSCILLATION LIMIT = 7.018
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.453 CRITERION= .2136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5944E-01
 HT FLOW CONVERGENCE VALUE= .3474E-01 CRITERION= .2134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 464
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.473 CRITERION= .2135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5939E-01
 HT FLOW CONVERGENCE VALUE= .3466E-01 CRITERION= .2133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 465
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8897E-05 OSCILLATION LIMIT = 7.019
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.453 CRITERION= .2134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5945E-01
 HT FLOW CONVERGENCE VALUE= .3471E-01 CRITERION= .2131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 466
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.473 CRITERION= .2132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5940E-01
 HT FLOW CONVERGENCE VALUE= .3462E-01 CRITERION= .2130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 467
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8898E-05 OSCILLATION LIMIT = 7.020
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.453 CRITERION= .2131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5947E-01
 HT FLOW CONVERGENCE VALUE= .3467E-01 CRITERION= .2129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 468
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8682E-05 OSCILLATION LIMIT = 6.850
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.474 CRITERION= .2130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5942E-01
 HT FLOW CONVERGENCE VALUE= .3459E-01 CRITERION= .2128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 469
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8898E-05 OSCILLATION LIMIT = 7.020
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.454 CRITERION= .2128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5948E-01
 HT FLOW CONVERGENCE VALUE= .3464E-01 CRITERION= .2126 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 470
 *** TIME = .210647E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8681E-05  OSCILLATION LIMIT = 6.849
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.474  CRITERION= .2127
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5944E-01
  HT FLOW CONVERGENCE VALUE= .3455E-01 CRITERION= .2125  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED.  CUM ITER = 471
*** TIME = .211436E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8899E-05  OSCILLATION LIMIT = 7.021
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.454  CRITERION= .2126
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5950E-01
  HT FLOW CONVERGENCE VALUE= .3461E-01 CRITERION= .2124  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED.  CUM ITER = 472
*** TIME = .212225E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8679E-05  OSCILLATION LIMIT = 6.847
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.474  CRITERION= .2125
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5946E-01
  HT FLOW CONVERGENCE VALUE= .3452E-01 CRITERION= .2122  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED.  CUM ITER = 473
*** TIME = .213014E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8899E-05  OSCILLATION LIMIT = 7.021
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.454  CRITERION= .2123
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5951E-01
  HT FLOW CONVERGENCE VALUE= .3457E-01 CRITERION= .2121  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED.  CUM ITER = 474
*** TIME = .213803E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8678E-05  OSCILLATION LIMIT = 6.846
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.475  CRITERION= .2122
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5947E-01
  HT FLOW CONVERGENCE VALUE= .3447E-01 CRITERION= .2120  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 32 COMPLETED.  CUM ITER = 475
*** TIME = .214592E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8900E-05  OSCILLATION LIMIT = 7.021
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.455  CRITERION= .2121
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5953E-01
  HT FLOW CONVERGENCE VALUE= .3454E-01 CRITERION= .2119  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 33 COMPLETED.  CUM ITER = 476
*** TIME = .215381E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8676E-05  OSCILLATION LIMIT = 6.845
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.475  CRITERION= .2119
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5949E-01
  HT FLOW CONVERGENCE VALUE= .3443E-01 CRITERION= .2117  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 34 COMPLETED.  CUM ITER = 477
*** TIME = .216170E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8900E-05  OSCILLATION LIMIT = 7.022
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 6.455  CRITERION= .2118
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5954E-01
  HT FLOW CONVERGENCE VALUE= .3449E-01 CRITERION= .2116  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 478
*** TIME = .216959E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8675E-05 OSCILLATION LIMIT = 6.844
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.475 CRITERION= .2117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5951E-01
HT FLOW CONVERGENCE VALUE= .3440E-01 CRITERION= .2115 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 479
*** TIME = .217747E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8900E-05 OSCILLATION LIMIT = 7.022
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.455 CRITERION= .2116
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5956E-01
HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .2114 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 480
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8673E-05 OSCILLATION LIMIT = 6.843
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.476 CRITERION= .2114
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5953E-01
HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .2112 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 481
*** TIME = .219325E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8901E-05 OSCILLATION LIMIT = 7.022
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.456 CRITERION= .2113
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5957E-01
HT FLOW CONVERGENCE VALUE= .3442E-01 CRITERION= .2111 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 482
*** TIME = .220114E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8672E-05 OSCILLATION LIMIT = 6.842
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.476 CRITERION= .2112
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5954E-01
HT FLOW CONVERGENCE VALUE= .3432E-01 CRITERION= .2110 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 483
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8901E-05 OSCILLATION LIMIT = 7.022

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 16:21:22 APR 10, 1995 CP= 42635.250
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 5.606 CRITERION= .2110
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5664E-01
HT FLOW CONVERGENCE VALUE= .3274E-01 CRITERION= .2108 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 484
*** TIME = .221692E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8272E-05 OSCILLATION LIMIT = 6.526
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.626 CRITERION= .2109
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5575E-01

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HT FLOW CONVERGENCE VALUE= .3196E-01 CRITERION= .2107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 485
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8694E-05 OSCILLATION LIMIT = 6.859
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.606 CRITERION= .2108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5622E-01
 HT FLOW CONVERGENCE VALUE= .3222E-01 CRITERION= .2106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 486
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8449E-05 OSCILLATION LIMIT = 6.666
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.626 CRITERION= .2107
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5593E-01
 HT FLOW CONVERGENCE VALUE= .3201E-01 CRITERION= .2105 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 487
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8688E-05 OSCILLATION LIMIT = 6.854
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.606 CRITERION= .2105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5617E-01
 HT FLOW CONVERGENCE VALUE= .3216E-01 CRITERION= .2104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 488
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8447E-05 OSCILLATION LIMIT = 6.664
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.627 CRITERION= .2104
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5599E-01
 HT FLOW CONVERGENCE VALUE= .3200E-01 CRITERION= .2102 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 489
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8687E-05 OSCILLATION LIMIT = 6.853
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.606 CRITERION= .2103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5615E-01
 HT FLOW CONVERGENCE VALUE= .3211E-01 CRITERION= .2101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 490
 *** TIME = .226426E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8447E-05 OSCILLATION LIMIT = 6.664
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.627 CRITERION= .2102
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5603E-01
 HT FLOW CONVERGENCE VALUE= .3198E-01 CRITERION= .2100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 491
 *** TIME = .227215E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8686E-05 OSCILLATION LIMIT = 6.853
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.607 CRITERION= .2101
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5614E-01
 HT FLOW CONVERGENCE VALUE= .3208E-01 CRITERION= .2099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 492
 *** TIME = .228004E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8446E-05 OSCILLATION LIMIT = 6.663
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.627 CRITERION= .2100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5606E-01
 HT FLOW CONVERGENCE VALUE= .3196E-01 CRITERION= .2098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 493
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.607 CRITERION= .2098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5615E-01
 HT FLOW CONVERGENCE VALUE= .3204E-01 CRITERION= .2097 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 494
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8444E-05 OSCILLATION LIMIT = 6.662
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.627 CRITERION= .2097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5609E-01
 HT FLOW CONVERGENCE VALUE= .3193E-01 CRITERION= .2095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 495
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.607 CRITERION= .2096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5615E-01
 HT FLOW CONVERGENCE VALUE= .3201E-01 CRITERION= .2094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 496
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8443E-05 OSCILLATION LIMIT = 6.661
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.628 CRITERION= .2095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5611E-01
 HT FLOW CONVERGENCE VALUE= .3190E-01 CRITERION= .2093 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 497
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.607 CRITERION= .2094
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5616E-01
 HT FLOW CONVERGENCE VALUE= .3197E-01 CRITERION= .2092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 498
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8442E-05 OSCILLATION LIMIT = 6.660
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.628 CRITERION= .2092
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5613E-01
 HT FLOW CONVERGENCE VALUE= .3187E-01 CRITERION= .2091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 499
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.608 CRITERION= .2091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5618E-01
 HT FLOW CONVERGENCE VALUE= .3194E-01 CRITERION= .2089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 500
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8440E-05 OSCILLATION LIMIT = 6.659

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

HT FLOW CONVERGENCE VALUE= 5.628 CRITERION= .2090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5614E-01
 HT FLOW CONVERGENCE VALUE= .3184E-01 CRITERION= .2088 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 501
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.608 CRITERION= .2089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5619E-01
 HT FLOW CONVERGENCE VALUE= .3192E-01 CRITERION= .2087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 502
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8439E-05 OSCILLATION LIMIT = 6.658
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.628 CRITERION= .2088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5616E-01
 HT FLOW CONVERGENCE VALUE= .3181E-01 CRITERION= .2086 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 503
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 6.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.608 CRITERION= .2086
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5620E-01
 HT FLOW CONVERGENCE VALUE= .3189E-01 CRITERION= .2085 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 504
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8438E-05 OSCILLATION LIMIT = 6.657
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.629 CRITERION= .2085
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5618E-01
 HT FLOW CONVERGENCE VALUE= .3179E-01 CRITERION= .2083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 505
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.608 CRITERION= .2084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5621E-01
 HT FLOW CONVERGENCE VALUE= .3186E-01 CRITERION= .2082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 506
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8437E-05 OSCILLATION LIMIT = 6.656
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.629 CRITERION= .2083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5619E-01
 HT FLOW CONVERGENCE VALUE= .3176E-01 CRITERION= .2081 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 507
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.609 CRITERION= .2082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5623E-01
 HT FLOW CONVERGENCE VALUE= .3183E-01 CRITERION= .2080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 508

*** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8435E-05 OSCILLATION LIMIT = 6.655
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.629 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5621E-01
 HT FLOW CONVERGENCE VALUE= .3173E-01 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 509
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.609 CRITERION= .2079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5624E-01
 HT FLOW CONVERGENCE VALUE= .3181E-01 CRITERION= .2077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 510
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8434E-05 OSCILLATION LIMIT = 6.654
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.629 CRITERION= .2078
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5622E-01
 HT FLOW CONVERGENCE VALUE= .3170E-01 CRITERION= .2076 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 511
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.609 CRITERION= .2077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5626E-01
 HT FLOW CONVERGENCE VALUE= .3178E-01 CRITERION= .2075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 512
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8433E-05 OSCILLATION LIMIT = 6.653
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.630 CRITERION= .2076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5624E-01
 HT FLOW CONVERGENCE VALUE= .3167E-01 CRITERION= .2074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 513
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.609 CRITERION= .2074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5627E-01
 HT FLOW CONVERGENCE VALUE= .3175E-01 CRITERION= .2073 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 514
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8432E-05 OSCILLATION LIMIT = 6.652
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.630 CRITERION= .2073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5625E-01
 HT FLOW CONVERGENCE VALUE= .3164E-01 CRITERION= .2071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 515
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8683E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .2072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5628E-01
 HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .2070 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 516
*** TIME = .246938E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8431E-05 OSCILLATION LIMIT = 6.652
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.630 CRITERION= .2071
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5627E-01
HT FLOW CONVERGENCE VALUE= .3161E-01 CRITERION= .2069 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 517
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8683E-05 OSCILLATION LIMIT = 6.850
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .2070
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5630E-01
HT FLOW CONVERGENCE VALUE= .3169E-01 CRITERION= .2068 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 518
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8430E-05 OSCILLATION LIMIT = 6.651
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.630 CRITERION= .2069
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5628E-01
HT FLOW CONVERGENCE VALUE= .3158E-01 CRITERION= .2067 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 519
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8683E-05 OSCILLATION LIMIT = 6.850
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .2067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5631E-01
HT FLOW CONVERGENCE VALUE= .3166E-01 CRITERION= .2066 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 520
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8429E-05 OSCILLATION LIMIT = 6.650
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.630 CRITERION= .2066
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5630E-01
HT FLOW CONVERGENCE VALUE= .3154E-01 CRITERION= .2064 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 521
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8682E-05 OSCILLATION LIMIT = 6.850
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.610 CRITERION= .2065
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5632E-01
HT FLOW CONVERGENCE VALUE= .3162E-01 CRITERION= .2063 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 522
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8428E-05 OSCILLATION LIMIT = 6.649
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.631 CRITERION= .2064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5631E-01
HT FLOW CONVERGENCE VALUE= .3151E-01 CRITERION= .2062 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 523
*** TIME = .252461E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8682E-05 OSCILLATION LIMIT = 6.849

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:25:59 APR 10, 1995 CP= 46300.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6583E-01
 HT FLOW CONVERGENCE VALUE= .3705E-01 CRITERION= .2061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 524
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4554E-05 OSCILLATION LIMIT = 3.593
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6495E-01
 HT FLOW CONVERGENCE VALUE= .3586E-01 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 525
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5072E-05 OSCILLATION LIMIT = 4.002
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6172E-01
 HT FLOW CONVERGENCE VALUE= .3391E-01 CRITERION= .2059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 526
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4939E-05 OSCILLATION LIMIT = 3.896
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6447E-01
 HT FLOW CONVERGENCE VALUE= .3543E-01 CRITERION= .2057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 527
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5102E-05 OSCILLATION LIMIT = 4.025
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6249E-01
 HT FLOW CONVERGENCE VALUE= .3429E-01 CRITERION= .2056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 528
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4945E-05 OSCILLATION LIMIT = 3.901
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6395E-01
 HT FLOW CONVERGENCE VALUE= .3513E-01 CRITERION= .2055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 529
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5092E-05 OSCILLATION LIMIT = 4.017
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6291E-01
 HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .2054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 530
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4951E-05 OSCILLATION LIMIT = 3.906
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6368E-01
 HT FLOW CONVERGENCE VALUE= .3495E-01 CRITERION= .2053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 531
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5087E-05 OSCILLATION LIMIT = 4.013
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6316E-01
 HT FLOW CONVERGENCE VALUE= .3456E-01 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 532
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4953E-05 OSCILLATION LIMIT = 3.908
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6354E-01
 HT FLOW CONVERGENCE VALUE= .3484E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 533
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5083E-05 OSCILLATION LIMIT = 4.010
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6331E-01
 HT FLOW CONVERGENCE VALUE= .3460E-01 CRITERION= .2050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 534
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4954E-05 OSCILLATION LIMIT = 3.908
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6347E-01
 HT FLOW CONVERGENCE VALUE= .3476E-01 CRITERION= .2048 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 535
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5082E-05 OSCILLATION LIMIT = 4.009
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6340E-01
 HT FLOW CONVERGENCE VALUE= .3461E-01 CRITERION= .2047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 536
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4953E-05 OSCILLATION LIMIT = 3.907
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6344E-01
 HT FLOW CONVERGENCE VALUE= .3470E-01 CRITERION= .2046 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 537
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5081E-05 OSCILLATION LIMIT = 4.008
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6346E-01
 HT FLOW CONVERGENCE VALUE= .3461E-01 CRITERION= .2045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 538
 *** TIME = .264295E+09 TIME INC = 788940.


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*** RESPONSE EIGENVALUE = .4951E-05  OSCILLATION LIMIT = 3.906
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.039  CRITERION= .2045
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6344E-01
  HT FLOW CONVERGENCE VALUE= .3466E-01 CRITERION= .2044  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED.  CUM ITER = 539
*** TIME = .265084E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5080E-05  OSCILLATION LIMIT = 4.008
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.058  CRITERION= .2044
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6350E-01
  HT FLOW CONVERGENCE VALUE= .3459E-01 CRITERION= .2043  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED.  CUM ITER = 540
*** TIME = .265873E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4949E-05  OSCILLATION LIMIT = 3.904
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.039  CRITERION= .2043
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6345E-01
  HT FLOW CONVERGENCE VALUE= .3463E-01 CRITERION= .2042  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED.  CUM ITER = 541
*** TIME = .266662E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5079E-05  OSCILLATION LIMIT = 4.007
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.058  CRITERION= .2042
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6353E-01
  HT FLOW CONVERGENCE VALUE= .3458E-01 CRITERION= .2041  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED.  CUM ITER = 542
*** TIME = .267451E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4947E-05  OSCILLATION LIMIT = 3.903
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.039  CRITERION= .2041
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6346E-01
  HT FLOW CONVERGENCE VALUE= .3460E-01 CRITERION= .2039  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED.  CUM ITER = 543
*** TIME = .268240E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5079E-05  OSCILLATION LIMIT = 4.007
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.058  CRITERION= .2039
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6356E-01
  HT FLOW CONVERGENCE VALUE= .3455E-01 CRITERION= .2038  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 21 COMPLETED.  CUM ITER = 544
*** TIME = .269029E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4944E-05  OSCILLATION LIMIT = 3.901
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.039  CRITERION= .2038
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6349E-01
  HT FLOW CONVERGENCE VALUE= .3456E-01 CRITERION= .2037  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 22 COMPLETED.  CUM ITER = 545
*** TIME = .269818E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5078E-05  OSCILLATION LIMIT = 4.007
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.058  CRITERION= .2037
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6358E-01
  HT FLOW CONVERGENCE VALUE= .3453E-01 CRITERION= .2036  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 546
*** TIME = .270606E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4942E-05 OSCILLATION LIMIT = 3.899
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6351E-01
HT FLOW CONVERGENCE VALUE= .3453E-01 CRITERION= .2035 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 547
*** TIME = .271395E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5078E-05 OSCILLATION LIMIT = 4.006
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6361E-01
HT FLOW CONVERGENCE VALUE= .3450E-01 CRITERION= .2034 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 548
*** TIME = .272184E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4940E-05 OSCILLATION LIMIT = 3.897
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2034
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6353E-01
HT FLOW CONVERGENCE VALUE= .3449E-01 CRITERION= .2033 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 549
*** TIME = .272973E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5078E-05 OSCILLATION LIMIT = 4.006
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2033
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6363E-01
HT FLOW CONVERGENCE VALUE= .3447E-01 CRITERION= .2032 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 550
*** TIME = .273762E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4938E-05 OSCILLATION LIMIT = 3.896
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2032
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6356E-01
HT FLOW CONVERGENCE VALUE= .3446E-01 CRITERION= .2030 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 551
*** TIME = .274551E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5077E-05 OSCILLATION LIMIT = 4.006
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6365E-01
HT FLOW CONVERGENCE VALUE= .3444E-01 CRITERION= .2029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 552
*** TIME = .275340E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4936E-05 OSCILLATION LIMIT = 3.894
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2029
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6358E-01
HT FLOW CONVERGENCE VALUE= .3443E-01 CRITERION= .2028 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 553
*** TIME = .276129E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5077E-05 OSCILLATION LIMIT = 4.006
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2028
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6367E-01

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HT FLOW CONVERGENCE VALUE= .3442E-01 CRITERION= .2027 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 554
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4934E-05 OSCILLATION LIMIT = 3.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6361E-01
 HT FLOW CONVERGENCE VALUE= .3440E-01 CRITERION= .2026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 555
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5077E-05 OSCILLATION LIMIT = 4.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6370E-01
 HT FLOW CONVERGENCE VALUE= .3439E-01 CRITERION= .2025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 556
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4932E-05 OSCILLATION LIMIT = 3.891
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6363E-01
 HT FLOW CONVERGENCE VALUE= .3438E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 557
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5076E-05 OSCILLATION LIMIT = 4.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6372E-01
 HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .2023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 558
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4930E-05 OSCILLATION LIMIT = 3.889
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6366E-01
 HT FLOW CONVERGENCE VALUE= .3435E-01 CRITERION= .2021 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 559
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5075E-05 OSCILLATION LIMIT = 4.004
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6374E-01
 HT FLOW CONVERGENCE VALUE= .3434E-01 CRITERION= .2020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 560
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4928E-05 OSCILLATION LIMIT = 3.888
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6368E-01
 HT FLOW CONVERGENCE VALUE= .3432E-01 CRITERION= .2019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 561
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5075E-05 OSCILLATION LIMIT = 4.004
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.058 CRITERION= .2019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6376E-01
 HT FLOW CONVERGENCE VALUE= .3432E-01 CRITERION= .2018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 562
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4926E-05 OSCILLATION LIMIT = 3.886
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.039 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6371E-01
 HT FLOW CONVERGENCE VALUE= .3430E-01 CRITERION= .2017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 563
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5074E-05 OSCILLATION LIMIT = 4.003
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4913.36056 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 129.27 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 130.14 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 132.34 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 49945.810 TIME= 18:41:52
 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 18:41:52 APR 10, 1995 CP= 49945.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 . . . . . 4
  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= 2.114 CRITERION= .2017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5458E-01
HT FLOW CONVERGENCE VALUE= .2973E-01 CRITERION= .2016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 564
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4643E-05 OSCILLATION LIMIT = 3.663
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5273E-01
HT FLOW CONVERGENCE VALUE= .2847E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 565
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.864
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .2015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5463E-01
HT FLOW CONVERGENCE VALUE= .2939E-01 CRITERION= .2014 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 566
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4761E-05 OSCILLATION LIMIT = 3.757
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .2014
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5326E-01
HT FLOW CONVERGENCE VALUE= .2873E-01 CRITERION= .2013 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 567
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4897E-05 OSCILLATION LIMIT = 3.864
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
  
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HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .2013
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5431E-01
HT FLOW CONVERGENCE VALUE= .2920E-01 CRITERION= .2012 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 568
*** TIME = .287963E+09 TIME INC = 788940.
  
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*** RESPONSE EIGENVALUE = .4749E-05  OSCILLATION LIMIT = 3.747
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.095  CRITERION= .2012
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5353E-01
  HT FLOW CONVERGENCE VALUE= .2883E-01 CRITERION= .2011  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED.  CUM ITER = 569
*** TIME = .288752E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4903E-05  OSCILLATION LIMIT = 3.868
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.114  CRITERION= .2011
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5414E-01
  HT FLOW CONVERGENCE VALUE= .2910E-01 CRITERION= .2010  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED.  CUM ITER = 570
*** TIME = .289541E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4742E-05  OSCILLATION LIMIT = 3.741
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.095  CRITERION= .2010
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5368E-01
  HT FLOW CONVERGENCE VALUE= .2888E-01 CRITERION= .2009  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED.  CUM ITER = 571
*** TIME = .290330E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4906E-05  OSCILLATION LIMIT = 3.870
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.114  CRITERION= .2009
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5405E-01
  HT FLOW CONVERGENCE VALUE= .2903E-01 CRITERION= .2008  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED.  CUM ITER = 572
*** TIME = .291119E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4737E-05  OSCILLATION LIMIT = 3.737
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.095  CRITERION= .2008
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5378E-01
  HT FLOW CONVERGENCE VALUE= .2890E-01 CRITERION= .2007  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED.  CUM ITER = 573
*** TIME = .291908E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4907E-05  OSCILLATION LIMIT = 3.871
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.114  CRITERION= .2007
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5401E-01
  HT FLOW CONVERGENCE VALUE= .2898E-01 CRITERION= .2007  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED.  CUM ITER = 574
*** TIME = .292697E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4734E-05  OSCILLATION LIMIT = 3.735
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.095  CRITERION= .2007
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5384E-01
  HT FLOW CONVERGENCE VALUE= .2890E-01 CRITERION= .2006  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED.  CUM ITER = 575
*** TIME = .293486E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4908E-05  OSCILLATION LIMIT = 3.872
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 2.114  CRITERION= .2006
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5399E-01
  HT FLOW CONVERGENCE VALUE= .2895E-01 CRITERION= .2005  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 576
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4731E-05 OSCILLATION LIMIT = 3.733
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .2005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5388E-01
HT FLOW CONVERGENCE VALUE= .2889E-01 CRITERION= .2004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 577
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4907E-05 OSCILLATION LIMIT = 3.872
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5399E-01
HT FLOW CONVERGENCE VALUE= .2892E-01 CRITERION= .2003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 578
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4729E-05 OSCILLATION LIMIT = 3.731
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5391E-01
HT FLOW CONVERGENCE VALUE= .2888E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 579
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4907E-05 OSCILLATION LIMIT = 3.871
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .2002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5400E-01
HT FLOW CONVERGENCE VALUE= .2890E-01 CRITERION= .2001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 580
*** TIME = .297430E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4727E-05 OSCILLATION LIMIT = 3.730
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .2001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5394E-01
HT FLOW CONVERGENCE VALUE= .2886E-01 CRITERION= .2000 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 581
*** TIME = .298219E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4907E-05 OSCILLATION LIMIT = 3.871
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .2000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5401E-01
HT FLOW CONVERGENCE VALUE= .2887E-01 CRITERION= .1999 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 582
*** TIME = .299008E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4726E-05 OSCILLATION LIMIT = 3.728
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1999
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5396E-01
HT FLOW CONVERGENCE VALUE= .2883E-01 CRITERION= .1998 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 583
*** TIME = .299797E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4906E-05 OSCILLATION LIMIT = 3.871
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1998
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5402E-01

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HT FLOW CONVERGENCE VALUE= .2885E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 584
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4724E-05 OSCILLATION LIMIT = 3.727
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5398E-01
 HT FLOW CONVERGENCE VALUE= .2882E-01 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 585
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4905E-05 OSCILLATION LIMIT = 3.870
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5403E-01
 HT FLOW CONVERGENCE VALUE= .2883E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 586
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4722E-05 OSCILLATION LIMIT = 3.726
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5400E-01
 HT FLOW CONVERGENCE VALUE= .2880E-01 CRITERION= .1994 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 587
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4905E-05 OSCILLATION LIMIT = 3.870
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5405E-01
 HT FLOW CONVERGENCE VALUE= .2881E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 588
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4721E-05 OSCILLATION LIMIT = 3.725
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5402E-01
 HT FLOW CONVERGENCE VALUE= .2878E-01 CRITERION= .1992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 589
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4904E-05 OSCILLATION LIMIT = 3.869
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1992
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5406E-01
 HT FLOW CONVERGENCE VALUE= .2880E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 590
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4720E-05 OSCILLATION LIMIT = 3.723
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5404E-01
 HT FLOW CONVERGENCE VALUE= .2876E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 591
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4903E-05 OSCILLATION LIMIT = 3.868
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5408E-01
 HT FLOW CONVERGENCE VALUE= .2877E-01 CRITERION= .1990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 592
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4718E-05 OSCILLATION LIMIT = 3.722
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.095 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5405E-01
 HT FLOW CONVERGENCE VALUE= .2874E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 593
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4902E-05 OSCILLATION LIMIT = 3.868
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5410E-01
 HT FLOW CONVERGENCE VALUE= .2876E-01 CRITERION= .1988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 594
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4717E-05 OSCILLATION LIMIT = 3.721
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.094 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5407E-01
 HT FLOW CONVERGENCE VALUE= .2873E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 595
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4901E-05 OSCILLATION LIMIT = 3.867
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5411E-01
 HT FLOW CONVERGENCE VALUE= .2875E-01 CRITERION= .1986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 596
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4715E-05 OSCILLATION LIMIT = 3.720
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.094 CRITERION= .1986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5409E-01
 HT FLOW CONVERGENCE VALUE= .2871E-01 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 597
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4900E-05 OSCILLATION LIMIT = 3.866
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5413E-01
 HT FLOW CONVERGENCE VALUE= .2873E-01 CRITERION= .1984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 598
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4714E-05 OSCILLATION LIMIT = 3.719
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.094 CRITERION= .1984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5411E-01
 HT FLOW CONVERGENCE VALUE= .2870E-01 CRITERION= .1983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 599
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4899E-05 OSCILLATION LIMIT = 3.865

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

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5414E-01
 HT FLOW CONVERGENCE VALUE= .2872E-01 CRITERION= .1982 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 600
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4712E-05 OSCILLATION LIMIT = 3.718
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.094 CRITERION= .1982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5412E-01
 HT FLOW CONVERGENCE VALUE= .2869E-01 CRITERION= .1981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 601
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.864
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.114 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5416E-01
 HT FLOW CONVERGENCE VALUE= .2871E-01 CRITERION= .1980 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 602
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4711E-05 OSCILLATION LIMIT = 3.716
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.094 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5414E-01
 HT FLOW CONVERGENCE VALUE= .2867E-01 CRITERION= .1979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 603
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4897E-05 OSCILLATION LIMIT = 3.864

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:52:53 APR 10, 1995 CP= 53558.410
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 33.08 CRITERION= .2006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5645
 HT FLOW CONVERGENCE VALUE= .2905 CRITERION= .1972
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4416E-01
 HT FLOW CONVERGENCE VALUE= .1435E-01 CRITERION= .1970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 605
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4105E-05 OSCILLATION LIMIT = 32.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.06 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5680
 HT FLOW CONVERGENCE VALUE= .2882 CRITERION= .1963
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4375E-01
 HT FLOW CONVERGENCE VALUE= .1405E-01 CRITERION= .1961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 607
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4214E-05 OSCILLATION LIMIT = 33.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.07 CRITERION= .1988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5693
 HT FLOW CONVERGENCE VALUE= .2877 CRITERION= .1954
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4368E-01
 HT FLOW CONVERGENCE VALUE= .1395E-01 CRITERION= .1953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 609
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4190E-05 OSCILLATION LIMIT = 33.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.05 CRITERION= .1980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5695
 HT FLOW CONVERGENCE VALUE= .2863 CRITERION= .1945
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4368E-01
 HT FLOW CONVERGENCE VALUE= .1388E-01 CRITERION= .1944 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 611
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4204E-05 OSCILLATION LIMIT = 33.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.06 CRITERION= .1971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5708
 HT FLOW CONVERGENCE VALUE= .2856 CRITERION= .1937
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4360E-01
 HT FLOW CONVERGENCE VALUE= .1377E-01 CRITERION= .1935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 613
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4181E-05 OSCILLATION LIMIT = 32.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.04 CRITERION= .1962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5711
 HT FLOW CONVERGENCE VALUE= .2844 CRITERION= .1928
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4358E-01
 HT FLOW CONVERGENCE VALUE= .1371E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 615
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4195E-05 OSCILLATION LIMIT = 33.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.06 CRITERION= .1954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5723
 HT FLOW CONVERGENCE VALUE= .2838 CRITERION= .1919
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4348E-01
 HT FLOW CONVERGENCE VALUE= .1364E-01 CRITERION= .1918 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 617
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4173E-05 OSCILLATION LIMIT = 32.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.03 CRITERION= .1945
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5727
 HT FLOW CONVERGENCE VALUE= .2853 CRITERION= .1910
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4347E-01
 HT FLOW CONVERGENCE VALUE= .1380E-01 CRITERION= .1909 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 619
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4186E-05 OSCILLATION LIMIT = 33.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.05 CRITERION= .1937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5739
 HT FLOW CONVERGENCE VALUE= .2868 CRITERION= .1902

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4331E-01
 HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .1900 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 621
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4163E-05 OSCILLATION LIMIT = 32.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.02 CRITERION= .1928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5742
 HT FLOW CONVERGENCE VALUE= .2890 CRITERION= .1893
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4317E-01
 HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .1891 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 623
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4176E-05 OSCILLATION LIMIT = 32.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.04 CRITERION= .1919
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5754
 HT FLOW CONVERGENCE VALUE= .2907 CRITERION= .1884
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4291E-01
 HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .1883 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 625
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4153E-05 OSCILLATION LIMIT = 32.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.02 CRITERION= .1911
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5758
 HT FLOW CONVERGENCE VALUE= .2904 CRITERION= .1875
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4273E-01
 HT FLOW CONVERGENCE VALUE= .1397E-01 CRITERION= .1874 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 627
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4166E-05 OSCILLATION LIMIT = 32.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.03 CRITERION= .1902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5770
 HT FLOW CONVERGENCE VALUE= .2904 CRITERION= .1867
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4253E-01
 HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .1865 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 629
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4144E-05 OSCILLATION LIMIT = 32.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.01 CRITERION= .1893
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5774
 HT FLOW CONVERGENCE VALUE= .2896 CRITERION= .1858
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4251E-01
 HT FLOW CONVERGENCE VALUE= .1384E-01 CRITERION= .1856 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 631
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4157E-05 OSCILLATION LIMIT = 32.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.02 CRITERION= .1885
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5785
 HT FLOW CONVERGENCE VALUE= .2891 CRITERION= .1849
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4234E-01
 HT FLOW CONVERGENCE VALUE= .1374E-01 CRITERION= .1848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 633

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*** TIME = .433917E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4134E-05    OSCILLATION LIMIT = 32.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.00    CRITERION= .1876
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5790
    HT FLOW CONVERGENCE VALUE= .2887    CRITERION= .1840
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4222E-01
    HT FLOW CONVERGENCE VALUE= .1371E-01 CRITERION= .1839    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 635
*** TIME = .441806E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4147E-05    OSCILLATION LIMIT = 32.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.01    CRITERION= .1868
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5801
    HT FLOW CONVERGENCE VALUE= .2881    CRITERION= .1832
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4194E-01
    HT FLOW CONVERGENCE VALUE= .1360E-01 CRITERION= .1830    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 637
*** TIME = .449696E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4125E-05    OSCILLATION LIMIT = 32.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.99    CRITERION= .1859
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5806
    HT FLOW CONVERGENCE VALUE= .2872    CRITERION= .1823
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4181E-01
    HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .1821    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 639
*** TIME = .457585E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4138E-05    OSCILLATION LIMIT = 32.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.00    CRITERION= .1850
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5817
    HT FLOW CONVERGENCE VALUE= .2866    CRITERION= .1814
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4165E-01
    HT FLOW CONVERGENCE VALUE= .1344E-01 CRITERION= .1813    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 641
*** TIME = .465475E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4115E-05    OSCILLATION LIMIT = 32.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.98    CRITERION= .1842
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5822
    HT FLOW CONVERGENCE VALUE= .2858    CRITERION= .1805
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4150E-01
    HT FLOW CONVERGENCE VALUE= .1338E-01 CRITERION= .1804    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 643
*** TIME = .473364E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4128E-05    OSCILLATION LIMIT = 32.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 33.00    CRITERION= .1833
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5833
    HT FLOW CONVERGENCE VALUE= .2856    CRITERION= .1797
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4128E-01
    HT FLOW CONVERGENCE VALUE= .1330E-01 CRITERION= .1795    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 645
*** TIME = .481253E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4106E-05    OSCILLATION LIMIT = 32.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.97 CRITERION= .1824
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5838
 HT FLOW CONVERGENCE VALUE= .2856 CRITERION= .1788
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4114E-01
 HT FLOW CONVERGENCE VALUE= .1333E-01 CRITERION= .1786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 647
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4119E-05 OSCILLATION LIMIT = 32.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.99 CRITERION= .1816
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5849
 HT FLOW CONVERGENCE VALUE= .2871 CRITERION= .1779
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4101E-01
 HT FLOW CONVERGENCE VALUE= .1332E-01 CRITERION= .1778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 649
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4096E-05 OSCILLATION LIMIT = 32.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.96 CRITERION= .1807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5855
 HT FLOW CONVERGENCE VALUE= .2876 CRITERION= .1770
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .1337E-01 CRITERION= .1769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 651
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4109E-05 OSCILLATION LIMIT = 32.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.98 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5866
 HT FLOW CONVERGENCE VALUE= .2889 CRITERION= .1761
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4091E-01
 HT FLOW CONVERGENCE VALUE= .1333E-01 CRITERION= .1760 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 653
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4087E-05 OSCILLATION LIMIT = 32.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.95 CRITERION= .1790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5872
 HT FLOW CONVERGENCE VALUE= .2889 CRITERION= .1753
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4089E-01
 HT FLOW CONVERGENCE VALUE= .1329E-01 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 655
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4099E-05 OSCILLATION LIMIT = 32.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.97 CRITERION= .1781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5883
 HT FLOW CONVERGENCE VALUE= .2885 CRITERION= .1744
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4080E-01
 HT FLOW CONVERGENCE VALUE= .1317E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 657
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4078E-05 OSCILLATION LIMIT = 32.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.95 CRITERION= .1773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5888
 HT FLOW CONVERGENCE VALUE= .2885 CRITERION= .1735
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4078E-01

HT FLOW CONVERGENCE VALUE= .1320E-01 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 659
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4090E-05 OSCILLATION LIMIT = 32.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.96 CRITERION= .1764
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5899
 HT FLOW CONVERGENCE VALUE= .2898 CRITERION= .1726
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4069E-01
 HT FLOW CONVERGENCE VALUE= .1322E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 661
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = 32.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.94 CRITERION= .1756
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5905
 HT FLOW CONVERGENCE VALUE= .2902 CRITERION= .1718
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4068E-01
 HT FLOW CONVERGENCE VALUE= .1316E-01 CRITERION= .1716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 663
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4081E-05 OSCILLATION LIMIT = 32.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.95 CRITERION= .1747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5916
 HT FLOW CONVERGENCE VALUE= .2897 CRITERION= .1709
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4058E-01
 HT FLOW CONVERGENCE VALUE= .1305E-01 CRITERION= .1708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 665
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4059E-05 OSCILLATION LIMIT = 32.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.93 CRITERION= .1738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5923
 HT FLOW CONVERGENCE VALUE= .2888 CRITERION= .1700
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4056E-01
 HT FLOW CONVERGENCE VALUE= .1298E-01 CRITERION= .1699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 667
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4072E-05 OSCILLATION LIMIT = 32.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.94 CRITERION= .1730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5933
 HT FLOW CONVERGENCE VALUE= .2884 CRITERION= .1691
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4046E-01
 HT FLOW CONVERGENCE VALUE= .1290E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 669
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4050E-05 OSCILLATION LIMIT = 31.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.92 CRITERION= .1721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5940
 HT FLOW CONVERGENCE VALUE= .2883 CRITERION= .1683
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4044E-01
 HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .1681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 671
 *** TIME = .583816E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .4063E-05  OSCILLATION LIMIT = 32.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.93  CRITERION= .1713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5951
HT FLOW CONVERGENCE VALUE= .2885  CRITERION= .1674
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4035E-01
HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .1673  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 673
*** TIME = .591705E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4042E-05  OSCILLATION LIMIT = 31.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.91  CRITERION= .1704
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5957
HT FLOW CONVERGENCE VALUE= .2880  CRITERION= .1665
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4032E-01
HT FLOW CONVERGENCE VALUE= .1271E-01 CRITERION= .1664  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 675
*** TIME = .599594E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4054E-05  OSCILLATION LIMIT = 31.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.93  CRITERION= .1695
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5968
HT FLOW CONVERGENCE VALUE= .2876  CRITERION= .1656
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4022E-01
HT FLOW CONVERGENCE VALUE= .1262E-01 CRITERION= .1655  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 677
*** TIME = .607484E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4033E-05  OSCILLATION LIMIT = 31.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.90  CRITERION= .1687
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5975
HT FLOW CONVERGENCE VALUE= .2874  CRITERION= .1648
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4020E-01
HT FLOW CONVERGENCE VALUE= .1256E-01 CRITERION= .1646  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 679
*** TIME = .615373E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4046E-05  OSCILLATION LIMIT = 31.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.92  CRITERION= .1678
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5985
HT FLOW CONVERGENCE VALUE= .2873  CRITERION= .1639
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4010E-01
HT FLOW CONVERGENCE VALUE= .1248E-01 CRITERION= .1638  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 681
*** TIME = .623263E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4025E-05  OSCILLATION LIMIT = 31.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.89  CRITERION= .1670
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5993
HT FLOW CONVERGENCE VALUE= .2868  CRITERION= .1630
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4009E-01
HT FLOW CONVERGENCE VALUE= .1241E-01 CRITERION= .1629  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 683
*** TIME = .631152E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4037E-05  OSCILLATION LIMIT = 31.85

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:24:44 APR 10, 1995 CP= 58992.980
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 44.92 CRITERION= .1689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4916
 HT FLOW CONVERGENCE VALUE= .2429 CRITERION= .1623
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4125E-01
 HT FLOW CONVERGENCE VALUE= .1474E-01 CRITERION= .1622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 685
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3136E-05 OSCILLATION LIMIT = 24.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.89 CRITERION= .1683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4897
 HT FLOW CONVERGENCE VALUE= .2414 CRITERION= .1617
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4109E-01
 HT FLOW CONVERGENCE VALUE= .1465E-01 CRITERION= .1616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 687
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3143E-05 OSCILLATION LIMIT = 24.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.91 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4935
 HT FLOW CONVERGENCE VALUE= .2424 CRITERION= .1610
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4112E-01
 HT FLOW CONVERGENCE VALUE= .1455E-01 CRITERION= .1609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 689
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3133E-05 OSCILLATION LIMIT = 24.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.88 CRITERION= .1670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4910
 HT FLOW CONVERGENCE VALUE= .2404 CRITERION= .1603
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4097E-01
 HT FLOW CONVERGENCE VALUE= .1448E-01 CRITERION= .1603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 691
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3140E-05 OSCILLATION LIMIT = 24.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.89 CRITERION= .1664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4946
 HT FLOW CONVERGENCE VALUE= .2414 CRITERION= .1597
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4099E-01
 HT FLOW CONVERGENCE VALUE= .1439E-01 CRITERION= .1596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 693
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3129E-05 OSCILLATION LIMIT = 24.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.86 CRITERION= .1657
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4922
 HT FLOW CONVERGENCE VALUE= .2397 CRITERION= .1590
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4085E-01
 HT FLOW CONVERGENCE VALUE= .1433E-01 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 695

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*** TIME = .678488E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3136E-05    OSCILLATION LIMIT = 24.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.87    CRITERION= .1651
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4956
    HT FLOW CONVERGENCE VALUE= .2406    CRITERION= .1584
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4086E-01
    HT FLOW CONVERGENCE VALUE= .1423E-01 CRITERION= .1583    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 697
*** TIME = .686378E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3124E-05    OSCILLATION LIMIT = 24.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.85    CRITERION= .1645
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4934
    HT FLOW CONVERGENCE VALUE= .2389    CRITERION= .1577
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4072E-01
    HT FLOW CONVERGENCE VALUE= .1417E-01 CRITERION= .1576    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 699
*** TIME = .694267E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3132E-05    OSCILLATION LIMIT = 24.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.86    CRITERION= .1638
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4967
    HT FLOW CONVERGENCE VALUE= .2397    CRITERION= .1571
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4073E-01
    HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .1570    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 701
*** TIME = .702157E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3120E-05    OSCILLATION LIMIT = 24.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.83    CRITERION= .1632
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4947
    HT FLOW CONVERGENCE VALUE= .2381    CRITERION= .1564
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4060E-01
    HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .1563    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 703
*** TIME = .710046E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3127E-05    OSCILLATION LIMIT = 24.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.84    CRITERION= .1626
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4978
    HT FLOW CONVERGENCE VALUE= .2387    CRITERION= .1558
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4060E-01
    HT FLOW CONVERGENCE VALUE= .1391E-01 CRITERION= .1557    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 705
*** TIME = .717935E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3115E-05    OSCILLATION LIMIT = 24.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.81    CRITERION= .1620
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959
    HT FLOW CONVERGENCE VALUE= .2372    CRITERION= .1551
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4048E-01
    HT FLOW CONVERGENCE VALUE= .1385E-01 CRITERION= .1550    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 707
*** TIME = .725825E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3123E-05    OSCILLATION LIMIT = 24.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 44.83 CRITERION= .1613
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4989
 HT FLOW CONVERGENCE VALUE= .2378 CRITERION= .1545
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4047E-01
 HT FLOW CONVERGENCE VALUE= .1375E-01 CRITERION= .1544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 709
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3111E-05 OSCILLATION LIMIT = 24.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.80 CRITERION= .1607
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4972
 HT FLOW CONVERGENCE VALUE= .2363 CRITERION= .1538
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4035E-01
 HT FLOW CONVERGENCE VALUE= .1370E-01 CRITERION= .1537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 711
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3119E-05 OSCILLATION LIMIT = 24.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.81 CRITERION= .1601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000
 HT FLOW CONVERGENCE VALUE= .2368 CRITERION= .1531
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4034E-01
 HT FLOW CONVERGENCE VALUE= .1360E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 713
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3106E-05 OSCILLATION LIMIT = 24.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.78 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4984
 HT FLOW CONVERGENCE VALUE= .2355 CRITERION= .1525
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4023E-01
 HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 715
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3115E-05 OSCILLATION LIMIT = 24.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.79 CRITERION= .1588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5011
 HT FLOW CONVERGENCE VALUE= .2359 CRITERION= .1518
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4021E-01
 HT FLOW CONVERGENCE VALUE= .1345E-01 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 717
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3102E-05 OSCILLATION LIMIT = 24.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.77 CRITERION= .1582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4997
 HT FLOW CONVERGENCE VALUE= .2344 CRITERION= .1512
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4011E-01
 HT FLOW CONVERGENCE VALUE= .1339E-01 CRITERION= .1511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 719
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3111E-05 OSCILLATION LIMIT = 24.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.78 CRITERION= .1575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5023
 HT FLOW CONVERGENCE VALUE= .2347 CRITERION= .1505
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4008E-01

HT FLOW CONVERGENCE VALUE= .1329E-01 CRITERION= .1504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 721
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3098E-05 OSCILLATION LIMIT = 24.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.75 CRITERION= .1569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5009
 HT FLOW CONVERGENCE VALUE= .2332 CRITERION= .1499
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3998E-01
 HT FLOW CONVERGENCE VALUE= .1322E-01 CRITERION= .1498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 723
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3107E-05 OSCILLATION LIMIT = 24.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.76 CRITERION= .1563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5034
 HT FLOW CONVERGENCE VALUE= .2334 CRITERION= .1492
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3994E-01
 HT FLOW CONVERGENCE VALUE= .1312E-01 CRITERION= .1491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 725
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3093E-05 OSCILLATION LIMIT = 24.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.73 CRITERION= .1556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5022
 HT FLOW CONVERGENCE VALUE= .2320 CRITERION= .1486
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3984E-01
 HT FLOW CONVERGENCE VALUE= .1305E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 727
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3103E-05 OSCILLATION LIMIT = 24.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.75 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5046
 HT FLOW CONVERGENCE VALUE= .2321 CRITERION= .1479
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3980E-01
 HT FLOW CONVERGENCE VALUE= .1295E-01 CRITERION= .1478 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 729
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3089E-05 OSCILLATION LIMIT = 24.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.72 CRITERION= .1544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5035
 HT FLOW CONVERGENCE VALUE= .2308 CRITERION= .1473
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3971E-01
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 731
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3099E-05 OSCILLATION LIMIT = 24.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.73 CRITERION= .1538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5058
 HT FLOW CONVERGENCE VALUE= .2309 CRITERION= .1466
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3967E-01
 HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 733
 *** TIME = .828387E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .3085E-05  OSCILLATION LIMIT = 24.34
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.70  CRITERION= .1531
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5048
  HT FLOW CONVERGENCE VALUE= .2294  CRITERION= .1459
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3957E-01
  HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .1459  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 735
*** TIME = .836276E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3094E-05  OSCILLATION LIMIT = 24.41
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.71  CRITERION= .1525
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5070
  HT FLOW CONVERGENCE VALUE= .2294  CRITERION= .1453
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3953E-01
  HT FLOW CONVERGENCE VALUE= .1262E-01 CRITERION= .1452  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 737
*** TIME = .844166E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3080E-05  OSCILLATION LIMIT = 24.30
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.69  CRITERION= .1519
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5060
  HT FLOW CONVERGENCE VALUE= .2279  CRITERION= .1446
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3942E-01
  HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .1446  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 739
*** TIME = .852055E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3091E-05  OSCILLATION LIMIT = 24.38
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.70  CRITERION= .1512
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5082
  HT FLOW CONVERGENCE VALUE= .2280  CRITERION= .1440
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3936E-01
  HT FLOW CONVERGENCE VALUE= .1246E-01 CRITERION= .1439  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 741
*** TIME = .859945E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3076E-05  OSCILLATION LIMIT = 24.27
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.67  CRITERION= .1506
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5073
  HT FLOW CONVERGENCE VALUE= .2269  CRITERION= .1433
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3928E-01
  HT FLOW CONVERGENCE VALUE= .1240E-01 CRITERION= .1432  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 743
*** TIME = .867834E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3086E-05  OSCILLATION LIMIT = 24.35
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.68  CRITERION= .1500
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5094
  HT FLOW CONVERGENCE VALUE= .2268  CRITERION= .1427
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3922E-01
  HT FLOW CONVERGENCE VALUE= .1230E-01 CRITERION= .1426  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 745
*** TIME = .875723E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3072E-05  OSCILLATION LIMIT = 24.24
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 44.65  CRITERION= .1494

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5086
 HT FLOW CONVERGENCE VALUE= .2256 CRITERION= .1420
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3913E-01
 HT FLOW CONVERGENCE VALUE= .1223E-01 CRITERION= .1419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 747
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3082E-05 OSCILLATION LIMIT = 24.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.67 CRITERION= .1487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5106
 HT FLOW CONVERGENCE VALUE= .2254 CRITERION= .1414
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3905E-01
 HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 749
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-05 OSCILLATION LIMIT = 24.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.64 CRITERION= .1481
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5099
 HT FLOW CONVERGENCE VALUE= .2242 CRITERION= .1407
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3898E-01
 HT FLOW CONVERGENCE VALUE= .1206E-01 CRITERION= .1406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 751
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3078E-05 OSCILLATION LIMIT = 24.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.65 CRITERION= .1475
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5118
 HT FLOW CONVERGENCE VALUE= .2241 CRITERION= .1401
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3891E-01
 HT FLOW CONVERGENCE VALUE= .1196E-01 CRITERION= .1400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 753
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3064E-05 OSCILLATION LIMIT = 24.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.62 CRITERION= .1469
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5113
 HT FLOW CONVERGENCE VALUE= .2231 CRITERION= .1394
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3883E-01
 HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .1393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 755
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3074E-05 OSCILLATION LIMIT = 24.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.63 CRITERION= .1462
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5131
 HT FLOW CONVERGENCE VALUE= .2229 CRITERION= .1387
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3875E-01
 HT FLOW CONVERGENCE VALUE= .1179E-01 CRITERION= .1387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 757
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3060E-05 OSCILLATION LIMIT = 24.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.61 CRITERION= .1456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5126
 HT FLOW CONVERGENCE VALUE= .2218 CRITERION= .1381
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3868E-01
 HT FLOW CONVERGENCE VALUE= .1174E-01 CRITERION= .1380 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 759
*** TIME = .930949E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3070E-05 OSCILLATION LIMIT = 24.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.62 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5144
HT FLOW CONVERGENCE VALUE= .2217 CRITERION= .1374
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3861E-01
HT FLOW CONVERGENCE VALUE= .1164E-01 CRITERION= .1374 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 761
*** TIME = .938839E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3055E-05 OSCILLATION LIMIT = 24.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.59 CRITERION= .1444
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5139
HT FLOW CONVERGENCE VALUE= .2205 CRITERION= .1368
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3853E-01
HT FLOW CONVERGENCE VALUE= .1157E-01 CRITERION= .1367 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 763
*** TIME = .946728E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3066E-05 OSCILLATION LIMIT = 24.19

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:56:38 APR 10, 1995 CP= 64429.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 52.08 CRITERION= .1462
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4309
HT FLOW CONVERGENCE VALUE= .1916 CRITERION= .1363
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3855E-01
HT FLOW CONVERGENCE VALUE= .1309E-01 CRITERION= .1362 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 765
*** TIME = .954617E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2332E-05 OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.05 CRITERION= .1458
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4283
HT FLOW CONVERGENCE VALUE= .1900 CRITERION= .1358
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3841E-01
HT FLOW CONVERGENCE VALUE= .1303E-01 CRITERION= .1357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 767
*** TIME = .962507E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2333E-05 OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.05 CRITERION= .1453
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4322
HT FLOW CONVERGENCE VALUE= .1908 CRITERION= .1353
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3845E-01
HT FLOW CONVERGENCE VALUE= .1295E-01 CRITERION= .1352 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 769
*** TIME = .970396E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2331E-05 OSCILLATION LIMIT = 18.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 52.02 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4293
 HT FLOW CONVERGENCE VALUE= .1891 CRITERION= .1348
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3831E-01
 HT FLOW CONVERGENCE VALUE= .1290E-01 CRITERION= .1347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 771
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2332E-05 OSCILLATION LIMIT = 18.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.03 CRITERION= .1444
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4330
 HT FLOW CONVERGENCE VALUE= .1900 CRITERION= .1343
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3834E-01
 HT FLOW CONVERGENCE VALUE= .1282E-01 CRITERION= .1342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 773
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-05 OSCILLATION LIMIT = 18.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.00 CRITERION= .1439
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4302
 HT FLOW CONVERGENCE VALUE= .1884 CRITERION= .1338
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3820E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .1337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 775
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-05 OSCILLATION LIMIT = 18.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.01 CRITERION= .1434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4337
 HT FLOW CONVERGENCE VALUE= .1890 CRITERION= .1333
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3821E-01
 HT FLOW CONVERGENCE VALUE= .1266E-01 CRITERION= .1332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 777
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2327E-05 OSCILLATION LIMIT = 18.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.98 CRITERION= .1430
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4312
 HT FLOW CONVERGENCE VALUE= .1872 CRITERION= .1328
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3809E-01
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .1327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 779
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-05 OSCILLATION LIMIT = 18.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.99 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4345
 HT FLOW CONVERGENCE VALUE= .1875 CRITERION= .1323
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3810E-01
 HT FLOW CONVERGENCE VALUE= .1247E-01 CRITERION= .1322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 781
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-05 OSCILLATION LIMIT = 18.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.96 CRITERION= .1420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4322
 HT FLOW CONVERGENCE VALUE= .1856 CRITERION= .1318
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3799E-01

HT FLOW CONVERGENCE VALUE= .1238E-01 CRITERION= .1317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 783
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2328E-05 OSCILLATION LIMIT = 18.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.97 CRITERION= .1416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4353
 HT FLOW CONVERGENCE VALUE= .1857 CRITERION= .1313
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3801E-01
 HT FLOW CONVERGENCE VALUE= .1227E-01 CRITERION= .1312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 785
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-05 OSCILLATION LIMIT = 18.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.94 CRITERION= .1411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4331
 HT FLOW CONVERGENCE VALUE= .1842 CRITERION= .1308
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3788E-01
 HT FLOW CONVERGENCE VALUE= .1222E-01 CRITERION= .1307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 787
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2327E-05 OSCILLATION LIMIT = 18.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.95 CRITERION= .1406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4361
 HT FLOW CONVERGENCE VALUE= .1847 CRITERION= .1303
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3788E-01
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .1302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 789
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2321E-05 OSCILLATION LIMIT = 18.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.92 CRITERION= .1402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4341
 HT FLOW CONVERGENCE VALUE= .1833 CRITERION= .1298
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3778E-01
 HT FLOW CONVERGENCE VALUE= .1208E-01 CRITERION= .1297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 791
 *** TIME = .105718E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-05 OSCILLATION LIMIT = 18.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.92 CRITERION= .1397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4370
 HT FLOW CONVERGENCE VALUE= .1837 CRITERION= .1293
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3777E-01
 HT FLOW CONVERGENCE VALUE= .1199E-01 CRITERION= .1292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 793
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2320E-05 OSCILLATION LIMIT = 18.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.89 CRITERION= .1392
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4351
 HT FLOW CONVERGENCE VALUE= .1825 CRITERION= .1288
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3767E-01
 HT FLOW CONVERGENCE VALUE= .1195E-01 CRITERION= .1287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 795
 *** TIME = .107296E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .2324E-05 OSCILLATION LIMIT = 18.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.90 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4378
 HT FLOW CONVERGENCE VALUE= .1830 CRITERION= .1283
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3766E-01
 HT FLOW CONVERGENCE VALUE= .1186E-01 CRITERION= .1283 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 797
 *** TIME = .108085E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2318E-05 OSCILLATION LIMIT = 18.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.87 CRITERION= .1383
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4360
 HT FLOW CONVERGENCE VALUE= .1818 CRITERION= .1278
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3757E-01
 HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .1278 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 799
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-05 OSCILLATION LIMIT = 18.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.88 CRITERION= .1378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4386
 HT FLOW CONVERGENCE VALUE= .1822 CRITERION= .1273
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3755E-01
 HT FLOW CONVERGENCE VALUE= .1173E-01 CRITERION= .1273 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 801
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = 18.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.85 CRITERION= .1374
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4370
 HT FLOW CONVERGENCE VALUE= .1812 CRITERION= .1268
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3746E-01
 HT FLOW CONVERGENCE VALUE= .1169E-01 CRITERION= .1268 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 803
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2322E-05 OSCILLATION LIMIT = 18.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.86 CRITERION= .1369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4395
 HT FLOW CONVERGENCE VALUE= .1819 CRITERION= .1263
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3744E-01
 HT FLOW CONVERGENCE VALUE= .1158E-01 CRITERION= .1263 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 805
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2315E-05 OSCILLATION LIMIT = 18.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.83 CRITERION= .1364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4380
 HT FLOW CONVERGENCE VALUE= .1812 CRITERION= .1258
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3736E-01
 HT FLOW CONVERGENCE VALUE= .1154E-01 CRITERION= .1258 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 807
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2322E-05 OSCILLATION LIMIT = 18.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.84 CRITERION= .1360

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4403
HT FLOW CONVERGENCE VALUE= .1822 CRITERION= .1253
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3732E-01
HT FLOW CONVERGENCE VALUE= .1144E-01 CRITERION= .1253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 809
*** TIME = .112818E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2314E-05 OSCILLATION LIMIT = 18.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.81 CRITERION= .1355
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4390
HT FLOW CONVERGENCE VALUE= .1813 CRITERION= .1248
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3724E-01
HT FLOW CONVERGENCE VALUE= .1138E-01 CRITERION= .1248 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 811
*** TIME = .113607E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2321E-05 OSCILLATION LIMIT = 18.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.81 CRITERION= .1351
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4412
HT FLOW CONVERGENCE VALUE= .1816 CRITERION= .1243
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3721E-01
HT FLOW CONVERGENCE VALUE= .1129E-01 CRITERION= .1243 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 813
*** TIME = .114396E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2313E-05 OSCILLATION LIMIT = 18.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.78 CRITERION= .1346
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4399
HT FLOW CONVERGENCE VALUE= .1808 CRITERION= .1238
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3714E-01
HT FLOW CONVERGENCE VALUE= .1125E-01 CRITERION= .1238 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 815
*** TIME = .115185E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2320E-05 OSCILLATION LIMIT = 18.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.79 CRITERION= .1341
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4421
HT FLOW CONVERGENCE VALUE= .1809 CRITERION= .1233
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .1115E-01 CRITERION= .1233 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 817
*** TIME = .115974E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2311E-05 OSCILLATION LIMIT = 18.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.76 CRITERION= .1337
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4409
HT FLOW CONVERGENCE VALUE= .1798 CRITERION= .1228
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3705E-01
HT FLOW CONVERGENCE VALUE= .1110E-01 CRITERION= .1228 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 819
*** TIME = .116763E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2319E-05 OSCILLATION LIMIT = 18.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.77 CRITERION= .1332
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4430
HT FLOW CONVERGENCE VALUE= .1802 CRITERION= .1223
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3700E-01
HT FLOW CONVERGENCE VALUE= .1101E-01 CRITERION= .1223 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 821
*** TIME = .117552E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2310E-05 OSCILLATION LIMIT = 18.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.74 CRITERION= .1327
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4419
HT FLOW CONVERGENCE VALUE= .1796 CRITERION= .1218
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3693E-01
HT FLOW CONVERGENCE VALUE= .1098E-01 CRITERION= .1218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 823
*** TIME = .118341E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2318E-05 OSCILLATION LIMIT = 18.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.75 CRITERION= .1323
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4438
HT FLOW CONVERGENCE VALUE= .1801 CRITERION= .1213
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3689E-01
HT FLOW CONVERGENCE VALUE= .1089E-01 CRITERION= .1213 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 825
*** TIME = .119130E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2309E-05 OSCILLATION LIMIT = 18.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.72 CRITERION= .1318
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4429
HT FLOW CONVERGENCE VALUE= .1793 CRITERION= .1208
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .1085E-01 CRITERION= .1208 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 827
*** TIME = .119919E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2318E-05 OSCILLATION LIMIT = 18.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.73 CRITERION= .1314
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4448
HT FLOW CONVERGENCE VALUE= .1795 CRITERION= .1203
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3678E-01
HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .1203 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 829
*** TIME = .120708E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2308E-05 OSCILLATION LIMIT = 18.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.70 CRITERION= .1309
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4439
HT FLOW CONVERGENCE VALUE= .1790 CRITERION= .1198
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3671E-01
HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .1198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 831
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2317E-05 OSCILLATION LIMIT = 18.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.71 CRITERION= .1304
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4457
HT FLOW CONVERGENCE VALUE= .1793 CRITERION= .1194
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3666E-01
HT FLOW CONVERGENCE VALUE= .1064E-01 CRITERION= .1193 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 833
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2307E-05 OSCILLATION LIMIT = 18.20

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.68 CRITERION= .1300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4449
 HT FLOW CONVERGENCE VALUE= .1785 CRITERION= .1189
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3661E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .1188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 835
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2316E-05 OSCILLATION LIMIT = 18.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.68 CRITERION= .1295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4466
 HT FLOW CONVERGENCE VALUE= .1785 CRITERION= .1184
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3656E-01
 HT FLOW CONVERGENCE VALUE= .1052E-01 CRITERION= .1183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 837
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2305E-05 OSCILLATION LIMIT = 18.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.65 CRITERION= .1291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4459
 HT FLOW CONVERGENCE VALUE= .1777 CRITERION= .1179
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3651E-01
 HT FLOW CONVERGENCE VALUE= .1049E-01 CRITERION= .1178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 839
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2315E-05 OSCILLATION LIMIT = 18.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.66 CRITERION= .1286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4475
 HT FLOW CONVERGENCE VALUE= .1777 CRITERION= .1174
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3645E-01
 HT FLOW CONVERGENCE VALUE= .1040E-01 CRITERION= .1173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 841
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2305E-05 OSCILLATION LIMIT = 18.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 51.63 CRITERION= .1281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4469
 HT FLOW CONVERGENCE VALUE= .1769 CRITERION= .1169
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3639E-01
 HT FLOW CONVERGENCE VALUE= .1036E-01 CRITERION= .1168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 843
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2314E-05 OSCILLATION LIMIT = 18.26

***** ANSYS SOLVE COMMAND *****
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:28:53 APR 11, 1995 CP= 69886.370
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 43.92 CRITERION= .1248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3707
 HT FLOW CONVERGENCE VALUE= .1469 CRITERION= .1165
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3052E-01

HT FLOW CONVERGENCE VALUE= .8753E-02 CRITERION= .1164 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 845
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2242E-05 OSCILLATION LIMIT = 17.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.89 CRITERION= .1244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3675
 HT FLOW CONVERGENCE VALUE= .1455 CRITERION= .1160
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3035E-01
 HT FLOW CONVERGENCE VALUE= .8734E-02 CRITERION= .1160 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 847
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = 17.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.90 CRITERION= .1240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3713
 HT FLOW CONVERGENCE VALUE= .1463 CRITERION= .1156
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3032E-01
 HT FLOW CONVERGENCE VALUE= .8672E-02 CRITERION= .1156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 849
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2235E-05 OSCILLATION LIMIT = 17.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.88 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3683
 HT FLOW CONVERGENCE VALUE= .1449 CRITERION= .1152
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3009E-01
 HT FLOW CONVERGENCE VALUE= .8654E-02 CRITERION= .1152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 851
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = 17.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.89 CRITERION= .1232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3718
 HT FLOW CONVERGENCE VALUE= .1458 CRITERION= .1148
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3005E-01
 HT FLOW CONVERGENCE VALUE= .8599E-02 CRITERION= .1148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 853
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2234E-05 OSCILLATION LIMIT = 17.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.86 CRITERION= .1229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691
 HT FLOW CONVERGENCE VALUE= .1446 CRITERION= .1144
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2989E-01
 HT FLOW CONVERGENCE VALUE= .8586E-02 CRITERION= .1144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 855
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2237E-05 OSCILLATION LIMIT = 17.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.87 CRITERION= .1225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3724
 HT FLOW CONVERGENCE VALUE= .1454 CRITERION= .1140
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991E-01
 HT FLOW CONVERGENCE VALUE= .8531E-02 CRITERION= .1140 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 857
 *** TIME = .131753E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2233E-05  OSCILLATION LIMIT = 17.61
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.84  CRITERION= .1221
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3698
  HT FLOW CONVERGENCE VALUE= .1442  CRITERION= .1136
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2978E-01
  HT FLOW CONVERGENCE VALUE= .8513E-02 CRITERION= .1136  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 859
*** TIME = .132542E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2236E-05  OSCILLATION LIMIT = 17.64
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.86  CRITERION= .1217
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3729
  HT FLOW CONVERGENCE VALUE= .1449  CRITERION= .1132
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2975E-01
  HT FLOW CONVERGENCE VALUE= .8459E-02 CRITERION= .1132  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 861
*** TIME = .133331E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2231E-05  OSCILLATION LIMIT = 17.60
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.83  CRITERION= .1213
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3706
  HT FLOW CONVERGENCE VALUE= .1439  CRITERION= .1128
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2958E-01
  HT FLOW CONVERGENCE VALUE= .8449E-02 CRITERION= .1128  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 863
*** TIME = .134120E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2235E-05  OSCILLATION LIMIT = 17.64
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.84  CRITERION= .1210
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3735
  HT FLOW CONVERGENCE VALUE= .1446  CRITERION= .1124
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2952E-01
  HT FLOW CONVERGENCE VALUE= .8397E-02 CRITERION= .1124  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 865
*** TIME = .134909E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2229E-05  OSCILLATION LIMIT = 17.59
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.81  CRITERION= .1206
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3713
  HT FLOW CONVERGENCE VALUE= .1436  CRITERION= .1120
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2938E-01
  HT FLOW CONVERGENCE VALUE= .8384E-02 CRITERION= .1120  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 867
*** TIME = .135698E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2234E-05  OSCILLATION LIMIT = 17.63
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.82  CRITERION= .1202
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3741
  HT FLOW CONVERGENCE VALUE= .1441  CRITERION= .1116
  EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2936E-01
  HT FLOW CONVERGENCE VALUE= .8321E-02 CRITERION= .1116  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 869
*** TIME = .136487E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2227E-05  OSCILLATION LIMIT = 17.57
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 43.80  CRITERION= .1198

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3721
 HT FLOW CONVERGENCE VALUE= .1430 CRITERION= .1112
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2921E-01
 HT FLOW CONVERGENCE VALUE= .8294E-02 CRITERION= .1111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 871
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2233E-05 OSCILLATION LIMIT = 17.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.81 CRITERION= .1194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3747
 HT FLOW CONVERGENCE VALUE= .1435 CRITERION= .1108
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2915E-01
 HT FLOW CONVERGENCE VALUE= .8242E-02 CRITERION= .1107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 873
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2226E-05 OSCILLATION LIMIT = 17.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.78 CRITERION= .1191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3728
 HT FLOW CONVERGENCE VALUE= .1426 CRITERION= .1104
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2902E-01
 HT FLOW CONVERGENCE VALUE= .8230E-02 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 875
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2232E-05 OSCILLATION LIMIT = 17.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.79 CRITERION= .1187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3753
 HT FLOW CONVERGENCE VALUE= .1430 CRITERION= .1100
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2897E-01
 HT FLOW CONVERGENCE VALUE= .8170E-02 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 877
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2224E-05 OSCILLATION LIMIT = 17.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.77 CRITERION= .1183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3736
 HT FLOW CONVERGENCE VALUE= .1420 CRITERION= .1096
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2890E-01
 HT FLOW CONVERGENCE VALUE= .8144E-02 CRITERION= .1095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 879
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2231E-05 OSCILLATION LIMIT = 17.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.78 CRITERION= .1179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3759
 HT FLOW CONVERGENCE VALUE= .1422 CRITERION= .1092
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2889E-01
 HT FLOW CONVERGENCE VALUE= .8084E-02 CRITERION= .1091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 881
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2222E-05 OSCILLATION LIMIT = 17.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.75 CRITERION= .1175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3743
 HT FLOW CONVERGENCE VALUE= .1412 CRITERION= .1088
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2882E-01
 HT FLOW CONVERGENCE VALUE= .8062E-02 CRITERION= .1087 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 883
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2230E-05 OSCILLATION LIMIT = 17.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.76 CRITERION= .1172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3765
HT FLOW CONVERGENCE VALUE= .1414 CRITERION= .1084
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2880E-01
HT FLOW CONVERGENCE VALUE= .8006E-02 CRITERION= .1083 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 885
*** TIME = .142798E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2220E-05 OSCILLATION LIMIT = 17.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3751
HT FLOW CONVERGENCE VALUE= .1405 CRITERION= .1079
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2874E-01
HT FLOW CONVERGENCE VALUE= .7985E-02 CRITERION= .1079 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 887
*** TIME = .143587E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2228E-05 OSCILLATION LIMIT = 17.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.74 CRITERION= .1164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3772
HT FLOW CONVERGENCE VALUE= .1406 CRITERION= .1075
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2872E-01
HT FLOW CONVERGENCE VALUE= .7926E-02 CRITERION= .1075 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 889
*** TIME = .144376E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2218E-05 OSCILLATION LIMIT = 17.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.72 CRITERION= .1160
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3758
HT FLOW CONVERGENCE VALUE= .1396 CRITERION= .1071
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2866E-01
HT FLOW CONVERGENCE VALUE= .7907E-02 CRITERION= .1071 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 891
*** TIME = .145165E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2227E-05 OSCILLATION LIMIT = 17.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.73 CRITERION= .1156
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3778
HT FLOW CONVERGENCE VALUE= .1398 CRITERION= .1067
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2863E-01
HT FLOW CONVERGENCE VALUE= .7855E-02 CRITERION= .1067 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 893
*** TIME = .145954E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2216E-05 OSCILLATION LIMIT = 17.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.70 CRITERION= .1153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3766
HT FLOW CONVERGENCE VALUE= .1389 CRITERION= .1063
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2857E-01
HT FLOW CONVERGENCE VALUE= .7837E-02 CRITERION= .1063 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 895
*** TIME = .146743E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2225E-05 OSCILLATION LIMIT = 17.56

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.71 CRITERION= .1149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785
 HT FLOW CONVERGENCE VALUE= .1391 CRITERION= .1059
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2854E-01
 HT FLOW CONVERGENCE VALUE= .7780E-02 CRITERION= .1059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 897
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2215E-05 OSCILLATION LIMIT = 17.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.69 CRITERION= .1145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3773
 HT FLOW CONVERGENCE VALUE= .1383 CRITERION= .1055
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2849E-01
 HT FLOW CONVERGENCE VALUE= .7753E-02 CRITERION= .1055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 899
 *** TIME = .148321E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2224E-05 OSCILLATION LIMIT = 17.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.70 CRITERION= .1141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3791
 HT FLOW CONVERGENCE VALUE= .1384 CRITERION= .1051
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2845E-01
 HT FLOW CONVERGENCE VALUE= .7699E-02 CRITERION= .1051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 901
 *** TIME = .149110E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2213E-05 OSCILLATION LIMIT = 17.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.67 CRITERION= .1138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3781
 HT FLOW CONVERGENCE VALUE= .1376 CRITERION= .1047
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2840E-01
 HT FLOW CONVERGENCE VALUE= .7681E-02 CRITERION= .1047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 903
 *** TIME = .149899E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2222E-05 OSCILLATION LIMIT = 17.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.68 CRITERION= .1134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3798
 HT FLOW CONVERGENCE VALUE= .1377 CRITERION= .1043
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2836E-01
 HT FLOW CONVERGENCE VALUE= .7625E-02 CRITERION= .1043 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 905
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2211E-05 OSCILLATION LIMIT = 17.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.65 CRITERION= .1130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3789
 HT FLOW CONVERGENCE VALUE= .1368 CRITERION= .1039
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2831E-01
 HT FLOW CONVERGENCE VALUE= .7601E-02 CRITERION= .1039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 907
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2221E-05 OSCILLATION LIMIT = 17.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.67 CRITERION= .1126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3805

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HT FLOW CONVERGENCE VALUE= .1367    CRITERION= .1035
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2827E-01
HT FLOW CONVERGENCE VALUE= .7543E-02 CRITERION= .1035    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 909
*** TIME = .152265E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2209E-05    OSCILLATION LIMIT = 17.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.64    CRITERION= .1123
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3796
HT FLOW CONVERGENCE VALUE= .1359    CRITERION= .1031
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2822E-01
HT FLOW CONVERGENCE VALUE= .7520E-02 CRITERION= .1030    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 911
*** TIME = .153054E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2220E-05    OSCILLATION LIMIT = 17.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.65    CRITERION= .1119
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3812
HT FLOW CONVERGENCE VALUE= .1358    CRITERION= .1027
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2817E-01
HT FLOW CONVERGENCE VALUE= .7460E-02 CRITERION= .1026    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 913
*** TIME = .153843E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2208E-05    OSCILLATION LIMIT = 17.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.62    CRITERION= .1115
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3804
HT FLOW CONVERGENCE VALUE= .1350    CRITERION= .1023
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2812E-01
HT FLOW CONVERGENCE VALUE= .7439E-02 CRITERION= .1022    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 915
*** TIME = .154632E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2219E-05    OSCILLATION LIMIT = 17.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.63    CRITERION= .1111
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3819
HT FLOW CONVERGENCE VALUE= .1350    CRITERION= .1019
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2806E-01
HT FLOW CONVERGENCE VALUE= .7386E-02 CRITERION= .1018    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 917
*** TIME = .155421E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2206E-05    OSCILLATION LIMIT = 17.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.61    CRITERION= .1107
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3811
HT FLOW CONVERGENCE VALUE= .1344    CRITERION= .1015
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2802E-01
HT FLOW CONVERGENCE VALUE= .7370E-02 CRITERION= .1014    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 919
*** TIME = .156210E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2218E-05    OSCILLATION LIMIT = 17.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 43.62    CRITERION= .1104
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3826
HT FLOW CONVERGENCE VALUE= .1344    CRITERION= .1011
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2797E-01
HT FLOW CONVERGENCE VALUE= .7319E-02 CRITERION= .1010    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 921
*** TIME = .156999E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2205E-05 OSCILLATION LIMIT = 17.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.59 CRITERION= .1100
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3819
HT FLOW CONVERGENCE VALUE= .1338 CRITERION= .1007
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2794E-01
HT FLOW CONVERGENCE VALUE= .7302E-02 CRITERION= .1006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 923
*** TIME = .157788E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2216E-05 OSCILLATION LIMIT = 17.48

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:01:48 APR 11, 1995 CP= 75367.460
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 36.05 CRITERION= .1069
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3040
HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .1003
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2269E-01
HT FLOW CONVERGENCE VALUE= .5978E-02 CRITERION= .1003 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 925
*** TIME = .158577E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2115E-05 OSCILLATION LIMIT = 16.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 36.03 CRITERION= .1066
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3006
HT FLOW CONVERGENCE VALUE= .1047 CRITERION= .1000
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2258E-01
HT FLOW CONVERGENCE VALUE= .5925E-02 CRITERION= .9999E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 927
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2111E-05 OSCILLATION LIMIT = 16.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 36.04 CRITERION= .1063
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3043
HT FLOW CONVERGENCE VALUE= .1050 CRITERION= .9970E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2262E-01
HT FLOW CONVERGENCE VALUE= .5818E-02 CRITERION= .9968E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 929
*** TIME = .160155E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2109E-05 OSCILLATION LIMIT = 16.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 36.01 CRITERION= .1060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3012
HT FLOW CONVERGENCE VALUE= .1030 CRITERION= .9939E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2251E-01
HT FLOW CONVERGENCE VALUE= .5751E-02 CRITERION= .9936E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 931
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2111E-05 OSCILLATION LIMIT = 16.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 36.03 CRITERION= .1057

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3047
HT FLOW CONVERGENCE VALUE= .1029 CRITERION= .9907E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2254E-01
HT FLOW CONVERGENCE VALUE= .5659E-02 CRITERION= .9905E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 933
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2108E-05 OSCILLATION LIMIT = 16.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.00 CRITERION= .1054
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3018
HT FLOW CONVERGENCE VALUE= .1015 CRITERION= .9876E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2245E-01
HT FLOW CONVERGENCE VALUE= .5643E-02 CRITERION= .9873E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 935
*** TIME = .162522E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2111E-05 OSCILLATION LIMIT = 16.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.02 CRITERION= .1051
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3050
HT FLOW CONVERGENCE VALUE= .1020 CRITERION= .9845E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2248E-01
HT FLOW CONVERGENCE VALUE= .5595E-02 CRITERION= .9842E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 937
*** TIME = .163311E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2106E-05 OSCILLATION LIMIT = 16.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.99 CRITERION= .1048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3024
HT FLOW CONVERGENCE VALUE= .1008 CRITERION= .9813E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2239E-01
HT FLOW CONVERGENCE VALUE= .5586E-02 CRITERION= .9810E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 939
*** TIME = .164100E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2111E-05 OSCILLATION LIMIT = 16.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.01 CRITERION= .1045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3054
HT FLOW CONVERGENCE VALUE= .1014 CRITERION= .9782E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2242E-01
HT FLOW CONVERGENCE VALUE= .5547E-02 CRITERION= .9779E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 941
*** TIME = .164888E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2105E-05 OSCILLATION LIMIT = 16.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.98 CRITERION= .1042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3029
HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .9750E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2233E-01
HT FLOW CONVERGENCE VALUE= .5524E-02 CRITERION= .9747E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 943
*** TIME = .165677E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2110E-05 OSCILLATION LIMIT = 16.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.00 CRITERION= .1039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3058
HT FLOW CONVERGENCE VALUE= .1007 CRITERION= .9719E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2235E-01
HT FLOW CONVERGENCE VALUE= .5486E-02 CRITERION= .9716E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 945
*** TIME = .166466E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2103E-05 OSCILLATION LIMIT = 16.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .1036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3035
HT FLOW CONVERGENCE VALUE= .9977E-01 CRITERION= .9687E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2227E-01
HT FLOW CONVERGENCE VALUE= .5479E-02 CRITERION= .9684E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 947
*** TIME = .167255E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2110E-05 OSCILLATION LIMIT = 16.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.98 CRITERION= .1033
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3062
HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .9656E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2229E-01
HT FLOW CONVERGENCE VALUE= .5440E-02 CRITERION= .9653E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 949
*** TIME = .168044E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2102E-05 OSCILLATION LIMIT = 16.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.96 CRITERION= .1030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3040
HT FLOW CONVERGENCE VALUE= .9935E-01 CRITERION= .9624E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2221E-01
HT FLOW CONVERGENCE VALUE= .5431E-02 CRITERION= .9621E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 951
*** TIME = .168833E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2109E-05 OSCILLATION LIMIT = 16.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .1027
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3065
HT FLOW CONVERGENCE VALUE= .9972E-01 CRITERION= .9593E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2222E-01
HT FLOW CONVERGENCE VALUE= .5382E-02 CRITERION= .9590E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 953
*** TIME = .169622E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2100E-05 OSCILLATION LIMIT = 16.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.95 CRITERION= .1024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3046
HT FLOW CONVERGENCE VALUE= .9864E-01 CRITERION= .9561E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2215E-01
HT FLOW CONVERGENCE VALUE= .5347E-02 CRITERION= .9559E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 955
*** TIME = .170411E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2108E-05 OSCILLATION LIMIT = 16.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.96 CRITERION= .1021
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3069
HT FLOW CONVERGENCE VALUE= .9857E-01 CRITERION= .9530E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2215E-01
HT FLOW CONVERGENCE VALUE= .5280E-02 CRITERION= .9527E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 957
*** TIME = .171200E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2099E-05 OSCILLATION LIMIT = 16.56

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .1018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3051
 HT FLOW CONVERGENCE VALUE= .9745E-01 CRITERION= .9498E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2208E-01
 HT FLOW CONVERGENCE VALUE= .5238E-02 CRITERION= .9496E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 959
 *** TIME = .171989E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2108E-05 OSCILLATION LIMIT = 16.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.95 CRITERION= .1015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3073
 HT FLOW CONVERGENCE VALUE= .9724E-01 CRITERION= .9467E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2208E-01
 HT FLOW CONVERGENCE VALUE= .5173E-02 CRITERION= .9464E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 961
 *** TIME = .172778E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2098E-05 OSCILLATION LIMIT = 16.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.93 CRITERION= .1012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3057
 HT FLOW CONVERGENCE VALUE= .9633E-01 CRITERION= .9435E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2203E-01
 HT FLOW CONVERGENCE VALUE= .5160E-02 CRITERION= .9433E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 963
 *** TIME = .173567E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2107E-05 OSCILLATION LIMIT = 16.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .1009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3078
 HT FLOW CONVERGENCE VALUE= .9658E-01 CRITERION= .9404E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2202E-01
 HT FLOW CONVERGENCE VALUE= .5122E-02 CRITERION= .9401E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 965
 *** TIME = .174356E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2097E-05 OSCILLATION LIMIT = 16.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.92 CRITERION= .1006
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3062
 HT FLOW CONVERGENCE VALUE= .9574E-01 CRITERION= .9372E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2196E-01
 HT FLOW CONVERGENCE VALUE= .5082E-02 CRITERION= .9370E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 967
 *** TIME = .175145E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2107E-05 OSCILLATION LIMIT = 16.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.93 CRITERION= .1003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3082
 HT FLOW CONVERGENCE VALUE= .9547E-01 CRITERION= .9341E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2194E-01
 HT FLOW CONVERGENCE VALUE= .5012E-02 CRITERION= .9339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 969
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2095E-05 OSCILLATION LIMIT = 16.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.91 CRITERION= .1000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3067

HT FLOW CONVERGENCE VALUE= .9446E-01 CRITERION= .9309E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2188E-01
 HT FLOW CONVERGENCE VALUE= .4994E-02 CRITERION= .9307E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 971
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2106E-05 OSCILLATION LIMIT = 16.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.92 CRITERION= .9973E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3086
 HT FLOW CONVERGENCE VALUE= .9470E-01 CRITERION= .9278E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2187E-01
 HT FLOW CONVERGENCE VALUE= .4958E-02 CRITERION= .9276E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 973
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2094E-05 OSCILLATION LIMIT = 16.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.90 CRITERION= .9943E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3073
 HT FLOW CONVERGENCE VALUE= .9407E-01 CRITERION= .9246E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2182E-01
 HT FLOW CONVERGENCE VALUE= .4953E-02 CRITERION= .9244E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 975
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2105E-05 OSCILLATION LIMIT = 16.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.91 CRITERION= .9914E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3090
 HT FLOW CONVERGENCE VALUE= .9426E-01 CRITERION= .9215E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2181E-01
 HT FLOW CONVERGENCE VALUE= .4916E-02 CRITERION= .9213E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 977
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2093E-05 OSCILLATION LIMIT = 16.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.89 CRITERION= .9884E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3078
 HT FLOW CONVERGENCE VALUE= .9349E-01 CRITERION= .9184E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2177E-01
 HT FLOW CONVERGENCE VALUE= .4891E-02 CRITERION= .9181E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 979
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2104E-05 OSCILLATION LIMIT = 16.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.90 CRITERION= .9855E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3095
 HT FLOW CONVERGENCE VALUE= .9337E-01 CRITERION= .9152E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2174E-01
 HT FLOW CONVERGENCE VALUE= .4838E-02 CRITERION= .9150E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 981
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2091E-05 OSCILLATION LIMIT = 16.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.87 CRITERION= .9825E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3083
 HT FLOW CONVERGENCE VALUE= .9268E-01 CRITERION= .9121E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2170E-01
 HT FLOW CONVERGENCE VALUE= .4827E-02 CRITERION= .9118E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 983
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2103E-05 OSCILLATION LIMIT = 16.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.89 CRITERION= .9796E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3099
 HT FLOW CONVERGENCE VALUE= .9279E-01 CRITERION= .9089E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2168E-01
 HT FLOW CONVERGENCE VALUE= .4793E-02 CRITERION= .9087E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 985
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2090E-05 OSCILLATION LIMIT = 16.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.86 CRITERION= .9766E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3089
 HT FLOW CONVERGENCE VALUE= .9217E-01 CRITERION= .9058E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2165E-01
 HT FLOW CONVERGENCE VALUE= .4779E-02 CRITERION= .9055E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 987
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2102E-05 OSCILLATION LIMIT = 16.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.88 CRITERION= .9737E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3104
 HT FLOW CONVERGENCE VALUE= .9219E-01 CRITERION= .9027E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2162E-01
 HT FLOW CONVERGENCE VALUE= .4734E-02 CRITERION= .9024E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 989
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2088E-05 OSCILLATION LIMIT = 16.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.85 CRITERION= .9708E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3094
 HT FLOW CONVERGENCE VALUE= .9150E-01 CRITERION= .8995E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2157E-01
 HT FLOW CONVERGENCE VALUE= .4716E-02 CRITERION= .8992E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 991
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2101E-05 OSCILLATION LIMIT = 16.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.87 CRITERION= .9678E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3108
 HT FLOW CONVERGENCE VALUE= .9149E-01 CRITERION= .8964E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2154E-01
 HT FLOW CONVERGENCE VALUE= .4679E-02 CRITERION= .8961E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 993
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = 16.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.84 CRITERION= .9649E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3099
 HT FLOW CONVERGENCE VALUE= .9098E-01 CRITERION= .8932E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2152E-01
 HT FLOW CONVERGENCE VALUE= .4671E-02 CRITERION= .8929E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 995
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2100E-05 OSCILLATION LIMIT = 16.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.86 CRITERION= .9619E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3113
 HT FLOW CONVERGENCE VALUE= .9102E-01 CRITERION= .8901E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2148E-01
 HT FLOW CONVERGENCE VALUE= .4635E-02 CRITERION= .8898E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 997
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2085E-05 OSCILLATION LIMIT = 16.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.83 CRITERION= .9590E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3105
 HT FLOW CONVERGENCE VALUE= .9055E-01 CRITERION= .8869E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2145E-01
 HT FLOW CONVERGENCE VALUE= .4623E-02 CRITERION= .8866E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 999
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2099E-05 OSCILLATION LIMIT = 16.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.84 CRITERION= .9561E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3117
 HT FLOW CONVERGENCE VALUE= .9052E-01 CRITERION= .8838E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2141E-01
 HT FLOW CONVERGENCE VALUE= .4586E-02 CRITERION= .8835E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 1001
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2084E-05 OSCILLATION LIMIT = 16.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.82 CRITERION= .9531E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3110
 HT FLOW CONVERGENCE VALUE= .9006E-01 CRITERION= .8806E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2139E-01
 HT FLOW CONVERGENCE VALUE= .4577E-02 CRITERION= .8803E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 1003
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2097E-05 OSCILLATION LIMIT = 16.55

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:34:36 APR 11, 1995 CP= 80851.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 30.19 CRITERION= .9304E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2554
 HT FLOW CONVERGENCE VALUE= .7409E-01 CRITERION= .8780E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 1004
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2226E-05 OSCILLATION LIMIT = 17.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.17 CRITERION= .9282E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2353
 HT FLOW CONVERGENCE VALUE= .7001E-01 CRITERION= .8754E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 1005
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2003E-05 OSCILLATION LIMIT = 15.81

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.19 CRITERION= .9258E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2373
 HT FLOW CONVERGENCE VALUE= .7015E-01 CRITERION= .8729E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 1006
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2014E-05 OSCILLATION LIMIT = 15.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.16 CRITERION= .9234E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2360
 HT FLOW CONVERGENCE VALUE= .6965E-01 CRITERION= .8704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 1007
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2023E-05 OSCILLATION LIMIT = 15.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.18 CRITERION= .9210E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2377
 HT FLOW CONVERGENCE VALUE= .6988E-01 CRITERION= .8679E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 1008
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2013E-05 OSCILLATION LIMIT = 15.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .9186E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2364
 HT FLOW CONVERGENCE VALUE= .6937E-01 CRITERION= .8653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 1009
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2023E-05 OSCILLATION LIMIT = 15.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.17 CRITERION= .9162E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2380
 HT FLOW CONVERGENCE VALUE= .6954E-01 CRITERION= .8628E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 1010
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2012E-05 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .9138E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2368
 HT FLOW CONVERGENCE VALUE= .6905E-01 CRITERION= .8602E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 1011
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2022E-05 OSCILLATION LIMIT = 15.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.16 CRITERION= .9114E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2384
 HT FLOW CONVERGENCE VALUE= .6917E-01 CRITERION= .8577E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 1012
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2010E-05 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .9089E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2372
 HT FLOW CONVERGENCE VALUE= .6874E-01 CRITERION= .8552E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 1013

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*** TIME = .197235E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2021E-05    OSCILLATION LIMIT = 15.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.15    CRITERION= .9066E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2387
    HT FLOW CONVERGENCE VALUE= .6889E-01    CRITERION= .8527E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 1014
*** TIME = .198024E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2009E-05    OSCILLATION LIMIT = 15.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.13    CRITERION= .9041E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2377
    HT FLOW CONVERGENCE VALUE= .6848E-01    CRITERION= .8501E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 1015
*** TIME = .198813E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2021E-05    OSCILLATION LIMIT = 15.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.15    CRITERION= .9017E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2390
    HT FLOW CONVERGENCE VALUE= .6862E-01    CRITERION= .8476E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 1016
*** TIME = .199602E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2008E-05    OSCILLATION LIMIT = 15.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.12    CRITERION= .8993E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2381
    HT FLOW CONVERGENCE VALUE= .6824E-01    CRITERION= .8450E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 1017
*** TIME = .200391E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2020E-05    OSCILLATION LIMIT = 15.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.14    CRITERION= .8969E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2394
    HT FLOW CONVERGENCE VALUE= .6834E-01    CRITERION= .8425E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 1018
*** TIME = .201180E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2006E-05    OSCILLATION LIMIT = 15.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.12    CRITERION= .8945E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2385
    HT FLOW CONVERGENCE VALUE= .6797E-01    CRITERION= .8400E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 1019
*** TIME = .201969E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2019E-05    OSCILLATION LIMIT = 15.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.13    CRITERION= .8922E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2397
    HT FLOW CONVERGENCE VALUE= .6806E-01    CRITERION= .8375E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 1020
*** TIME = .202758E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2005E-05    OSCILLATION LIMIT = 15.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.11    CRITERION= .8898E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2389
    HT FLOW CONVERGENCE VALUE= .6770E-01    CRITERION= .8349E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 1021
*** TIME = .203547E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2019E-05 OSCILLATION LIMIT = 15.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .8874E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2401
HT FLOW CONVERGENCE VALUE= .6774E-01 CRITERION= .8324E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 1022
*** TIME = .204335E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2004E-05 OSCILLATION LIMIT = 15.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.10 CRITERION= .8850E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2394
HT FLOW CONVERGENCE VALUE= .6738E-01 CRITERION= .8298E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 1023
*** TIME = .205124E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2018E-05 OSCILLATION LIMIT = 15.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .8826E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2404
HT FLOW CONVERGENCE VALUE= .6742E-01 CRITERION= .8273E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 1024
*** TIME = .205913E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2003E-05 OSCILLATION LIMIT = 15.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .8802E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2398
HT FLOW CONVERGENCE VALUE= .6711E-01 CRITERION= .8248E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 1025
*** TIME = .206702E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2017E-05 OSCILLATION LIMIT = 15.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .8778E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2408
HT FLOW CONVERGENCE VALUE= .6713E-01 CRITERION= .8223E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 1026
*** TIME = .207491E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2001E-05 OSCILLATION LIMIT = 15.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .8754E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2402
HT FLOW CONVERGENCE VALUE= .6677E-01 CRITERION= .8197E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 1027
*** TIME = .208280E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2017E-05 OSCILLATION LIMIT = 15.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.10 CRITERION= .8730E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2412
HT FLOW CONVERGENCE VALUE= .6674E-01 CRITERION= .8172E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 1028
*** TIME = .209069E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2000E-05 OSCILLATION LIMIT = 15.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.08 CRITERION= .8706E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2406
 HT FLOW CONVERGENCE VALUE= .6627E-01 CRITERION= .8146E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 1029
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2016E-05 OSCILLATION LIMIT = 15.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .8682E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2415
 HT FLOW CONVERGENCE VALUE= .6622E-01 CRITERION= .8121E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 1030
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1999E-05 OSCILLATION LIMIT = 15.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.07 CRITERION= .8658E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2410
 HT FLOW CONVERGENCE VALUE= .6591E-01 CRITERION= .8096E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 1031
 *** TIME = .211436E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = 15.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.09 CRITERION= .8634E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2419
 HT FLOW CONVERGENCE VALUE= .6589E-01 CRITERION= .8071E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 1032
 *** TIME = .212225E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1998E-05 OSCILLATION LIMIT = 15.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .8611E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2415
 HT FLOW CONVERGENCE VALUE= .6559E-01 CRITERION= .8045E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 1033
 *** TIME = .213014E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2014E-05 OSCILLATION LIMIT = 15.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.08 CRITERION= .8587E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2423
 HT FLOW CONVERGENCE VALUE= .6555E-01 CRITERION= .8020E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 1034
 *** TIME = .213803E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1997E-05 OSCILLATION LIMIT = 15.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .8563E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2419
 HT FLOW CONVERGENCE VALUE= .6528E-01 CRITERION= .7994E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 1035
 *** TIME = .214592E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2014E-05 OSCILLATION LIMIT = 15.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.07 CRITERION= .8539E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2427
 HT FLOW CONVERGENCE VALUE= .6524E-01 CRITERION= .7969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 1036
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1996E-05 OSCILLATION LIMIT = 15.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.05 CRITERION= .8515E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2423
 HT FLOW CONVERGENCE VALUE= .6493E-01 CRITERION= .7944E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 1037
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2013E-05 OSCILLATION LIMIT = 15.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .8491E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2431
 HT FLOW CONVERGENCE VALUE= .6475E-01 CRITERION= .7919E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 1038
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1995E-05 OSCILLATION LIMIT = 15.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .8467E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2427
 HT FLOW CONVERGENCE VALUE= .6444E-01 CRITERION= .7893E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 1039
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2012E-05 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.06 CRITERION= .8444E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2434
 HT FLOW CONVERGENCE VALUE= .6436E-01 CRITERION= .7868E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 1040
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1994E-05 OSCILLATION LIMIT = 15.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .8420E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2432
 HT FLOW CONVERGENCE VALUE= .6404E-01 CRITERION= .7843E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 1041
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2011E-05 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.05 CRITERION= .8396E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2438
 HT FLOW CONVERGENCE VALUE= .6390E-01 CRITERION= .7817E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 1042
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1993E-05 OSCILLATION LIMIT = 15.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .8372E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2436
 HT FLOW CONVERGENCE VALUE= .6355E-01 CRITERION= .7792E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 1043
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2011E-05 OSCILLATION LIMIT = 15.86

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:35:49 APR 11, 1995 CP= 84466.120
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 29.87 CRITERION= .8343E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2079
 HT FLOW CONVERGENCE VALUE= .5573E-01 CRITERION= .7771E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 1044
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1653E-05 OSCILLATION LIMIT = 13.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .8323E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2073
 HT FLOW CONVERGENCE VALUE= .5520E-01 CRITERION= .7750E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 1045
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.86 CRITERION= .8304E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2092
 HT FLOW CONVERGENCE VALUE= .5545E-01 CRITERION= .7730E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 1046
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1693E-05 OSCILLATION LIMIT = 13.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .8284E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2077
 HT FLOW CONVERGENCE VALUE= .5493E-01 CRITERION= .7709E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 1047
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.85 CRITERION= .8265E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2095
 HT FLOW CONVERGENCE VALUE= .5511E-01 CRITERION= .7689E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 1048
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1692E-05 OSCILLATION LIMIT = 13.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.83 CRITERION= .8246E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2081
 HT FLOW CONVERGENCE VALUE= .5464E-01 CRITERION= .7668E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 1049
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .8227E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2097
 HT FLOW CONVERGENCE VALUE= .5481E-01 CRITERION= .7648E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 1050
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1691E-05 OSCILLATION LIMIT = 13.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.82 CRITERION= .8207E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2084
 HT FLOW CONVERGENCE VALUE= .5441E-01 CRITERION= .7627E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 1051
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .8188E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2100
 HT FLOW CONVERGENCE VALUE= .5458E-01 CRITERION= .7607E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 1052
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1690E-05 OSCILLATION LIMIT = 13.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.81 CRITERION= .8169E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2088
 HT FLOW CONVERGENCE VALUE= .5420E-01 CRITERION= .7586E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 1053
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.83 CRITERION= .8150E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2102
 HT FLOW CONVERGENCE VALUE= .5435E-01 CRITERION= .7566E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 1054
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1689E-05 OSCILLATION LIMIT = 13.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.81 CRITERION= .8130E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2091
 HT FLOW CONVERGENCE VALUE= .5399E-01 CRITERION= .7545E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 1055
 *** TIME = .230370E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.82 CRITERION= .8111E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2105
 HT FLOW CONVERGENCE VALUE= .5412E-01 CRITERION= .7525E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 1056
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1688E-05 OSCILLATION LIMIT = 13.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.80 CRITERION= .8092E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2095
 HT FLOW CONVERGENCE VALUE= .5378E-01 CRITERION= .7504E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 1057
 *** TIME = .231948E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.81 CRITERION= .8073E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2107
 HT FLOW CONVERGENCE VALUE= .5384E-01 CRITERION= .7484E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 1058
 *** TIME = .232737E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1687E-05 OSCILLATION LIMIT = 13.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.79 CRITERION= .8053E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2098

HT FLOW CONVERGENCE VALUE= .5349E-01 CRITERION= .7463E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 1059
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.81 CRITERION= .8034E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2110
 HT FLOW CONVERGENCE VALUE= .5353E-01 CRITERION= .7443E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 1060
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1687E-05 OSCILLATION LIMIT = 13.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.78 CRITERION= .8015E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2101
 HT FLOW CONVERGENCE VALUE= .5318E-01 CRITERION= .7422E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 1061
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.80 CRITERION= .7996E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2112
 HT FLOW CONVERGENCE VALUE= .5322E-01 CRITERION= .7402E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 1062
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1686E-05 OSCILLATION LIMIT = 13.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.78 CRITERION= .7977E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2105
 HT FLOW CONVERGENCE VALUE= .5289E-01 CRITERION= .7381E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 1063
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.79 CRITERION= .7958E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2115
 HT FLOW CONVERGENCE VALUE= .5291E-01 CRITERION= .7361E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 1064
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1685E-05 OSCILLATION LIMIT = 13.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.77 CRITERION= .7938E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2108
 HT FLOW CONVERGENCE VALUE= .5260E-01 CRITERION= .7340E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 1065
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.78 CRITERION= .7919E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2118
 HT FLOW CONVERGENCE VALUE= .5259E-01 CRITERION= .7320E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 1066
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1685E-05 OSCILLATION LIMIT = 13.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.76 CRITERION= .7900E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2112
 HT FLOW CONVERGENCE VALUE= .5229E-01 CRITERION= .7299E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 1067
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.78 CRITERION= .7881E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2121
 HT FLOW CONVERGENCE VALUE= .5230E-01 CRITERION= .7279E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 1068
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1684E-05 OSCILLATION LIMIT = 13.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.75 CRITERION= .7862E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2115
 HT FLOW CONVERGENCE VALUE= .5203E-01 CRITERION= .7258E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 1069
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.77 CRITERION= .7843E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2124
 HT FLOW CONVERGENCE VALUE= .5203E-01 CRITERION= .7238E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 1070
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1683E-05 OSCILLATION LIMIT = 13.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.74 CRITERION= .7823E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2118
 HT FLOW CONVERGENCE VALUE= .5175E-01 CRITERION= .7217E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 1071
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1699E-05 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.76 CRITERION= .7804E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2126
 HT FLOW CONVERGENCE VALUE= .5177E-01 CRITERION= .7197E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 1072
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1683E-05 OSCILLATION LIMIT = 13.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.74 CRITERION= .7785E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2122
 HT FLOW CONVERGENCE VALUE= .5156E-01 CRITERION= .7176E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 1073
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1699E-05 OSCILLATION LIMIT = 13.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.75 CRITERION= .7766E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2129
 HT FLOW CONVERGENCE VALUE= .5157E-01 CRITERION= .7155E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 1074
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1682E-05 OSCILLATION LIMIT = 13.27

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.73 CRITERION= .7747E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2125
 HT FLOW CONVERGENCE VALUE= .5135E-01 CRITERION= .7135E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 1075
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1699E-05 OSCILLATION LIMIT = 13.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.75 CRITERION= .7728E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
 HT FLOW CONVERGENCE VALUE= .5134E-01 CRITERION= .7114E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 1076
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1681E-05 OSCILLATION LIMIT = 13.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.72 CRITERION= .7709E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2128
 HT FLOW CONVERGENCE VALUE= .5114E-01 CRITERION= .7094E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 1077
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1698E-05 OSCILLATION LIMIT = 13.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.74 CRITERION= .7690E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2135
 HT FLOW CONVERGENCE VALUE= .5110E-01 CRITERION= .7073E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 1078
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1681E-05 OSCILLATION LIMIT = 13.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.71 CRITERION= .7671E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
 HT FLOW CONVERGENCE VALUE= .5087E-01 CRITERION= .7053E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 1079
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1698E-05 OSCILLATION LIMIT = 13.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.73 CRITERION= .7652E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2138
 HT FLOW CONVERGENCE VALUE= .5082E-01 CRITERION= .7032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 1080
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1680E-05 OSCILLATION LIMIT = 13.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.71 CRITERION= .7633E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2135
 HT FLOW CONVERGENCE VALUE= .5058E-01 CRITERION= .7012E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1081
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1698E-05 OSCILLATION LIMIT = 13.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.72 CRITERION= .7614E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2141
 HT FLOW CONVERGENCE VALUE= .5052E-01 CRITERION= .6991E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1082

*** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1679E-05 OSCILLATION LIMIT = 13.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.70 CRITERION= .7594E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2138
 HT FLOW CONVERGENCE VALUE= .5032E-01 CRITERION= .6971E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1083
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1697E-05 OSCILLATION LIMIT = 13.39

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:37:02 APR 11, 1995 CP= 88082.050
 FOR SUPPORT CALL ROBERT BA'NEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .7323E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1634
 HT FLOW CONVERGENCE VALUE= .3836E-01 CRITERION= .6954E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1084
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1686E-05 OSCILLATION LIMIT = 13.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7308E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1645
 HT FLOW CONVERGENCE VALUE= .3836E-01 CRITERION= .6938E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1085
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1735E-05 OSCILLATION LIMIT = 13.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .7293E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1671
 HT FLOW CONVERGENCE VALUE= .3875E-01 CRITERION= .6922E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1086
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1728E-05 OSCILLATION LIMIT = 13.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7277E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1648
 HT FLOW CONVERGENCE VALUE= .3821E-01 CRITERION= .6906E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1087
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 13.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .7262E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1672
 HT FLOW CONVERGENCE VALUE= .3855E-01 CRITERION= .6891E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1088
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1727E-05 OSCILLATION LIMIT = 13.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7247E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1650
 HT FLOW CONVERGENCE VALUE= .3805E-01 CRITERION= .6874E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1089
*** TIME = .257194E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 13.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.49 CRITERION= .7231E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1673
HT FLOW CONVERGENCE VALUE= .3842E-01 CRITERION= .6859E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1090
*** TIME = .257983E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1726E-05 OSCILLATION LIMIT = 13.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.47 CRITERION= .7216E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1653
HT FLOW CONVERGENCE VALUE= .3797E-01 CRITERION= .6842E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1091
*** TIME = .258772E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.49 CRITERION= .7201E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1674
HT FLOW CONVERGENCE VALUE= .3829E-01 CRITERION= .6827E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1092
*** TIME = .259561E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1724E-05 OSCILLATION LIMIT = 13.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.47 CRITERION= .7185E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1656
HT FLOW CONVERGENCE VALUE= .3778E-01 CRITERION= .6810E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1093
*** TIME = .260350E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7170E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1675
HT FLOW CONVERGENCE VALUE= .3809E-01 CRITERION= .6795E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1094
*** TIME = .261139E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1723E-05 OSCILLATION LIMIT = 13.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.46 CRITERION= .7155E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1658
HT FLOW CONVERGENCE VALUE= .3750E-01 CRITERION= .6778E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1095
*** TIME = .261928E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7140E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1677
HT FLOW CONVERGENCE VALUE= .3763E-01 CRITERION= .6763E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1096
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1721E-05 OSCILLATION LIMIT = 13.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.46 CRITERION= .7124E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1661
 HT FLOW CONVERGENCE VALUE= .3713E-01 CRITERION= .6746E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1097
 *** TIME = .263506E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.48 CRITERION= .7109E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1678
 HT FLOW CONVERGENCE VALUE= .3708E-01 CRITERION= .6731E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1098
 *** TIME = .264295E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1720E-05 OSCILLATION LIMIT = 13.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.45 CRITERION= .7094E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1664
 HT FLOW CONVERGENCE VALUE= .3655E-01 CRITERION= .6714E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1099
 *** TIME = .265084E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.47 CRITERION= .7079E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1679
 HT FLOW CONVERGENCE VALUE= .3667E-01 CRITERION= .6699E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1100
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1719E-05 OSCILLATION LIMIT = 13.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.45 CRITERION= .7064E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1666
 HT FLOW CONVERGENCE VALUE= .3634E-01 CRITERION= .6682E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1101
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.47 CRITERION= .7048E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1680
 HT FLOW CONVERGENCE VALUE= .3654E-01 CRITERION= .6667E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1102
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1717E-05 OSCILLATION LIMIT = 13.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .7033E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1668
 HT FLOW CONVERGENCE VALUE= .3643E-01 CRITERION= .6650E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1103
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.46 CRITERION= .7018E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1682
 HT FLOW CONVERGENCE VALUE= .3672E-01 CRITERION= .6635E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1104
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1716E-05 OSCILLATION LIMIT = 13.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .7003E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1671
 HT FLOW CONVERGENCE VALUE= .3655E-01 CRITERION= .6618E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1105
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1732E-05 OSCILLATION LIMIT = 13.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.46 CRITERION= .6987E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1683
 HT FLOW CONVERGENCE VALUE= .3687E-01 CRITERION= .6603E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1106
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1714E-05 OSCILLATION LIMIT = 13.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .6972E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1673
 HT FLOW CONVERGENCE VALUE= .3670E-01 CRITERION= .6586E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1107
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 13.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.45 CRITERION= .6957E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1685
 HT FLOW CONVERGENCE VALUE= .3685E-01 CRITERION= .6571E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1108
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1713E-05 OSCILLATION LIMIT = 13.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43 CRITERION= .6942E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1675
 HT FLOW CONVERGENCE VALUE= .3662E-01 CRITERION= .6554E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1109
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 13.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.45 CRITERION= .6927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1686
 HT FLOW CONVERGENCE VALUE= .3673E-01 CRITERION= .6539E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1110
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1712E-05 OSCILLATION LIMIT = 13.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43 CRITERION= .6911E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1678
 HT FLOW CONVERGENCE VALUE= .3647E-01 CRITERION= .6522E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1111
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1731E-05 OSCILLATION LIMIT = 13.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .6896E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1688
 HT FLOW CONVERGENCE VALUE= .3651E-01 CRITERION= .6507E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1112
 *** TIME = .275340E+10 TIME INC = .788940E+07


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*** RESPONSE EIGENVALUE = .1711E-05  OSCILLATION LIMIT = 13.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.42  CRITERION= .6881E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1680
HT FLOW CONVERGENCE VALUE= .3631E-01 CRITERION= .6490E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1113
*** TIME = .276129E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1731E-05  OSCILLATION LIMIT = 13.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44  CRITERION= .6866E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1689
HT FLOW CONVERGENCE VALUE= .3626E-01 CRITERION= .6475E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1114
*** TIME = .276918E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1710E-05  OSCILLATION LIMIT = 13.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.42  CRITERION= .6851E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1682
HT FLOW CONVERGENCE VALUE= .3593E-01 CRITERION= .6458E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1115
*** TIME = .277707E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1731E-05  OSCILLATION LIMIT = 13.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44  CRITERION= .6835E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1691
HT FLOW CONVERGENCE VALUE= .3595E-01 CRITERION= .6443E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1116
*** TIME = .278496E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1710E-05  OSCILLATION LIMIT = 13.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.41  CRITERION= .6820E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1684
HT FLOW CONVERGENCE VALUE= .3576E-01 CRITERION= .6426E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1117
*** TIME = .279285E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1731E-05  OSCILLATION LIMIT = 13.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43  CRITERION= .6805E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1693
HT FLOW CONVERGENCE VALUE= .3580E-01 CRITERION= .6411E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1118
*** TIME = .280074E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1709E-05  OSCILLATION LIMIT = 13.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.41  CRITERION= .6790E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1687
HT FLOW CONVERGENCE VALUE= .3563E-01 CRITERION= .6394E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1119
*** TIME = .280863E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1731E-05  OSCILLATION LIMIT = 13.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43  CRITERION= .6775E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1694
HT FLOW CONVERGENCE VALUE= .3572E-01 CRITERION= .6379E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1120
*** TIME = .281652E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1709E-05 OSCILLATION LIMIT = 13.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.41 CRITERION= .6760E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1689
HT FLOW CONVERGENCE VALUE= .3560E-01 CRITERION= .6362E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1121
*** TIME = .282441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1730E-05 OSCILLATION LIMIT = 13.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.42 CRITERION= .6744E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1696
HT FLOW CONVERGENCE VALUE= .3574E-01 CRITERION= .6347E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1122
*** TIME = .283229E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1708E-05 OSCILLATION LIMIT = 13.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.40 CRITERION= .6729E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1691
HT FLOW CONVERGENCE VALUE= .3560E-01 CRITERION= .6330E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1123
*** TIME = .284018E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1730E-05 OSCILLATION LIMIT = 13.65
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

```

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
1429.42469 .000000000E+00 .000000000E+00 .000000000E+00

```

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

```

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

```

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

```

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

```

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 98.414 .00000E+00 EXPANSION KEY = 1

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CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 98.761 .00000E+00 EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 99.587 .00000E+00 EXPANSION KEY = 1

```

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 91698.100 TIME= 06:38:20
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:38:20 APR 11, 1995 CP= 91698.100
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= 19.02 CRITERION= .6609E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1487
HT FLOW CONVERGENCE VALUE= .3109E-01 CRITERION= .6316E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1124
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1767E-05 OSCILLATION LIMIT = 13.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6595E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1489
HT FLOW CONVERGENCE VALUE= .3099E-01 CRITERION= .6302E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1125
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1804E-05 OSCILLATION LIMIT = 14.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.02 CRITERION= .6581E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1504
HT FLOW CONVERGENCE VALUE= .3125E-01 CRITERION= .6288E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1126
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1785E-05 OSCILLATION LIMIT = 14.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6567E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1491
 HT FLOW CONVERGENCE VALUE= .3102E-01 CRITERION= .6273E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1127
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1802E-05 OSCILLATION LIMIT = 14.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.02 CRITERION= .6554E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1505
 HT FLOW CONVERGENCE VALUE= .3123E-01 CRITERION= .6259E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1128
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1784E-05 OSCILLATION LIMIT = 14.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6540E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1493
 HT FLOW CONVERGENCE VALUE= .3095E-01 CRITERION= .6245E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1129
 *** TIME = .288752E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1803E-05 OSCILLATION LIMIT = 14.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.01 CRITERION= .6526E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1506
 HT FLOW CONVERGENCE VALUE= .3110E-01 CRITERION= .6230E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1130
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1783E-05 OSCILLATION LIMIT = 14.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.99 CRITERION= .6512E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1495
 HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .6216E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1131
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1803E-05 OSCILLATION LIMIT = 14.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.01 CRITERION= .6499E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1507
 HT FLOW CONVERGENCE VALUE= .3096E-01 CRITERION= .6202E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1132
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1783E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.99 CRITERION= .6485E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1497
 HT FLOW CONVERGENCE VALUE= .3073E-01 CRITERION= .6187E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1133
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1803E-05 OSCILLATION LIMIT = 14.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.01 CRITERION= .6471E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1508
 HT FLOW CONVERGENCE VALUE= .3089E-01 CRITERION= .6173E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1134
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.99 CRITERION= .6458E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1499
 HT FLOW CONVERGENCE VALUE= .3071E-01 CRITERION= .6159E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1135
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1804E-05 OSCILLATION LIMIT = 14.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.01 CRITERION= .6444E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1510
 HT FLOW CONVERGENCE VALUE= .3084E-01 CRITERION= .6145E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1136
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.99 CRITERION= .6430E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1501
 HT FLOW CONVERGENCE VALUE= .3063E-01 CRITERION= .6130E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1137
 *** TIME = .295064E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1805E-05 OSCILLATION LIMIT = 14.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6417E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1511
 HT FLOW CONVERGENCE VALUE= .3075E-01 CRITERION= .6116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1138
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6403E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1503
 HT FLOW CONVERGENCE VALUE= .3060E-01 CRITERION= .6102E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1139
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1806E-05 OSCILLATION LIMIT = 14.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6389E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1512
 HT FLOW CONVERGENCE VALUE= .3070E-01 CRITERION= .6088E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1140
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1505
 HT FLOW CONVERGENCE VALUE= .3050E-01 CRITERION= .6073E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1141
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1807E-05 OSCILLATION LIMIT = 14.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6362E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1514
 HT FLOW CONVERGENCE VALUE= .3057E-01 CRITERION= .6059E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1142
 *** TIME = .299008E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .1782E-05  OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.98      CRITERION= .6348E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1508
    HT FLOW CONVERGENCE VALUE= .3038E-01  CRITERION= .6045E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  20 COMPLETED.  CUM ITER = 1143
*** TIME = .299797E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1808E-05  OSCILLATION LIMIT = 14.26
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.00      CRITERION= .6335E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1516
    HT FLOW CONVERGENCE VALUE= .3042E-01  CRITERION= .6030E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  21 COMPLETED.  CUM ITER = 1144
*** TIME = .300586E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05  OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.98      CRITERION= .6321E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1510
    HT FLOW CONVERGENCE VALUE= .3024E-01  CRITERION= .6016E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  22 COMPLETED.  CUM ITER = 1145
*** TIME = .301375E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1809E-05  OSCILLATION LIMIT = 14.27
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.00      CRITERION= .6307E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1517
    HT FLOW CONVERGENCE VALUE= .3030E-01  CRITERION= .6002E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  23 COMPLETED.  CUM ITER = 1146
*** TIME = .302164E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1783E-05  OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.98      CRITERION= .6294E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1512
    HT FLOW CONVERGENCE VALUE= .3016E-01  CRITERION= .5987E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  24 COMPLETED.  CUM ITER = 1147
*** TIME = .302953E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1809E-05  OSCILLATION LIMIT = 14.27
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.00      CRITERION= .6280E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1519
    HT FLOW CONVERGENCE VALUE= .3021E-01  CRITERION= .5973E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  25 COMPLETED.  CUM ITER = 1148
*** TIME = .303742E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05  OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.98      CRITERION= .6266E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1514
    HT FLOW CONVERGENCE VALUE= .3007E-01  CRITERION= .5959E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  31  SUBSTEP  26 COMPLETED.  CUM ITER = 1149
*** TIME = .304531E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1810E-05  OSCILLATION LIMIT = 14.28
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.00      CRITERION= .6253E-01
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1521
    HT FLOW CONVERGENCE VALUE= .3011E-01  CRITERION= .5945E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1150
*** TIME = .305320E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6239E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1516
HT FLOW CONVERGENCE VALUE= .2999E-01 CRITERION= .5930E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1151
*** TIME = .306109E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1810E-05 OSCILLATION LIMIT = 14.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6226E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1522
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .5916E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1152
*** TIME = .306898E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6212E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1519
HT FLOW CONVERGENCE VALUE= .2989E-01 CRITERION= .5902E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1153
*** TIME = .307687E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1810E-05 OSCILLATION LIMIT = 14.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6198E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1524
HT FLOW CONVERGENCE VALUE= .2992E-01 CRITERION= .5888E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1154
*** TIME = .308476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6185E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1521
HT FLOW CONVERGENCE VALUE= .2980E-01 CRITERION= .5873E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1155
*** TIME = .309264E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = 14.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6171E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1526
HT FLOW CONVERGENCE VALUE= .2982E-01 CRITERION= .5859E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1156
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6158E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1523
HT FLOW CONVERGENCE VALUE= .2970E-01 CRITERION= .5844E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1157
*** TIME = .310842E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = 14.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6144E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1528

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HT FLOW CONVERGENCE VALUE= .2971E-01 CRITERION= .5830E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1158
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6130E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1525
 HT FLOW CONVERGENCE VALUE= .2959E-01 CRITERION= .5816E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1159
 *** TIME = .312420E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = 14.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6117E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1529
 HT FLOW CONVERGENCE VALUE= .2960E-01 CRITERION= .5802E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1160
 *** TIME = .313209E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1782E-05 OSCILLATION LIMIT = 14.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6103E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1527
 HT FLOW CONVERGENCE VALUE= .2948E-01 CRITERION= .5787E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1161
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = 14.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.00 CRITERION= .6090E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1531
 HT FLOW CONVERGENCE VALUE= .2947E-01 CRITERION= .5773E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1162
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1781E-05 OSCILLATION LIMIT = 14.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.98 CRITERION= .6076E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1529
 HT FLOW CONVERGENCE VALUE= .2937E-01 CRITERION= .5759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1163
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = 14.29

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:41:42 APR 11, 1995 CP= 95340.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1167
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7385
 HT FLOW CONVERGENCE VALUE= .1414 CRITERION= .5701E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4499E-01
 HT FLOW CONVERGENCE VALUE= .6608E-02 CRITERION= .5695E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1165


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*** TIME = .323465E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1461E-05    OSCILLATION LIMIT = 115.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1164
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7457
    HT FLOW CONVERGENCE VALUE= .1407    CRITERION= .5639E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4468E-01
    HT FLOW CONVERGENCE VALUE= .6470E-02    CRITERION= .5634E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1167
*** TIME = .331355E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1500E-05    OSCILLATION LIMIT = 118.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1161
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7511
    HT FLOW CONVERGENCE VALUE= .1402    CRITERION= .5578E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4447E-01
    HT FLOW CONVERGENCE VALUE= .6356E-02    CRITERION= .5572E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1169
*** TIME = .339244E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1501E-05    OSCILLATION LIMIT = 118.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1158
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7487
    HT FLOW CONVERGENCE VALUE= .1384    CRITERION= .5516E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4411E-01
    HT FLOW CONVERGENCE VALUE= .6255E-02    CRITERION= .5510E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1171
*** TIME = .347134E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1500E-05    OSCILLATION LIMIT = 118.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1156
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7541
    HT FLOW CONVERGENCE VALUE= .1379    CRITERION= .5454E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4390E-01
    HT FLOW CONVERGENCE VALUE= .6142E-02    CRITERION= .5448E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1173
*** TIME = .355023E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1501E-05    OSCILLATION LIMIT = 118.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1153
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7518
    HT FLOW CONVERGENCE VALUE= .1361    CRITERION= .5392E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4354E-01
    HT FLOW CONVERGENCE VALUE= .6041E-02    CRITERION= .5387E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1175
*** TIME = .362912E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1500E-05    OSCILLATION LIMIT = 118.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6    CRITERION= .1150
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7572
    HT FLOW CONVERGENCE VALUE= .1356    CRITERION= .5331E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4331E-01
    HT FLOW CONVERGENCE VALUE= .5929E-02    CRITERION= .5325E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1177
*** TIME = .370802E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1501E-05    OSCILLATION LIMIT = 118.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7549
 HT FLOW CONVERGENCE VALUE= .1338 CRITERION= .5269E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4295E-01
 HT FLOW CONVERGENCE VALUE= .5829E-02 CRITERION= .5263E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1179
 *** TIME = .378691E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1501E-05 OSCILLATION LIMIT = 118.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7604
 HT FLOW CONVERGENCE VALUE= .1332 CRITERION= .5207E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4272E-01
 HT FLOW CONVERGENCE VALUE= .5718E-02 CRITERION= .5202E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 9 COMPLETED. CUM ITER = 1181
 *** TIME = .386581E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7581
 HT FLOW CONVERGENCE VALUE= .1315 CRITERION= .5145E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4235E-01
 HT FLOW CONVERGENCE VALUE= .5618E-02 CRITERION= .5140E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 10 COMPLETED. CUM ITER = 1183
 *** TIME = .394470E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1501E-05 OSCILLATION LIMIT = 118.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7635
 HT FLOW CONVERGENCE VALUE= .1309 CRITERION= .5084E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4211E-01
 HT FLOW CONVERGENCE VALUE= .5508E-02 CRITERION= .5078E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 11 COMPLETED. CUM ITER = 1185
 *** TIME = .402359E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7613
 HT FLOW CONVERGENCE VALUE= .1291 CRITERION= .5022E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4173E-01
 HT FLOW CONVERGENCE VALUE= .5409E-02 CRITERION= .5016E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 12 COMPLETED. CUM ITER = 1187
 *** TIME = .410249E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1501E-05 OSCILLATION LIMIT = 118.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7668
 HT FLOW CONVERGENCE VALUE= .1285 CRITERION= .4960E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4148E-01
 HT FLOW CONVERGENCE VALUE= .5300E-02 CRITERION= .4955E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 13 COMPLETED. CUM ITER = 1189
 *** TIME = .418138E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7646
 HT FLOW CONVERGENCE VALUE= .1267 CRITERION= .4898E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4110E-01

HT FLOW CONVERGENCE VALUE= .5202E-02 CRITERION= .4893E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 14 COMPLETED. CUM ITER = 1191
 *** TIME = .426028E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7700
 HT FLOW CONVERGENCE VALUE= .1260 CRITERION= .4837E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4085E-01
 HT FLOW CONVERGENCE VALUE= .5094E-02 CRITERION= .4831E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 15 COMPLETED. CUM ITER = 1193
 *** TIME = .433917E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7679
 HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .4775E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4046E-01
 HT FLOW CONVERGENCE VALUE= .4997E-02 CRITERION= .4770E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 16 COMPLETED. CUM ITER = 1195
 *** TIME = .441806E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7733
 HT FLOW CONVERGENCE VALUE= .1236 CRITERION= .4713E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4020E-01
 HT FLOW CONVERGENCE VALUE= .4890E-02 CRITERION= .4708E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 17 COMPLETED. CUM ITER = 1197
 *** TIME = .449696E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1503E-05 OSCILLATION LIMIT = 118.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7712
 HT FLOW CONVERGENCE VALUE= .1218 CRITERION= .4651E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3981E-01
 HT FLOW CONVERGENCE VALUE= .4793E-02 CRITERION= .4646E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 18 COMPLETED. CUM ITER = 1199
 *** TIME = .457585E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1502E-05 OSCILLATION LIMIT = 118.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7767
 HT FLOW CONVERGENCE VALUE= .1211 CRITERION= .4590E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3954E-01
 HT FLOW CONVERGENCE VALUE= .4688E-02 CRITERION= .4584E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 19 COMPLETED. CUM ITER = 1201
 *** TIME = .465475E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1503E-05 OSCILLATION LIMIT = 118.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7746
 HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .4528E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3914E-01
 HT FLOW CONVERGENCE VALUE= .4592E-02 CRITERION= .4523E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 20 COMPLETED. CUM ITER = 1203
 *** TIME = .473364E+10 TIME INC = .788940E+08

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*** RESPONSE EIGENVALUE = .1503E-05  OSCILLATION LIMIT = 118.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1112
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7801
    HT FLOW CONVERGENCE VALUE= .1186      CRITERION= .4466E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3886E-01
    HT FLOW CONVERGENCE VALUE= .4488E-02  CRITERION= .4461E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  21  COMPLETED.  CUM ITER = 1205
*** TIME = .481253E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1503E-05  OSCILLATION LIMIT = 118.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1110
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7781
    HT FLOW CONVERGENCE VALUE= .1167      CRITERION= .4404E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3845E-01
    HT FLOW CONVERGENCE VALUE= .4391E-02  CRITERION= .4399E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  22  COMPLETED.  CUM ITER = 1207
*** TIME = .489143E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1503E-05  OSCILLATION LIMIT = 118.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1107
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7836
    HT FLOW CONVERGENCE VALUE= .1179      CRITERION= .4342E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3813E-01
    HT FLOW CONVERGENCE VALUE= .4276E-02  CRITERION= .4338E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  23  COMPLETED.  CUM ITER = 1209
*** TIME = .497032E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1504E-05  OSCILLATION LIMIT = 118.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1105
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7816
    HT FLOW CONVERGENCE VALUE= .1181      CRITERION= .4281E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3770E-01
    HT FLOW CONVERGENCE VALUE= .4177E-02  CRITERION= .4276E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  24  COMPLETED.  CUM ITER = 1211
*** TIME = .504922E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1504E-05  OSCILLATION LIMIT = 118.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1102
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7871
    HT FLOW CONVERGENCE VALUE= .1186      CRITERION= .4219E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3738E-01
    HT FLOW CONVERGENCE VALUE= .4071E-02  CRITERION= .4214E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  25  COMPLETED.  CUM ITER = 1213
*** TIME = .512811E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1505E-05  OSCILLATION LIMIT = 118.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1100
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.7851
    HT FLOW CONVERGENCE VALUE= .1177      CRITERION= .4157E-01
    EQUIL ITER  2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .3696E-01
    HT FLOW CONVERGENCE VALUE= .3976E-02  CRITERION= .4153E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  2
*** LOAD STEP  32  SUBSTEP  26  COMPLETED.  CUM ITER = 1215
*** TIME = .520700E+10  TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1505E-05  OSCILLATION LIMIT = 118.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+08  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 101.6      CRITERION= .1098

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7907
HT FLOW CONVERGENCE VALUE= .1169 CRITERION= .4095E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3665E-01
HT FLOW CONVERGENCE VALUE= .3877E-02 CRITERION= .4091E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 27 COMPLETED. CUM ITER = 1217
*** TIME = .528590E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1505E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1095
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7887
HT FLOW CONVERGENCE VALUE= .1151 CRITERION= .4034E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3623E-01
HT FLOW CONVERGENCE VALUE= .3786E-02 CRITERION= .4029E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 28 COMPLETED. CUM ITER = 1219
*** TIME = .536479E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1505E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1093
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7943
HT FLOW CONVERGENCE VALUE= .1141 CRITERION= .3972E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3591E-01
HT FLOW CONVERGENCE VALUE= .3687E-02 CRITERION= .3967E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 29 COMPLETED. CUM ITER = 1221
*** TIME = .544369E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1091
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7924
HT FLOW CONVERGENCE VALUE= .1122 CRITERION= .3910E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3548E-01
HT FLOW CONVERGENCE VALUE= .3597E-02 CRITERION= .3906E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 30 COMPLETED. CUM ITER = 1223
*** TIME = .552258E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1089
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7980
HT FLOW CONVERGENCE VALUE= .1113 CRITERION= .3848E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3515E-01
HT FLOW CONVERGENCE VALUE= .3500E-02 CRITERION= .3844E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 31 COMPLETED. CUM ITER = 1225
*** TIME = .560147E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1086
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7961
HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .3787E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3472E-01
HT FLOW CONVERGENCE VALUE= .3411E-02 CRITERION= .3782E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 32 COMPLETED. CUM ITER = 1227
*** TIME = .568037E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1084
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8017
HT FLOW CONVERGENCE VALUE= .1084 CRITERION= .3725E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3438E-01
HT FLOW CONVERGENCE VALUE= .3316E-02 CRITERION= .3721E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 33 COMPLETED. CUM ITER = 1229
*** TIME = .575926E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1082
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7999
HT FLOW CONVERGENCE VALUE= .1065 CRITERION= .3663E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
HT FLOW CONVERGENCE VALUE= .3228E-02 CRITERION= .3659E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 34 COMPLETED. CUM ITER = 1231
*** TIME = .583816E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1080
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8055
HT FLOW CONVERGENCE VALUE= .1055 CRITERION= .3601E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3359E-01
HT FLOW CONVERGENCE VALUE= .3135E-02 CRITERION= .3597E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 35 COMPLETED. CUM ITER = 1233
*** TIME = .591705E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.6 CRITERION= .1078
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8037
HT FLOW CONVERGENCE VALUE= .1036 CRITERION= .3540E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314E-01
HT FLOW CONVERGENCE VALUE= .3048E-02 CRITERION= .3535E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 36 COMPLETED. CUM ITER = 1235
*** TIME = .599594E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1506E-05 OSCILLATION LIMIT = 118.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1076
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8093
HT FLOW CONVERGENCE VALUE= .1025 CRITERION= .3478E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3277E-01
HT FLOW CONVERGENCE VALUE= .2956E-02 CRITERION= .3474E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 37 COMPLETED. CUM ITER = 1237
*** TIME = .607484E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1507E-05 OSCILLATION LIMIT = 118.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1074
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8076
HT FLOW CONVERGENCE VALUE= .1006 CRITERION= .3416E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3232E-01
HT FLOW CONVERGENCE VALUE= .2872E-02 CRITERION= .3412E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 38 COMPLETED. CUM ITER = 1239
*** TIME = .615373E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1507E-05 OSCILLATION LIMIT = 118.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1072
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8133
HT FLOW CONVERGENCE VALUE= .9951E-01 CRITERION= .3354E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3194E-01
HT FLOW CONVERGENCE VALUE= .2781E-02 CRITERION= .3350E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 39 COMPLETED. CUM ITER = 1241
*** TIME = .623263E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1507E-05 OSCILLATION LIMIT = 118.9

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 101.7 CRITERION= .1070
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8116
 HT FLOW CONVERGENCE VALUE= .9764E-01 CRITERION= .3293E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3148E-01
 HT FLOW CONVERGENCE VALUE= .2698E-02 CRITERION= .3289E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 40 COMPLETED. CUM ITER = 1243
 *** TIME = .631152E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1507E-05 OSCILLATION LIMIT = 118.9

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:31:59 APR 11, 1995 CP= 100927.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 42.55 CRITERION= .5376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2931
 HT FLOW CONVERGENCE VALUE= .3655E-01 CRITERION= .3270E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1257E-01
 HT FLOW CONVERGENCE VALUE= .1144E-02 CRITERION= .3268E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1245
 *** TIME = .639041E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.53 CRITERION= .5363E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2872
 HT FLOW CONVERGENCE VALUE= .3579E-01 CRITERION= .3249E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1244E-01
 HT FLOW CONVERGENCE VALUE= .1135E-02 CRITERION= .3248E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1247
 *** TIME = .646931E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 127.6 CRITERION= .1317
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8743
 HT FLOW CONVERGENCE VALUE= .1058 CRITERION= .3191E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3649E-01
 HT FLOW CONVERGENCE VALUE= .3231E-02 CRITERION= .3187E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1249
 *** TIME = .670599E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .71005E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 382.9 CRITERION= .3842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.617
 HT FLOW CONVERGENCE VALUE= .2918 CRITERION= .3016E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9958E-01
 HT FLOW CONVERGENCE VALUE= .8165E-02 CRITERION= .3005E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1251
 *** TIME = .741604E+10 TIME INC = .710046E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 425.5 CRITERION= .4265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.938
 HT FLOW CONVERGENCE VALUE= .3040 CRITERION= .2814E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1038
 HT FLOW CONVERGENCE VALUE= .7884E-02 CRITERION= .2802E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1253
 *** TIME = .820498E+10 TIME INC = .788940E+09

*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 425.5 CRITERION= .4264
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.957
 HT FLOW CONVERGENCE VALUE= .2842 CRITERION= .2611E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9754E-01
 HT FLOW CONVERGENCE VALUE= .6874E-02 CRITERION= .2599E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 6 COMPLETED. CUM ITER = 1255
 *** TIME = .899392E+10 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 255.3 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.795
 HT FLOW CONVERGENCE VALUE= .1678 CRITERION= .2484E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5872E-01
 HT FLOW CONVERGENCE VALUE= .4012E-02 CRITERION= .2478E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 7 COMPLETED. CUM ITER = 1257
 *** TIME = .946728E+10 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:57:23 APR 11, 1995 CP= 101905.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 146.7 CRITERION= .1488
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.013
 HT FLOW CONVERGENCE VALUE= .9404E-01 CRITERION= .2414E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3370E-01
 HT FLOW CONVERGENCE VALUE= .2291E-02 CRITERION= .2410E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1259
 *** TIME = .994064E+10 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 146.7 CRITERION= .1487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.022
 HT FLOW CONVERGENCE VALUE= .9223E-01 CRITERION= .2346E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3301E-01
 HT FLOW CONVERGENCE VALUE= .2176E-02 CRITERION= .2342E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1261
 *** TIME = .104140E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 244.5 CRITERION= .2456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.701
 HT FLOW CONVERGENCE VALUE= .1456 CRITERION= .2235E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5145E-01
 HT FLOW CONVERGENCE VALUE= .3194E-02 CRITERION= .2229E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1263
 *** TIME = .112029E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 244.5 CRITERION= .2455
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.715
 HT FLOW CONVERGENCE VALUE= .1393 CRITERION= .2121E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4934E-01
 HT FLOW CONVERGENCE VALUE= .2737E-02 CRITERION= .2116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1265
 *** TIME = .119919E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)


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HT FLOW CONVERGENCE VALUE= 195.6    CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.374
HT FLOW CONVERGENCE VALUE= .1024    CRITERION= .2030E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3889E-01
HT FLOW CONVERGENCE VALUE= .1920E-02 CRITERION= .2026E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1267
*** 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    10:10:13 APR 11, 1995 CP= 102593.010
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 144.2    CRITERION= .1456
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9374
HT FLOW CONVERGENCE VALUE= .6861E-01 CRITERION= .1970E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2799E-01
HT FLOW CONVERGENCE VALUE= .1361E-02 CRITERION= .1967E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1269
*** TIME = .132542E+11    TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 144.2    CRITERION= .1455
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9339
HT FLOW CONVERGENCE VALUE= .6639E-01 CRITERION= .1912E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2695E-01
HT FLOW CONVERGENCE VALUE= .1299E-02 CRITERION= .1909E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1271
*** TIME = .138853E+11    TIME INC = .631152E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

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HT FLOW CONVERGENCE VALUE= 180.2    CRITERION= .1812
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.177
HT FLOW CONVERGENCE VALUE= .8076E-01 CRITERION= .1840E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3195E-01
HT FLOW CONVERGENCE VALUE= .1512E-02 CRITERION= .1837E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1273
*** TIME = .146743E+11    TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 180.2    CRITERION= .1812
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.176
HT FLOW CONVERGENCE VALUE= .7854E-01 CRITERION= .1767E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3078E-01
HT FLOW CONVERGENCE VALUE= .1423E-02 CRITERION= .1764E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1275
*** TIME = .154632E+11    TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

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HT FLOW CONVERGENCE VALUE= 72.11    CRITERION= .7423E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4763
HT FLOW CONVERGENCE VALUE= .3207E-01 CRITERION= .1736E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1254E-01
HT FLOW CONVERGENCE VALUE= .5783E-03 CRITERION= .1735E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1277
*** TIME = .157788E+11    TIME INC = .315576E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:22:59 APR 11, 1995 CP= 103285.500
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 69.84 CRITERION= .7197E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3995
 HT FLOW CONVERGENCE VALUE= .2798E-01 CRITERION= .1713E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1151E-01
 HT FLOW CONVERGENCE VALUE= .5625E-03 CRITERION= .1713E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1279
 *** TIME = .160944E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.86 CRITERION= .7192E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4060
 HT FLOW CONVERGENCE VALUE= .2806E-01 CRITERION= .1691E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1143E-01
 HT FLOW CONVERGENCE VALUE= .5522E-03 CRITERION= .1690E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1281
 *** TIME = .164100E+11 TIME INC = .315576E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 174.6 CRITERION= .1754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.005
 HT FLOW CONVERGENCE VALUE= .6666E-01 CRITERION= .1636E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2704E-01
 HT FLOW CONVERGENCE VALUE= .1262E-02 CRITERION= .1634E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1283
 *** TIME = .171989E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.7 CRITERION= .1754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.015
 HT FLOW CONVERGENCE VALUE= .6469E-01 CRITERION= .1579E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2624E-01
 HT FLOW CONVERGENCE VALUE= .1177E-02 CRITERION= .1577E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1285
 *** TIME = .179878E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 104.8 CRITERION= .1060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6057
 HT FLOW CONVERGENCE VALUE= .3838E-01 CRITERION= .1545E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1567E-01
 HT FLOW CONVERGENCE VALUE= .6982E-03 CRITERION= .1543E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1287
 *** TIME = .184612E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 104.8 CRITERION= .1059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6129
 HT FLOW CONVERGENCE VALUE= .3789E-01 CRITERION= .1511E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1542E-01
 HT FLOW CONVERGENCE VALUE= .6689E-03 CRITERION= .1509E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 6 COMPLETED. CUM ITER = 1289
 *** TIME = .189346E+11 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:41:37 APR 11, 1995 CP= 104132.640
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 88.67 CRITERION= .8995E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4819
HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .1485E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1267E-01
HT FLOW CONVERGENCE VALUE= .5594E-03 CRITERION= .1484E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1291
*** TIME = .194079E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 88.69 CRITERION= .8991E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4886
HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .1459E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1253E-01
HT FLOW CONVERGENCE VALUE= .5406E-03 CRITERION= .1458E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1293
*** TIME = .198813E+11 TIME INC = .473364E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 147.8 CRITERION= .1485
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8073
HT FLOW CONVERGENCE VALUE= .4778E-01 CRITERION= .1417E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2006E-01
HT FLOW CONVERGENCE VALUE= .8406E-03 CRITERION= .1416E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1295
*** TIME = .206702E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 147.8 CRITERION= .1485
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8153
HT FLOW CONVERGENCE VALUE= .4667E-01 CRITERION= .1375E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1958E-01
HT FLOW CONVERGENCE VALUE= .7932E-03 CRITERION= .1373E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1297
*** TIME = .214592E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 118.2 CRITERION= .1190
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6483
HT FLOW CONVERGENCE VALUE= .3650E-01 CRITERION= .1340E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1542E-01
HT FLOW CONVERGENCE VALUE= .6141E-03 CRITERION= .1339E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1299
*** TIME = .220903E+11 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:55:41 APR 11, 1995 CP= 104825.590
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 103.6 CRITERION= .1044
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5641
HT FLOW CONVERGENCE VALUE= .3127E-01 CRITERION= .1311E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1328E-01
 HT FLOW CONVERGENCE VALUE= .5197E-03 CRITERION= .1311E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1301
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1044
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5588
 HT FLOW CONVERGENCE VALUE= .3042E-01 CRITERION= .1283E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1300E-01
 HT FLOW CONVERGENCE VALUE= .5007E-03 CRITERION= .1282E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1303
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 129.4 CRITERION= .1301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7066
 HT FLOW CONVERGENCE VALUE= .3708E-01 CRITERION= .1247E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1579E-01
 HT FLOW CONVERGENCE VALUE= .5870E-03 CRITERION= .1246E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1305
 *** TIME = .241416E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.4 CRITERION= .1300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7019
 HT FLOW CONVERGENCE VALUE= .3588E-01 CRITERION= .1211E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1538E-01
 HT FLOW CONVERGENCE VALUE= .5578E-03 CRITERION= .1210E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1307
 *** TIME = .249305E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 51.79 CRITERION= .5317E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2857
 HT FLOW CONVERGENCE VALUE= .1457E-01 CRITERION= .1196E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6235E-02
 HT FLOW CONVERGENCE VALUE= .2238E-03 CRITERION= .1195E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1309
 *** TIME = .252461E+11 TIME INC = .315576E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:08:21 APR 11, 1995 CP= 105517.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 45.07 CRITERION= .4663E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2319
 HT FLOW CONVERGENCE VALUE= .1204E-01 CRITERION= .1184E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5293E-02
 HT FLOW CONVERGENCE VALUE= .1940E-03 CRITERION= .1184E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1311
 *** TIME = .255617E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.09 CRITERION= .4661E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2382
 HT FLOW CONVERGENCE VALUE= .1214E-01 CRITERION= .1173E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5286E-02

HT FLOW CONVERGENCE VALUE= .1896E-03 CRITERION= .1172E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1313
 *** TIME = .258772E+11 TIME INC = .315576E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 112.7 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5850
 HT FLOW CONVERGENCE VALUE= .2892E-01 CRITERION= .1145E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1268E-01
 HT FLOW CONVERGENCE VALUE= .4450E-03 CRITERION= .1144E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1315
 *** TIME = .266662E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 112.7 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5922
 HT FLOW CONVERGENCE VALUE= .2843E-01 CRITERION= .1116E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1243E-01
 HT FLOW CONVERGENCE VALUE= .4234E-03 CRITERION= .1115E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1317
 *** TIME = .274551E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 67.62 CRITERION= .6854E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3510
 HT FLOW CONVERGENCE VALUE= .1682E-01 CRITERION= .1098E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7422E-02
 HT FLOW CONVERGENCE VALUE= .2518E-03 CRITERION= .1098E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1319
 *** TIME = .279285E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.64 CRITERION= .6852E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3575
 HT FLOW CONVERGENCE VALUE= .1676E-01 CRITERION= .1081E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7354E-02
 HT FLOW CONVERGENCE VALUE= .2437E-03 CRITERION= .1081E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 6 COMPLETED. CUM ITER = 1321
 *** TIME = .284018E+11 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:25:04 APR 11, 1995 CP= 106352.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 57.86 CRITERION= .5887E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2933
 HT FLOW CONVERGENCE VALUE= .1383E-01 CRITERION= .1067E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6173E-02
 HT FLOW CONVERGENCE VALUE= .2058E-03 CRITERION= .1067E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1323
 *** TIME = .288752E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.88 CRITERION= .5885E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2997
 HT FLOW CONVERGENCE VALUE= .1384E-01 CRITERION= .1053E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6134E-02
 HT FLOW CONVERGENCE VALUE= .2001E-03 CRITERION= .1053E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1325
*** TIME = .293486E+11 TIME INC = .473364E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 96.45 CRITERION= .9702E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4917
HT FLOW CONVERGENCE VALUE= .2217E-01 CRITERION= .1030E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9894E-02
HT FLOW CONVERGENCE VALUE= .3169E-03 CRITERION= .1029E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1327
*** TIME = .301375E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 96.47 CRITERION= .9701E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4986
HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .1006E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9723E-02
HT FLOW CONVERGENCE VALUE= .3027E-03 CRITERION= .1006E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1329
*** TIME = .309264E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 77.16 CRITERION= .7781E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3939
HT FLOW CONVERGENCE VALUE= .1711E-01 CRITERION= .9875E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7671E-02
HT FLOW CONVERGENCE VALUE= .2365E-03 CRITERION= .9871E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1331
*** TIME = .315576E+11 TIME INC = .631152E+09

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FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 107040.350

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40j1.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:41:24 APR 11, 1995 CP= 107049.120
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 854 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	854 TEMP	peakclad	83.39	.3156E+11	282.1	.2525E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 25246111.6

***** ROUTINE COMPLETED ***** CP = 107049.520

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:41:28 APR 11, 1995 CP= 107049.560
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****
Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

5832 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .25246E+08

SET COMMAND GOT LOAD STEP= 11 SUBSTEP= 30 CUMULATIVE ITERATION= 167
TIME/FREQUENCY= .25246E+08

TITLE=
40 BWR MPC/WP at Time of Peak Temp. (.800001 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=
40 BWR MPC/WP at Time of Peak Temp. (.800001 years)

*** WARNING *** CP= 107091.450 TIME= 11:42:18
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= 603
TIME/FREQUENCY= .31558E+09

TITLE=
40 BWR MPC/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 113.41 BY 1.3283 TO 282.10

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 10 years

*** WARNING *** CP= 107143.340 TIME= 11:43:16
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= 923
TIME/FREQUENCY= .15779E+10

TITLE=
40 BWR MPC/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 113.41 BY 1.3283 TO 282.10

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 50 years

*** WARNING *** CP= 107195.790 TIME= 11:44:13
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= 1163
TIME/FREQUENCY= .31558E+10

TITLE=
40 BWR MPC/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 113.41 BY 1.3283 TO 282.10

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 100 years

*** WARNING *** CP= 107246.260 TIME= 11:45:09
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 107257.830

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
a = aluminum-born tube layer
t = stainless tube cladding
g = tube guide
m = mpc shell
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 11:45:21 APR 11, 1995 CP= 107257.840
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 41

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2 IS AT NODE	924	ITEM= TEMP COMP=	NAME= t02i000
VARIABLE 3 IS AT NODE	914	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4 IS AT NODE	850	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5 IS AT NODE	856	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6 IS AT NODE	854	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7 IS AT NODE	852	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8 IS AT NODE	849	ITEM= TEMP COMP=	NAME= s02o000

VARIABLE 9	IS AT NODE	895	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	894	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	1027	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	963	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	969	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	967	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	965	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	962	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	1008	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	1150	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	1140	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	1076	ITEM= TEMP COMP=	NAME= s18i000
VARIABLE 21	IS AT NODE	1082	ITEM= TEMP COMP=	NAME= h18i000
VARIABLE 22	IS AT NODE	1080	ITEM= TEMP COMP=	NAME= c18i000
VARIABLE 23	IS AT NODE	1078	ITEM= TEMP COMP=	NAME= h18o000
VARIABLE 24	IS AT NODE	1075	ITEM= TEMP COMP=	NAME= s18o000
VARIABLE 25	IS AT NODE	1121	ITEM= TEMP COMP=	NAME= a18o000
VARIABLE 26	IS AT NODE	1120	ITEM= TEMP COMP=	NAME= t24i000
VARIABLE 27	IS AT NODE	4124	ITEM= TEMP COMP=	NAME= a24i000
VARIABLE 28	IS AT NODE	4072	ITEM= TEMP COMP=	NAME= s24i000
VARIABLE 29	IS AT NODE	4075	ITEM= TEMP COMP=	NAME= h24i000
VARIABLE 30	IS AT NODE	4077	ITEM= TEMP COMP=	NAME= c24i000
VARIABLE 31	IS AT NODE	4079	ITEM= TEMP COMP=	NAME= h24o000
VARIABLE 32	IS AT NODE	4073	ITEM= TEMP COMP=	NAME= s24o000
VARIABLE 33	IS AT NODE	4137	ITEM= TEMP COMP=	NAME= t24o000
VARIABLE 34	IS AT NODE	4865	ITEM= TEMP COMP=	NAME= g24i000
VARIABLE 35	IS AT NODE	4860	ITEM= TEMP COMP=	NAME= g24o000
VARIABLE 36	IS AT NODE	5019	ITEM= TEMP COMP=	NAME= m24i000
VARIABLE 37	IS AT NODE	4946	ITEM= TEMP COMP=	NAME= m24o000
VARIABLE 38	IS AT NODE	5435	ITEM= TEMP COMP=	NAME= i24i000
VARIABLE 39	IS AT NODE	5508	ITEM= TEMP COMP=	NAME= i24o000
VARIABLE 40	IS AT NODE	6022	ITEM= TEMP COMP=	NAME= o24o000

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
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2	NSOL	924	TEMP	t02i000	82.69	.3156E+11	273.0	.2840E+08
3	NSOL	914	TEMP	a02i000	82.69	.3156E+11	273.0	.2840E+08
4	NSOL	850	TEMP	s02i000	82.69	.3156E+11	273.1	.2840E+08
5	NSOL	856	TEMP	h02i000	83.25	.3156E+11	280.4	.2840E+08
6	NSOL	854	TEMP	c02i000	83.39	.3156E+11	282.1	.2525E+08
7	NSOL	852	TEMP	h02o000	83.20	.3156E+11	279.3	.2840E+08
8	NSOL	849	TEMP	s02o000	82.59	.3156E+11	270.8	.3156E+08
9	NSOL	895	TEMP	a02o000	82.59	.3156E+11	270.7	.3156E+08
10	NSOL	894	TEMP	t08i000	82.59	.3156E+11	270.7	.3156E+08
11	NSOL	1027	TEMP	a08i000	82.58	.3156E+11	270.6	.3156E+08
12	NSOL	963	TEMP	s08i000	82.59	.3156E+11	270.7	.3156E+08
13	NSOL	969	TEMP	h08i000	83.09	.3156E+11	276.9	.2840E+08
14	NSOL	967	TEMP	c08i000	83.18	.3156E+11	277.4	.2840E+08
15	NSOL	965	TEMP	h08o000	82.94	.3156E+11	273.4	.2840E+08
16	NSOL	962	TEMP	s08o000	82.28	.3156E+11	263.5	.3156E+08
17	NSOL	1008	TEMP	a08o000	82.27	.3156E+11	263.4	.3156E+08
18	NSOL	1150	TEMP	t18i000	82.27	.3156E+11	263.4	.3156E+08
19	NSOL	1140	TEMP	a18i000	82.27	.3156E+11	263.4	.3156E+08
20	NSOL	1076	TEMP	s18i000	82.28	.3156E+11	263.5	.3156E+08
21	NSOL	1082	TEMP	h18i000	82.72	.3156E+11	268.5	.3156E+08
22	NSOL	1080	TEMP	c18i000	82.75	.3156E+11	267.8	.3156E+08
23	NSOL	1078	TEMP	h18o000	82.44	.3156E+11	262.4	.3156E+08
24	NSOL	1075	TEMP	s18o000	81.70	.3156E+11	250.6	.3156E+08
25	NSOL	1121	TEMP	a18o000	81.70	.3156E+11	250.4	.3156E+08
26	NSOL	1120	TEMP	t24i000	81.70	.3156E+11	250.4	.3156E+08
27	NSOL	4124	TEMP	a24i000	81.69	.3156E+11	250.4	.3156E+08
28	NSOL	4072	TEMP	s24i000	81.70	.3156E+11	250.4	.3156E+08
29	NSOL	4075	TEMP	h24i000	81.95	.3156E+11	252.7	.3156E+08
30	NSOL	4077	TEMP	c24i000	81.77	.3156E+11	248.9	.3156E+08
31	NSOL	4079	TEMP	h24o000	81.17	.3156E+11	238.9	.6312E+08
32	NSOL	4073	TEMP	s24o000	79.94	.3156E+11	219.7	.6312E+08
33	NSOL	4137	TEMP	t24o000	79.93	.3156E+11	219.4	.6312E+08
34	NSOL	4865	TEMP	g24i000	79.01	.3156E+11	206.9	.6312E+08
35	NSOL	4860	TEMP	g24o000	79.00	.3156E+11	206.7	.6312E+08
36	NSOL	5019	TEMP	m24i000	78.36	.3156E+11	196.7	.9467E+08
37	NSOL	4946	TEMP	m24o000	78.30	.3156E+11	195.4	.9467E+08
38	NSOL	5435	TEMP	i24i000	29.83	.1000E-05	135.5	.2525E+09
39	NSOL	5508	TEMP	i24o000	28.10	.1000E-05	134.2	.2525E+09
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	132.8	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	914 TEMP a02i000	850 TEMP s02i000	856 TEMP h02i000	854 TEMP c02i000	852 TEMP h02o000
.10000E-05	243.276	243.279	243.390	251.719	253.652	250.495
.20000E-05	257.841	257.844	257.954	265.882	267.707	264.666
31.558	257.841	257.844	257.954	265.882	267.707	264.666
.31558E+07	268.347	268.351	268.458	276.095	277.854	274.922
.63116E+07	270.415	270.418	270.525	278.079	279.818	276.912
.94673E+07	271.451	271.455	271.561	279.063	280.790	277.902
.12623E+08	272.047	272.050	272.156	279.610	281.324	278.454
.15779E+08	272.504	272.508	272.613	280.029	281.734	278.878
.18935E+08	272.743	272.746	272.851	280.231	281.928	279.085
.22090E+08	272.904	272.907	273.012	280.359	282.049	279.218
.25246E+08	272.995	272.999	273.103	280.419	282.102	279.282
.28402E+08	273.029	273.032	273.136	280.423	282.099	279.291
.31558E+08	273.022	273.025	273.129	280.388	282.058	279.261
.63115E+08	271.915	271.918	272.018	279.054	280.676	277.967
.94673E+08	269.903	269.906	270.003	276.869	278.453	275.815
.12623E+09	267.679	267.682	267.776	274.499	276.054	273.475

.15779E+09	265.545	265.548	265.640	272.243	273.772	271.243
.18935E+09	263.067	263.069	263.160	269.642	271.146	268.668
.22090E+09	260.816	260.819	260.907	267.286	268.768	266.335
.25246E+09	258.688	258.690	258.777	265.058	266.521	264.129
.28402E+09	256.247	256.250	256.335	262.532	263.977	261.622
.31558E+09	254.174	254.177	254.260	260.387	261.817	259.493
.63115E+09	233.408	233.410	233.480	238.889	240.171	238.147
.94673E+09	215.635	215.636	215.697	220.519	221.674	219.892
.12623E+10	200.176	200.178	200.230	204.585	205.638	204.046
.15779E+10	186.850	186.851	186.898	190.820	191.775	190.351
.18935E+10	175.909	175.910	175.951	179.512	180.384	179.101
.22090E+10	166.678	166.679	166.716	169.968	170.768	169.603
.25246E+10	158.558	158.559	158.592	161.588	162.328	161.260
.28402E+10	152.121	152.122	152.152	154.939	155.630	154.641
.31558E+10	146.322	146.323	146.350	148.938	149.582	148.666
.63115E+10	117.953	117.953	117.969	119.601	120.012	119.443
.94673E+10	107.055	107.055	107.068	108.347	108.672	108.227
.12623E+11	100.698	100.698	100.709	101.780	102.053	101.682
.15779E+11	96.3039	96.3041	96.3130	97.2449	97.4822	97.1603
.18935E+11	92.5071	92.5073	92.5151	93.3362	93.5454	93.2622
.22090E+11	89.4531	89.4533	89.4602	90.1964	90.3842	90.1305
.25246E+11	86.7921	86.7923	86.7985	87.4614	87.6307	87.4025
.28402E+11	84.5615	84.5616	84.5672	85.1712	85.3255	85.1178
.31558E+11	82.6853	82.6854	82.6906	83.2458	83.3879	83.1971

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	849 TEMP s02o000	895 TEMP a02o000	894 TEMP t08i000	1027 TEMP a08i000	963 TEMP s08i000	969 TEMP h08i000
.10000E-05	240.826	240.702	240.697	240.688	240.787	247.926
.20000E-05	255.405	255.283	255.278	255.269	255.366	262.115
31.558	255.405	255.283	255.278	255.269	255.366	262.115
.31558E+07	266.005	265.884	265.880	265.871	265.966	272.427
.63116E+07	268.085	267.965	267.960	267.951	268.045	274.427
.94673E+07	269.134	269.015	269.010	269.001	269.095	275.430
.12623E+08	269.740	269.622	269.617	269.608	269.701	275.992
.15779E+08	270.209	270.090	270.086	270.077	270.170	276.426
.18935E+08	270.458	270.340	270.335	270.326	270.419	276.644
.22090E+08	270.629	270.511	270.507	270.498	270.590	276.786
.25246E+08	270.730	270.613	270.608	270.599	270.691	276.861
.28402E+08	270.773	270.657	270.652	270.643	270.735	276.879
.31558E+08	270.775	270.659	270.655	270.646	270.737	276.858
.63115E+08	269.748	269.636	269.632	269.623	269.712	275.646
.94673E+08	267.805	267.696	267.692	267.684	267.769	273.565
.12623E+09	265.640	265.534	265.530	265.522	265.606	271.286
.15779E+09	263.557	263.454	263.450	263.442	263.524	269.108
.18935E+09	261.131	261.031	261.027	261.019	261.099	266.589
.22090E+09	258.926	258.827	258.824	258.816	258.895	264.303
.25246E+09	256.840	256.744	256.740	256.733	256.810	262.141
.28402E+09	254.439	254.344	254.340	254.334	254.409	259.675
.31558E+09	252.398	252.305	252.301	252.295	252.369	257.581
.63115E+09	231.939	231.861	231.858	231.853	231.916	236.556
.94673E+09	214.396	214.330	214.327	214.323	214.377	218.547
.12623E+10	199.112	199.055	199.053	199.049	199.096	202.888
.15779E+10	185.930	185.879	185.878	185.874	185.916	189.346
.18935E+10	175.101	175.056	175.055	175.052	175.089	178.216
.22090E+10	165.962	165.922	165.921	165.919	165.952	168.818
.25246E+10	157.915	157.880	157.878	157.876	157.906	160.555
.28402E+10	151.537	151.504	151.503	151.501	151.529	153.999
.31558E+10	145.790	145.760	145.759	145.757	145.782	148.079

.63115E+10	117.644	117.627	117.626	117.625	117.640	119.101
.94673E+10	106.821	106.808	106.808	106.807	106.818	107.968
.12623E+11	100.507	100.496	100.496	100.495	100.505	101.469
.15779E+11	96.1397	96.1302	96.1299	96.1294	96.1376	96.9770
.18935E+11	92.3637	92.3554	92.3551	92.3547	92.3619	93.1021
.22090E+11	89.3255	89.3181	89.3173	89.3174	89.3239	89.9880
.25246E+11	86.6780	86.6714	86.6712	86.6708	86.6766	87.2750
.28402E+11	84.4581	84.4521	84.4519	84.4516	84.4568	85.0023
.31558E+11	82.5908	82.5853	82.5851	82.5848	82.5896	83.0913

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	967 TEMP c08i000	965 TEMP h08o000	962 TEMP s08o000	1008 TEMP a08o000	1150 TEMP t18i000	1140 TEMP a18i000
.10000E-05	248.681	244.263	233.108	232.971	232.943	232.944
.20000E-05	262.769	258.477	247.731	247.595	247.566	247.567
31.558	262.769	258.477	247.731	247.595	247.566	247.567
.31558E+07	273.024	268.854	258.484	258.349	258.321	258.322
.63116E+07	275.006	270.868	260.596	260.462	260.433	260.434
.94673E+07	276.001	271.887	261.683	261.549	261.521	261.522
.12623E+08	276.556	272.464	262.321	262.189	262.161	262.161
.15779E+08	276.986	272.913	262.822	262.690	262.662	262.662
.18935E+08	277.200	273.145	263.102	262.971	262.943	262.944
.22090E+08	277.339	273.302	263.305	263.174	263.146	263.147
.25246E+08	277.411	273.390	263.436	263.305	263.278	263.278
.28402E+08	277.427	273.422	263.508	263.379	263.351	263.352
.31558E+08	277.404	273.415	263.540	263.411	263.383	263.384
.63115E+08	276.180	272.320	262.764	262.639	262.613	262.613
.94673E+08	274.094	270.340	261.035	260.914	260.889	260.889
.12623E+09	271.814	268.150	259.059	258.941	258.916	258.916
.15779E+09	269.635	266.048	257.138	257.023	256.998	256.999
.18935E+09	267.115	263.607	254.878	254.766	254.743	254.743
.22090E+09	264.830	261.389	252.817	252.708	252.685	252.686
.25246E+09	262.668	259.291	250.866	250.759	250.737	250.738
.28402E+09	260.204	256.884	248.590	248.485	248.463	248.464
.31558E+09	258.111	254.839	246.654	246.551	246.530	246.530
.63115E+09	237.086	234.276	227.180	227.094	227.077	227.078
.94673E+09	219.065	216.619	210.376	210.303	210.288	210.289
.12623E+10	203.390	201.226	195.656	195.593	195.580	195.581
.15779E+10	189.822	187.904	182.936	182.881	182.870	182.871
.18935E+10	178.667	176.949	172.470	172.422	172.412	172.413
.22090E+10	169.243	167.691	163.627	163.583	163.575	163.576
.25246E+10	160.958	159.544	155.820	155.781	155.774	155.774
.28402E+10	154.382	153.078	149.629	149.594	149.588	149.588
.31558E+10	148.442	147.237	144.049	144.017	144.011	144.011
.63115E+10	119.347	118.610	116.633	116.614	116.610	116.611
.94673E+10	108.167	107.596	106.054	106.040	106.037	106.037
.12623E+11	101.638	101.163	99.8775	99.8656	99.8636	99.8637
.15779E+11	97.1253	96.7137	95.5983	95.5881	95.5863	95.5864
.18935E+11	93.2336	92.8720	91.8908	91.8818	91.8803	91.8804
.22090E+11	90.1065	89.7831	88.9044	88.8965	88.8951	88.8952
.25246E+11	87.3822	87.0916	86.3014	86.2943	86.2930	86.2931
.28402E+11	85.1004	84.8362	84.1169	84.1105	84.1094	84.1095
.31558E+11	83.1819	82.9393	82.2786	82.2727	82.2717	82.2718

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1076 TEMP s18i000	1082 TEMP h18i000	1080 TEMP c18i000	1078 TEMP h18o000	1075 TEMP s18o000	1121 TEMP a18o000
.10000E-05	233.031	239.035	238.507	232.517	219.255	219.100
.20000E-05	247.652	253.280	252.661	246.805	234.001	233.847
31.558	247.652	253.280	252.661	246.805	234.001	233.847
.31558E+07	258.405	263.751	263.095	257.404	245.013	244.861
.63116E+07	260.517	265.784	265.115	259.464	247.185	247.033
.94673E+07	261.604	266.827	266.156	260.538	248.340	248.189
.12623E+08	262.243	267.425	266.751	261.161	249.039	248.888
.15779E+08	262.744	267.895	267.222	261.659	249.598	249.448
.18935E+08	263.024	268.148	267.475	261.937	249.936	249.787
.22090E+08	263.227	268.325	267.654	262.140	250.194	250.046
.25246E+08	263.358	268.433	267.764	262.273	250.380	250.232
.28402E+08	263.431	268.485	267.818	262.348	250.506	250.358
.31558E+08	263.463	268.496	267.831	262.384	250.589	250.442
.63115E+08	262.690	267.569	266.931	261.664	250.264	250.122
.94673E+08	260.964	265.731	265.122	260.004	248.918	248.781
.12623E+09	258.989	263.667	263.086	258.096	247.276	247.142
.15779E+09	257.070	261.673	261.117	256.235	245.643	245.513
.18935E+09	254.813	259.343	258.813	254.041	243.680	243.553
.22090E+09	252.754	257.222	256.714	252.037	241.875	241.751
.25246E+09	250.805	255.213	254.726	250.137	240.163	240.042
.28402E+09	248.530	252.889	252.421	247.913	238.108	237.989
.31558E+09	246.595	250.911	250.460	246.022	236.358	236.242
.63115E+09	227.133	231.010	230.715	226.939	218.622	218.525
.94673E+09	210.337	213.853	213.668	210.402	203.127	203.045
.12623E+10	195.623	198.838	198.728	195.854	189.407	189.336
.15779E+10	182.908	185.832	185.774	183.240	177.512	177.450
.18935E+10	172.446	175.125	175.103	172.842	167.697	167.643
.22090E+10	163.606	166.070	166.074	164.039	159.383	159.335
.25246E+10	155.801	158.087	158.111	156.261	152.007	151.964
.28402E+10	149.613	151.750	151.786	150.083	146.153	146.114
.31558E+10	144.034	146.023	146.066	144.499	140.874	140.838
.63115E+10	116.624	117.901	117.959	117.009	114.778	114.757
.94673E+10	106.048	107.057	107.111	106.378	104.645	104.629
.12623E+11	99.8724	100.721	100.771	100.162	98.7195	98.7065
.15779E+11	95.5939	96.3325	96.3780	95.8515	94.6015	94.5903
.18935E+11	91.8870	92.5389	92.5804	92.1184	91.0197	91.0099
.22090E+11	88.9011	89.4864	89.5247	89.1118	88.1287	88.1200
.25246E+11	86.2984	86.8261	86.8615	86.4908	85.6072	85.5994
.28402E+11	84.1142	84.5956	84.6285	84.2916	83.4878	83.4808
.31558E+11	82.2761	82.7191	82.7499	82.4408	81.7028	81.6963

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1120 TEMP t24i000	4124 TEMP a24i000	4072 TEMP s24i000	4075 TEMP h24i000	4077 TEMP c24i000	4079 TEMP h24o000
.10000E-05	219.091	219.044	219.103	222.012	217.802	206.355
.20000E-05	233.839	233.792	233.848	236.477	232.327	221.308
31.558	233.839	233.792	233.848	236.477	232.327	221.308
.31558E+07	244.852	244.806	244.861	247.333	243.295	232.688
.63116E+07	247.025	246.979	247.033	249.453	245.434	234.920
.94673E+07	248.180	248.135	248.188	250.586	246.590	236.148

.12623E+08	248.880	248.834	248.887	251.259	247.282	236.904
.15779E+08	249.440	249.395	249.448	251.804	247.846	237.523
.18935E+08	249.778	249.733	249.786	252.127	248.186	237.916
.22090E+08	250.037	249.992	250.045	252.372	248.450	238.228
.25246E+08	250.223	250.178	250.231	252.546	248.640	238.466
.28402E+08	250.350	250.305	250.357	252.662	248.772	238.642
.31558E+08	250.434	250.390	250.442	252.736	248.863	238.775
.63115E+08	250.114	250.071	250.122	252.345	248.605	238.868
.94673E+08	248.773	248.731	248.780	250.956	247.329	237.871
.12623E+09	247.135	247.095	247.142	249.281	245.752	236.532
.15779E+09	245.506	245.466	245.513	247.623	244.177	235.159
.18935E+09	243.546	243.508	243.553	245.635	242.276	233.460
.22090E+09	241.744	241.707	241.751	243.810	240.525	231.885
.25246E+09	240.035	239.999	240.042	242.079	238.864	230.387
.28402E+09	237.983	237.947	237.991	240.010	236.859	228.528
.31558E+09	236.236	236.201	236.243	238.249	235.152	226.943
.63115E+09	218.520	218.491	218.528	220.396	217.805	210.762
.94673E+09	203.040	203.016	203.049	204.793	202.584	196.436
.12623E+10	189.332	189.311	189.340	190.961	189.045	183.616
.15779E+10	177.447	177.429	177.455	178.958	177.291	172.482
.18935E+10	167.640	167.624	167.647	169.048	167.579	163.272
.22090E+10	159.333	159.319	159.339	160.646	159.340	155.452
.25246E+10	151.962	151.949	151.968	153.194	152.018	148.469
.28402E+10	146.112	146.101	146.118	147.269	146.193	142.921
.31558E+10	140.836	140.826	140.842	141.919	140.934	137.919
.63115E+10	114.756	114.750	114.760	115.473	114.896	113.052
.94673E+10	104.628	104.624	104.631	105.202	104.764	103.336
.12623E+11	98.7058	98.7021	98.7083	99.1908	98.8299	97.6431
.15779E+11	94.5898	94.5865	94.5919	95.0133	94.7025	93.6749
.18935E+11	91.0094	91.0066	91.0113	91.3844	91.1127	90.2103
.22090E+11	88.1196	88.1171	88.1213	88.4570	88.2150	87.4081
.25246E+11	85.5990	85.5968	85.6005	85.9039	85.6874	84.9626
.28402E+11	83.4804	83.4784	83.4818	83.7591	83.5629	82.9041
.31558E+11	81.6960	81.6942	81.6973	81.9528	81.7733	81.1686

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4073 TEMP s24o000	4137 TEMP t24o000	4865 TEMP g24i000	4860 TEMP g24o000	5019 TEMP m24i000	4946 TEMP m24o000
.10000E-05	183.269	182.939	167.090	166.820	154.157	152.647
.20000E-05	199.288	198.967	184.164	183.899	171.916	170.427
31.558	199.288	198.967	184.164	183.899	171.916	170.427
.31558E+07	211.646	211.336	197.441	197.183	185.845	184.397
.63116E+07	214.102	213.794	200.087	199.832	188.626	187.188
.94673E+07	215.490	215.184	201.611	201.357	190.251	188.822
.12623E+08	216.390	216.086	202.626	202.373	191.353	189.931
.15779E+08	217.128	216.826	203.458	203.206	192.258	190.843
.18935E+08	217.634	217.333	204.051	203.800	192.919	191.512
.22090E+08	218.051	217.752	204.548	204.298	193.479	192.079
.25246E+08	218.387	218.089	204.957	204.709	193.948	192.554
.28402E+08	218.656	218.360	205.296	205.049	194.343	192.955
.31558E+08	218.879	218.583	205.584	205.338	194.684	193.302
.63115E+08	219.690	219.406	206.907	206.670	196.430	195.099
.94673E+08	219.256	218.980	206.857	206.627	196.706	195.416
.12623E+09	218.389	218.121	206.305	206.081	196.425	195.171
.15779E+09	217.414	217.152	205.591	205.373	195.939	194.715
.18935E+09	216.114	215.858	204.549	204.337	195.122	193.930
.22090E+09	214.880	214.630	203.537	203.329	194.303	193.138
.25246E+09	213.703	213.458	202.566	202.362	193.513	192.372
.28402E+09	212.125	211.884	201.163	200.963	192.267	191.149

.31558E+09	210.775	210.538	199.960	199.763	191.195	190.096
.63115E+09	196.834	196.634	187.426	187.261	179.913	178.993
.94673E+09	184.276	184.104	175.972	175.831	169.428	168.647
.12623E+10	172.847	172.698	165.410	165.288	159.626	158.953
.15779E+10	162.914	162.783	156.236	156.130	151.105	150.521
.18935E+10	154.679	154.563	148.631	148.537	144.029	143.513
.22090E+10	147.678	147.574	142.167	142.083	138.008	137.548
.25246E+10	141.375	141.281	136.310	136.235	132.516	132.101
.28402E+10	136.376	136.290	131.678	131.608	128.178	127.800
.31558E+10	131.880	131.801	127.525	127.461	124.298	123.952
.63115E+10	109.338	109.291	106.600	106.562	104.625	104.422
.94673E+10	100.453	100.417	98.3107	98.2819	96.7819	96.6276
.12623E+11	95.2471	95.2170	93.4564	93.4327	92.1869	92.0601
.15779E+11	91.5994	91.5735	90.0417	90.0214	88.9430	88.8341
.18935E+11	88.3866	88.3639	87.0122	86.9944	86.0471	85.9521
.22090E+11	85.7765	85.7563	84.5428	84.5270	83.6795	83.5951
.25246E+11	83.4964	83.4783	82.3846	82.3705	81.6091	81.5337
.28402E+11	81.5707	81.5543	80.5572	80.5443	79.8521	79.7838
.31558E+11	79.9444	79.9294	79.0120	79.0003	78.3649	78.3024

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:29 APR 11, 1995 CP= 107265.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5435 TEMP	5508 TEMP	6022 TEMP
	1241000	1240000	0240000
.10000E-05	29.8261	28.0976	26.1409
.20000E-05	72.7423	71.0168	69.0591
31.558	72.7423	71.0168	69.0591
.31558E+07	102.008	100.329	98.4833
.63116E+07	107.366	105.702	103.878
.94673E+07	110.650	108.997	107.192
.12623E+08	113.075	111.434	109.644
.15779E+08	115.014	113.382	111.605
.18935E+08	116.610	114.989	113.224
.22090E+08	117.984	116.372	114.619
.25246E+08	119.183	117.579	115.837
.28402E+08	120.244	118.649	116.917
.31558E+08	121.196	119.608	117.886
.63115E+08	127.286	125.766	124.121
.94673E+08	130.479	129.014	127.430
.12623E+09	132.407	130.987	129.454
.15779E+09	133.674	132.292	130.801
.18935E+09	134.489	133.145	131.696
.22090E+09	135.027	133.716	132.302
.25246E+09	135.492	134.212	132.832
.28402E+09	135.185	133.931	132.580
.31558E+09	134.895	133.664	132.337
.63115E+09	130.908	129.886	128.787
.94673E+09	125.904	125.038	124.108
.12623E+10	120.251	119.504	118.701
.15779E+10	115.466	114.818	114.122
.18935E+10	111.523	110.954	110.341
.22090E+10	108.211	107.705	107.161
.25246E+10	104.947	104.493	104.003
.28402E+10	102.473	102.060	101.614
.31558E+10	100.370	99.9933	99.5873
.63115E+10	89.1877	88.9712	88.7413
.94673E+10	84.5552	84.3922	84.2199
.12623E+11	81.8948	81.7617	81.6215
.15779E+11	79.9411	79.8272	79.7072
.18935E+11	78.0601	77.9610	77.8568
.22090E+11	76.4742	76.3863	76.2940

.25246E+11	75.0881	75.0097	74.9273
.28402E+11	73.8848	73.8139	73.7396
.31558E+11	72.8564	72.7917	72.7240

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 854 ITEM= TEMP COMP= NAME= c02i045

*** WARNING *** CP= 107266.050 TIME= 11:45:29
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 881 ITEM= TEMP COMP= NAME= h02o045
 VARIABLE 4 IS AT NODE 862 ITEM= TEMP COMP= NAME= s02o045
 VARIABLE 5 IS AT NODE 897 ITEM= TEMP COMP= NAME= a02o045
 VARIABLE 6 IS AT NODE 901 ITEM= TEMP COMP= NAME= t02o045
 VARIABLE 7 IS AT NODE 1952 ITEM= TEMP COMP= NAME= t07i045
 VARIABLE 8 IS AT NODE 1934 ITEM= TEMP COMP= NAME= a07i045
 VARIABLE 9 IS AT NODE 1832 ITEM= TEMP COMP= NAME= s07i045
 VARIABLE 10 IS AT NODE 1859 ITEM= TEMP COMP= NAME= h07i045
 VARIABLE 11 IS AT NODE 1871 ITEM= TEMP COMP= NAME= c07i045
 VARIABLE 12 IS AT NODE 1883 ITEM= TEMP COMP= NAME= h07o045
 VARIABLE 13 IS AT NODE 1816 ITEM= TEMP COMP= NAME= s07o045
 VARIABLE 14 IS AT NODE 1907 ITEM= TEMP COMP= NAME= a07o045
 VARIABLE 15 IS AT NODE 1896 ITEM= TEMP COMP= NAME= t07o045
 VARIABLE 16 IS AT NODE 3415 ITEM= TEMP COMP= NAME= t16i045
 VARIABLE 17 IS AT NODE 3397 ITEM= TEMP COMP= NAME= a16i045
 VARIABLE 18 IS AT NODE 3295 ITEM= TEMP COMP= NAME= s16i045
 VARIABLE 19 IS AT NODE 3322 ITEM= TEMP COMP= NAME= h16i045
 VARIABLE 20 IS AT NODE 3334 ITEM= TEMP COMP= NAME= c16i045
 VARIABLE 21 IS AT NODE 3346 ITEM= TEMP COMP= NAME= h16o045
 VARIABLE 22 IS AT NODE 3279 ITEM= TEMP COMP= NAME= s16o045
 VARIABLE 23 IS AT NODE 3370 ITEM= TEMP COMP= NAME= a16o045
 VARIABLE 24 IS AT NODE 3359 ITEM= TEMP COMP= NAME= t16o045
 VARIABLE 25 IS AT NODE 4698 ITEM= TEMP COMP= NAME= g16i045
 VARIABLE 26 IS AT NODE 5050 ITEM= TEMP COMP= NAME= m16i045
 VARIABLE 27 IS AT NODE 4983 ITEM= TEMP COMP= NAME= m16o045
 VARIABLE 28 IS AT NODE 5472 ITEM= TEMP COMP= NAME= i16i045
 VARIABLE 29 IS AT NODE 5547 ITEM= TEMP COMP= NAME= i16o045
 VARIABLE 30 IS AT NODE 6061 ITEM= TEMP COMP= NAME= o16o045
 Add centers of assemblies 6, 14, 15, 17, 22, 23

VARIABLE 31 IS AT NODE 1662 ITEM= TEMP COMP= NAME= c06i045
 VARIABLE 32 IS AT NODE 2916 ITEM= TEMP COMP= NAME= c14i045
 VARIABLE 33 IS AT NODE 3125 ITEM= TEMP COMP= NAME= c15i045
 VARIABLE 34 IS AT NODE 2080 ITEM= TEMP COMP= NAME= c17i045
 VARIABLE 35 IS AT NODE 3738 ITEM= TEMP COMP= NAME= c22i045
 VARIABLE 36 IS AT NODE 3933 ITEM= TEMP COMP= NAME= c23i045
 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	854 TEMP	c02i045	83.39	.3156E+11	282.1	.2525E+08
3	NSOL	881 TEMP	h02o045	83.07	.3156E+11	277.6	.2840E+08
4	NSOL	862 TEMP	s02o045	82.58	.3156E+11	270.4	.3156E+08
5	NSOL	897 TEMP	a02o045	82.57	.3156E+11	270.3	.3156E+08
6	NSOL	901 TEMP	t02o045	82.57	.3156E+11	270.2	.3156E+08
7	NSOL	1952 TEMP	t07i045	82.54	.3156E+11	269.7	.3156E+08
8	NSOL	1934 TEMP	a07i045	82.54	.3156E+11	269.6	.3156E+08
9	NSOL	1832 TEMP	s07i045	82.54	.3156E+11	269.5	.3156E+08
10	NSOL	1859 TEMP	h07i045	82.92	.3156E+11	274.2	.2840E+08
11	NSOL	1871 TEMP	c07i045	83.10	.3156E+11	275.6	.2840E+08
12	NSOL	1883 TEMP	h07o045	82.71	.3156E+11	269.1	.3156E+08
13	NSOL	1816 TEMP	s07o045	82.14	.3156E+11	260.1	.3156E+08
14	NSOL	1907 TEMP	a07o045	82.13	.3156E+11	259.8	.3156E+08
15	NSOL	1896 TEMP	t07o045	82.12	.3156E+11	259.7	.3156E+08
16	NSOL	3415 TEMP	t16i045	82.06	.3156E+11	258.4	.3156E+08
17	NSOL	3397 TEMP	a16i045	82.05	.3156E+11	258.2	.3156E+08
18	NSOL	3295 TEMP	s16i045	82.05	.3156E+11	258.0	.3156E+08
19	NSOL	3322 TEMP	h16i045	82.36	.3156E+11	261.1	.3156E+08
20	NSOL	3334 TEMP	c16i045	82.43	.3156E+11	260.2	.3156E+08
21	NSOL	3346 TEMP	h16o045	81.92	.3156E+11	250.9	.3156E+08
22	NSOL	3329 TEMP	a16o045	81.28	.3156E+11	240.1	.6312E+08
23	NSOL	3370 TEMP	t16o045	81.27	.3156E+11	239.9	.6312E+08
24	NSOL	3359 TEMP	g16i045	78.99	.3156E+11	209.3	.6312E+08
25	NSOL	4698 TEMP	m16i045	77.78	.3156E+11	192.3	.9467E+08
26	NSOL	5050 TEMP	m16o045	77.72	.3156E+11	190.9	.9467E+08
27	NSOL	4983 TEMP	i16i045	30.13	.1000E-05	134.7	.2525E+09
28	NSOL	5472 TEMP	i16o045	28.15	.1000E-05	133.2	.2525E+09
29	NSOL	5547 TEMP	o16o045	26.14	.1000E-05	131.7	.2525E+09
30	NSOL	6061 TEMP	c06i045	83.31	.3156E+11	280.3	.2840E+08
31	NSOL	1662 TEMP	c14i045	83.08	.3156E+11	275.1	.2840E+08
32	NSOL	2916 TEMP	c15i045	82.85	.3156E+11	269.9	.3156E+08
33	NSOL	3125 TEMP	c17i045	82.71	.3156E+11	266.5	.3156E+08
34	NSOL	2080 TEMP	c22i045	82.59	.3156E+11	264.4	.3156E+08
35	NSOL	3738 TEMP	c23i045	82.19	.3156E+11	256.7	.3156E+08
36	NSOL	4946 TEMP	m24o000	78.30	.3156E+11	195.4	.9467E+08
37	NSOL	5435 TEMP	i24i000	29.83	.1000E-05	135.5	.2525E+09
38	NSOL	5508 TEMP	i24o000	28.10	.1000E-05	134.2	.2525E+09
39	NSOL	6022 TEMP	o24o000	26.14	.1000E-05	132.8	.2525E+09
40	NSOL	6022 TEMP	o24o000	26.14	.1000E-05	132.8	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	854 TEMP	881 TEMP	862 TEMP	897 TEMP	901 TEMP	1952 TEMP
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	c02i045	h02o045	s02o045	a02o045	t02o045	t07i045
.10000E-05	253.652	248.606	240.468	240.365	240.275	239.678
.20000E-05	267.707	262.862	255.048	254.944	254.855	254.264
31.558	267.707	262.862	255.048	254.944	254.855	254.264
.31558E+07	277.854	273.181	265.646	265.544	265.456	264.880
.63116E+07	279.818	275.189	267.726	267.625	267.537	266.965
.94673E+07	280.790	276.191	268.777	268.676	268.589	268.020
.12623E+08	281.324	276.753	269.385	269.284	269.197	268.631
.15779E+08	281.734	277.185	269.854	269.754	269.668	269.104
.18935E+08	281.928	277.401	270.105	270.005	269.919	269.358
.22090E+08	282.049	277.541	270.277	270.178	270.092	269.533
.25246E+08	282.102	277.612	270.380	270.281	270.195	269.639
.28402E+08	282.099	277.628	270.424	270.326	270.241	269.686
.31558E+08	282.058	277.604	270.428	270.330	270.245	269.693
.63115E+08	280.676	276.361	269.412	269.318	269.236	268.703
.94673E+08	278.453	274.249	267.479	267.388	267.308	266.791
.12623E+09	276.054	271.942	265.324	265.234	265.158	264.654
.15779E+09	273.772	269.739	263.248	263.162	263.087	262.594
.18935E+09	271.146	267.193	260.831	260.746	260.673	260.193
.22090E+09	268.768	264.884	258.632	258.550	258.478	258.009
.25246E+09	266.521	262.701	256.553	256.472	256.403	255.943
.28402E+09	263.977	260.214	254.157	254.079	254.010	253.560
.31558E+09	261.817	258.101	252.122	252.045	251.978	251.535
.63115E+09	240.171	236.924	231.711	231.647	231.592	231.222
.94673E+09	221.674	218.807	214.204	214.150	214.104	213.788
.12623E+10	205.638	203.069	198.948	198.902	198.863	198.588
.15779E+10	191.775	189.474	185.788	185.748	185.714	185.474
.18935E+10	180.384	178.306	174.977	174.942	174.912	174.700
.22090E+10	170.768	168.878	165.852	165.821	165.794	165.605
.25246E+10	162.328	160.593	157.817	157.789	157.765	157.595
.28402E+10	155.630	154.022	151.447	151.422	151.400	151.245
.31558E+10	149.582	148.091	145.707	145.685	145.665	145.523
.63115E+10	120.012	119.082	117.597	117.584	117.572	117.489
.94673E+10	108.672	107.945	106.785	106.775	106.767	106.703
.12623E+11	102.053	101.446	100.477	100.469	100.462	100.410
.15779E+11	97.4822	96.9550	96.1143	96.1072	96.1012	96.0560
.18935E+11	93.5454	93.0814	92.3415	92.3353	92.3301	92.2905
.22090E+11	90.3842	89.9685	89.3057	89.3002	89.2955	89.2603
.25246E+11	87.6307	87.2566	86.6603	86.6554	86.6512	86.6197
.28402E+11	85.3255	84.9849	84.4421	84.4376	84.4339	84.4053
.31558E+11	83.3879	83.0749	82.5761	82.5720	82.5686	82.5425

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1934 TEMP a07i045	1832 TEMP s07i045	1859 TEMP h07i045	1871 TEMP c07i045	1883 TEMP h07o045	1816 TEMP s07o045
.10000E-05	239.587	239.506	244.952	246.825	239.609	229.504
.20000E-05	254.174	254.093	259.228	260.917	253.907	244.123
31.558	254.174	254.093	259.228	260.917	253.907	244.123
.31558E+07	264.791	264.712	269.612	271.178	264.361	254.881
.63116E+07	266.876	266.797	271.633	273.164	266.399	257.002
.94673E+07	267.932	267.853	272.652	274.167	267.442	258.104
.12623E+08	268.543	268.464	273.228	274.728	268.039	258.756
.15779E+08	269.017	268.938	273.676	275.165	268.508	259.271
.18935E+08	269.271	269.192	273.905	275.386	268.759	259.565
.22090E+08	269.447	269.369	274.060	275.532	268.934	259.781
.25246E+08	269.552	269.475	274.145	275.611	269.040	259.926
.28402E+08	269.600	269.523	274.174	275.634	269.089	260.012
.31558E+08	269.607	269.530	274.164	275.617	269.098	260.057

.63115E+08	268.620	268.546	273.038	274.453	268.144	259.400
.94673E+08	266.711	266.639	271.027	272.418	266.281	257.775
.12623E+09	264.576	264.506	268.809	270.184	264.194	255.889
.15779E+09	262.519	262.451	266.683	268.045	262.181	254.047
.18935E+09	260.119	260.053	264.215	265.566	259.829	251.870
.22090E+09	257.937	257.872	261.974	263.316	257.690	249.879
.25246E+09	255.873	255.809	259.855	261.188	255.665	247.994
.28402E+09	253.491	253.429	257.427	258.755	253.324	245.781
.31558E+09	251.467	251.407	255.365	256.688	251.334	243.897
.63115E+09	231.166	231.117	234.652	235.905	231.310	224.910
.94673E+09	213.741	213.700	216.887	218.069	214.066	208.469
.12623E+10	198.548	198.512	201.417	202.534	198.990	194.026
.15779E+10	185.440	185.409	188.041	189.081	185.940	181.530
.18935E+10	174.669	174.643	177.046	178.017	175.201	171.240
.22090E+10	165.579	165.555	167.760	168.666	166.123	162.538
.25246E+10	157.571	157.550	159.590	160.441	158.121	154.845
.28402E+10	151.223	151.204	153.108	153.912	151.771	148.744
.31558E+10	145.503	145.486	147.257	148.012	146.036	143.242
.63115E+10	117.477	117.467	118.597	119.098	117.887	116.168
.94673E+10	106.694	106.687	107.577	107.977	107.039	105.703
.12623E+11	100.403	100.396	101.143	101.483	100.702	99.5895
.15779E+11	96.0499	96.0446	96.6948	96.9915	96.3149	95.3507
.18935E+11	92.2852	92.2806	92.8541	93.1167	92.5223	91.6748
.22090E+11	89.2556	89.2515	89.7661	90.0025	89.4707	88.7123
.25246E+11	86.6155	86.6118	87.0756	87.2892	86.8114	86.1296
.28402E+11	84.4015	84.3982	84.8209	85.0161	84.5816	83.9614
.31558E+11	82.5390	82.5360	82.9248	83.1047	82.7058	82.1363

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.890
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1907 TEMP a07c045	1896 TEMP t07c045	3415 TEMP t16i045	3397 TEMP a16i045	3295 TEMP s16i045	3322 TEMP h16i045
.10000E-05	229.284	229.081	227.719	227.515	227.317	231.149
.20000E-05	243.903	243.700	242.353	242.149	241.951	245.463
31.558	243.903	243.700	242.353	242.149	241.951	245.463
.31558E+07	254.663	254.462	253.137	252.935	252.739	256.026
.63116E+07	256.785	256.584	255.266	255.064	254.869	258.092
.94673E+07	257.887	257.688	256.376	256.175	255.981	259.172
.12623E+08	258.540	258.342	257.036	256.836	256.642	259.802
.15779E+08	259.056	258.858	257.558	257.359	257.166	260.304
.18935E+08	259.351	259.154	257.860	257.662	257.469	260.588
.22090E+08	259.568	259.372	258.083	257.886	257.694	260.796
.25246E+08	259.714	259.519	258.234	258.038	257.847	260.933
.28402E+08	259.801	259.607	258.328	258.132	257.942	261.014
.31558E+08	259.847	259.653	258.379	258.184	257.995	261.054
.63115E+08	259.197	259.010	257.779	257.591	257.409	260.372
.94673E+08	257.578	257.396	256.203	256.021	255.844	258.744
.12623E+09	255.698	255.522	254.361	254.184	254.012	256.864
.15779E+09	253.861	253.689	252.556	252.383	252.216	255.029
.18935E+09	251.688	251.521	250.416	250.248	250.085	252.861
.22090E+09	249.702	249.539	248.459	248.295	248.136	250.878
.25246E+09	247.821	247.662	246.605	246.444	246.289	248.999
.28402E+09	245.611	245.455	244.420	244.263	244.111	246.796
.31558E+09	243.731	243.578	242.560	242.407	242.257	244.921
.63115E+09	224.773	224.647	223.797	223.670	223.547	225.998
.94673E+09	208.355	208.249	207.524	207.417	207.315	209.581
.12623E+10	193.927	193.837	193.208	193.118	193.030	195.129
.15779E+10	181.446	181.368	180.820	180.741	180.666	182.598
.18935E+10	171.166	171.098	170.614	170.545	170.479	172.266
.22090E+10	162.472	162.412	161.981	161.921	161.862	163.518

.25246E+10	154.787	154.733	154.345	154.291	154.239	155.785
.28402E+10	148.691	148.642	148.289	148.239	148.192	149.642
.31558E+10	143.194	143.149	142.826	142.781	142.738	144.092
.63115E+10	116.140	116.114	115.924	115.898	115.874	116.758
.94673E+10	105.682	105.662	105.517	105.498	105.479	106.182
.12623E+11	99.5721	99.5563	99.4371	99.4211	99.4058	99.9987
.15779E+11	95.3358	95.3222	95.2196	95.2059	95.1928	95.7099
.18935E+11	91.6618	91.6499	91.5603	91.5483	91.5369	91.9940
.22090E+11	88.7008	88.6902	88.6105	88.5998	88.5896	89.0005
.25246E+11	86.1192	86.1098	86.0385	86.0290	86.0199	86.3907
.28402E+11	83.9520	83.9434	83.8789	83.8702	83.8620	84.2005
.31558E+11	82.1277	82.1198	82.0608	82.0529	82.0453	82.3571

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3334 TEMP c16i045	3346 TEMP h16o045	3279 TEMP s16o045	3370 TEMP a16o045	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	230.652	220.503	208.539	208.341	208.165	169.550
.20000E-05	244.778	234.851	223.276	223.081	222.907	186.833
31.558	244.778	234.851	223.276	223.081	222.907	186.833
.31558E+07	255.239	245.539	234.303	234.112	233.942	199.958
.63116E+07	257.278	247.646	236.503	236.313	236.144	202.610
.94673E+07	258.351	248.774	237.701	237.511	237.343	204.127
.12623E+08	258.974	249.448	238.439	238.251	238.083	205.135
.15779E+08	259.475	249.994	239.041	238.853	238.686	205.959
.18935E+08	259.757	250.320	239.420	239.233	239.067	206.543
.22090E+08	259.965	250.570	239.720	239.534	239.369	207.030
.25246E+08	260.104	250.748	239.946	239.761	239.596	207.430
.28402E+08	260.186	250.869	240.113	239.928	239.764	207.759
.31558E+08	260.229	250.948	240.236	240.052	239.889	208.037
.63115E+08	259.579	250.609	240.265	240.087	239.930	209.266
.94673E+08	257.989	249.274	239.227	239.055	238.903	209.128
.12623E+09	256.146	247.650	237.858	237.691	237.543	208.498
.15779E+09	254.345	246.037	236.462	236.299	236.154	207.716
.18935E+09	252.213	244.098	234.742	234.583	234.442	206.603
.22090E+09	250.262	242.315	233.148	232.993	232.855	205.528
.25246E+09	248.413	240.623	231.633	231.481	231.346	204.499
.28402E+09	246.241	238.596	229.765	229.616	229.484	203.042
.31558E+09	244.392	236.868	228.171	228.025	227.895	201.794
.63115E+09	225.704	219.320	211.883	211.762	211.653	188.835
.94673E+09	209.451	203.940	197.474	197.371	197.279	177.059
.12623E+10	195.104	190.271	184.577	184.488	184.408	166.260
.15779E+10	182.645	178.391	173.354	173.277	173.208	156.899
.18935E+10	172.362	168.572	164.062	163.994	163.933	149.157
.22090E+10	163.646	160.239	156.170	156.110	156.055	142.588
.25246E+10	155.937	152.843	149.135	149.080	149.031	136.650
.28402E+10	149.805	146.958	143.543	143.493	143.449	131.958
.31558E+10	144.260	141.643	138.497	138.452	138.411	127.755
.63115E+10	116.915	115.335	113.415	113.388	113.364	106.656
.94673E+10	106.321	105.103	103.616	103.596	103.578	98.3268
.12623E+11	100.122	99.1123	97.8770	97.8604	97.8454	93.4562
.15779E+11	95.8207	94.9474	93.8781	93.8638	93.8509	90.0337
.18935E+11	92.0941	91.3281	90.3891	90.3766	90.3653	86.9993
.22090E+11	89.0922	88.4078	87.5682	87.5570	87.5469	84.5270
.25246E+11	86.4748	85.8605	85.1063	85.0963	85.0873	82.3669
.28402E+11	84.2783	83.7202	83.0344	83.0254	83.0172	80.5381
.31558E+11	82.4295	81.9176	81.2881	81.2798	81.2723	78.9923

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.910
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5050 TEMP m16i045	4983 TEMP m16o045	5472 TEMP i16i045	5547 TEMP i16o045	6061 TEMP o16o045	1662 TEMP c06i045
.10000E-05	147.339	145.675	30.1256	28.1451	26.1409	251.816
.20000E-05	166.198	164.524	73.0194	71.0380	69.0253	265.875
31.558	166.198	164.524	73.0194	71.0380	69.0253	265.875
.31558E+07	180.599	178.938	101.070	99.1525	97.1515	276.031
.63116E+07	183.527	181.872	106.419	104.517	102.532	277.999
.94673E+07	185.243	183.596	109.704	107.815	105.849	278.978
.12623E+08	186.418	184.777	112.135	110.258	108.307	279.520
.15779E+08	187.378	185.745	114.075	112.209	110.271	279.937
.18935E+08	188.088	186.461	115.676	113.821	111.897	280.138
.22090E+08	188.690	187.070	117.053	115.208	113.296	280.265
.25246E+08	189.196	187.583	118.255	116.420	114.519	280.325
.28402E+08	189.624	188.018	119.319	117.493	115.603	280.329
.31558E+08	189.996	188.396	120.274	118.457	116.577	280.294
.63115E+08	191.948	190.406	126.387	124.646	122.848	278.971
.94673E+08	192.349	190.855	129.596	127.919	126.187	276.799
.12623E+09	192.156	190.705	131.540	129.916	128.238	274.445
.15779E+09	191.738	190.324	132.820	131.240	129.609	272.202
.18935E+09	190.980	189.605	133.647	132.112	130.526	269.616
.22090E+09	190.209	188.867	134.197	132.699	131.153	267.274
.25246E+09	189.464	188.152	134.670	133.208	131.698	265.059
.28402E+09	188.247	186.964	134.384	132.953	131.476	262.546
.31558E+09	187.199	185.940	134.108	132.704	131.253	260.412
.63115E+09	176.154	175.120	130.221	129.061	127.862	239.004
.94673E+09	165.888	165.026	125.293	124.314	123.302	220.690
.12623E+10	156.285	155.553	119.713	118.872	117.999	204.792
.15779E+10	147.970	147.343	114.981	114.254	113.498	191.041
.18935E+10	141.086	140.539	111.081	110.444	109.778	179.740
.22090E+10	135.247	134.763	107.803	107.238	106.646	170.196
.25246E+10	129.914	129.482	104.573	104.066	103.534	161.815
.28402E+10	125.718	125.326	102.124	101.663	101.179	155.163
.31558E+10	121.977	121.621	100.041	99.6214	99.1798	149.156
.63115E+10	103.045	102.844	88.9757	88.7354	88.4839	119.764
.94673E+10	95.5085	95.3576	84.3852	84.2045	84.0151	108.483
.12623E+11	91.1047	90.9817	81.7494	81.6020	81.4474	101.898
.15779E+11	87.9918	87.8868	79.8139	79.6877	79.5553	97.3489
.18935E+11	85.2007	85.1097	77.9488	77.8390	77.7238	93.4290
.22090E+11	82.9146	82.8340	76.3748	76.2775	76.1753	90.2805
.25246E+11	80.9155	80.8438	74.9983	74.9114	74.8203	87.5379
.28402E+11	79.2162	79.1515	73.8021	73.7236	73.6412	85.2415
.31558E+11	77.7770	77.7180	72.7794	72.7079	72.6327	83.3109

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:45:36 APR 11, 1995 CP= 107272.930
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2916 TEMP c14i045	3125 TEMP c15i045	2080 TEMP c17i045	3738 TEMP c22i045	3933 TEMP c23i045
.10000E-05	246.348	240.818	237.172	235.204	226.672
.20000E-05	260.427	254.936	251.288	249.341	240.966
31.558	260.427	254.936	251.288	249.341	240.966
.31558E+07	270.607	265.239	261.696	259.624	251.497

.63116E+07	272.589	267.242	263.713	261.643	253.568
.94673E+07	273.591	268.270	264.758	262.693	254.667
.12623E+08	274.152	268.854	265.355	263.297	255.312
.15779E+08	274.590	269.314	265.830	263.778	255.831
.18935E+08	274.812	269.558	266.088	264.042	256.132
.22090E+08	274.960	269.727	266.271	264.232	256.357
.25246E+08	275.040	269.828	266.386	264.353	256.511
.28402E+08	275.064	269.872	266.444	264.418	256.608
.31558E+08	275.049	269.878	266.463	264.443	256.665
.63115E+08	273.900	268.904	265.607	263.643	256.130
.94673E+08	271.881	267.035	263.839	261.924	254.630
.12623E+09	269.660	264.947	261.839	259.969	252.863
.15779E+09	267.533	262.934	259.903	258.070	251.125
.18935E+09	265.068	260.586	257.633	255.840	249.058
.22090E+09	262.830	258.448	255.562	253.804	247.164
.25246E+09	260.712	256.424	253.601	251.875	245.368
.28402E+09	258.291	254.088	251.322	249.628	243.245
.31558E+09	256.233	252.101	249.384	247.717	241.438
.63115E+09	235.535	232.094	229.846	228.434	223.140
.94673E+09	217.762	214.847	212.953	211.736	207.192
.12623E+10	202.275	199.756	198.126	197.059	193.087
.15779E+10	188.859	186.672	185.264	184.325	180.846
.18935E+10	177.823	175.898	174.663	173.828	170.743
.22090E+10	168.495	166.784	165.689	164.940	162.179
.25246E+10	160.289	158.751	157.770	157.091	154.594
.28402E+10	153.774	152.372	151.479	150.853	148.561
.31558E+10	147.886	146.603	145.788	145.212	143.109
.63115E+10	119.025	118.276	117.805	117.457	116.202
.94673E+10	107.922	107.353	106.997	106.728	105.767
.12623E+11	101.437	100.970	100.678	100.454	99.6597
.15779E+11	96.9523	96.5494	96.2988	96.1052	95.4192
.18935E+11	93.0825	92.7304	92.5118	92.3422	91.7412
.22090E+11	89.9720	89.6585	89.4639	89.3126	88.7763
.25246E+11	87.2619	86.9813	86.8074	86.6717	86.1908
.28402E+11	84.9913	84.7370	84.5797	84.4563	84.0199
.31558E+11	83.0819	82.8492	82.7053	82.5921	82.1921

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 107273.140 TIME= 11:45:36
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 928 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 453 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 930 ITEM= TEMP COMP= NAME= a01o090

VARIABLE 6 IS AT NODE 926 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 7 IS AT NODE 484 ITEM= TEMP COMP= NAME= t05i090

VARIABLE 8 IS AT NODE 492 ITEM= TEMP COMP= NAME= a05i090

VARIABLE 9 IS AT NODE 491 ITEM= TEMP COMP= NAME= s05i090

VARIABLE 10 IS AT NODE 490 ITEM= TEMP COMP= NAME= h05i090

VARIABLE 11 IS AT NODE 488 ITEM= TEMP COMP= NAME= c05i090

VARIABLE 12 IS AT NODE 1749 ITEM= TEMP COMP= NAME= h05o090

VARIABLE 13 IS AT NODE 485 ITEM= TEMP COMP= NAME= s05o090

VARIABLE 14 IS AT NODE 493 ITEM= TEMP COMP= NAME= a05o090

VARIABLE 15 IS AT NODE 483 ITEM= TEMP COMP= NAME= t05i090
 VARIABLE 16 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090
 VARIABLE 17 IS AT NODE 2324 ITEM= TEMP COMP= NAME= a13i090
 VARIABLE 18 IS AT NODE 2322 ITEM= TEMP COMP= NAME= s13i090
 VARIABLE 19 IS AT NODE 2321 ITEM= TEMP COMP= NAME= h13i090
 VARIABLE 20 IS AT NODE 2319 ITEM= TEMP COMP= NAME= c13i090
 VARIABLE 21 IS AT NODE 3003 ITEM= TEMP COMP= NAME= h13o090
 VARIABLE 22 IS AT NODE 2316 ITEM= TEMP COMP= NAME= s13o090
 VARIABLE 23 IS AT NODE 2333 ITEM= TEMP COMP= NAME= a13o090
 VARIABLE 26 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090
 VARIABLE 27 IS AT NODE 574 ITEM= TEMP COMP= NAME= t21i090
 VARIABLE 28 IS AT NODE 582 ITEM= TEMP COMP= NAME= a21i090
 VARIABLE 29 IS AT NODE 581 ITEM= TEMP COMP= NAME= s21i090
 VARIABLE 30 IS AT NODE 3829 ITEM= TEMP COMP= NAME= h21i090
 VARIABLE 31 IS AT NODE 578 ITEM= TEMP COMP= NAME= c21i090
 VARIABLE 32 IS AT NODE 576 ITEM= TEMP COMP= NAME= h21o090
 VARIABLE 33 IS AT NODE 573 ITEM= TEMP COMP= NAME= s21o090
 VARIABLE 34 IS AT NODE 573 ITEM= TEMP COMP= NAME= t21o090
 VARIABLE 35 IS AT NODE 4555 ITEM= TEMP COMP= NAME= g04i090
 VARIABLE 36 IS AT NODE 4516 ITEM= TEMP COMP= NAME= g04o090
 VARIABLE 37 IS AT NODE 4625 ITEM= TEMP COMP= NAME= m04i090
 VARIABLE 38 IS AT NODE 4873 ITEM= TEMP COMP= NAME= m04o090
 VARIABLE 39 IS AT NODE 5432 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 40 IS AT NODE 5431 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 41 IS AT NODE 6019 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	924 TEMP	c01i090	82.69	.3156E+11	273.0	.2840E+08
3	NSOL	928 TEMP	h01o090	82.68	.3156E+11	272.8	.2840E+08
4	NSOL	453 TEMP	s01o090	82.67	.3156E+11	272.6	.2840E+08
5	NSOL	930 TEMP	a01o090	82.66	.3156E+11	272.4	.2840E+08
6	NSOL	926 TEMP	t01o090	82.66	.3156E+11	272.4	.2840E+08
7	NSOL	484 TEMP	t05i090	82.65	.3156E+11	272.3	.2840E+08
8	NSOL	492 TEMP	a05i090	82.65	.3156E+11	272.3	.2840E+08
9	NSOL	491 TEMP	s05i090	82.65	.3156E+11	272.1	.2840E+08
10	NSOL	490 TEMP	h05i090	82.64	.3156E+11	271.9	.2840E+08
11	NSOL	488 TEMP	c05i090	82.61	.3156E+11	271.2	.3156E+08
12	NSOL	1749 TEMP	h05o090	82.56	.3156E+11	270.1	.3156E+08
13	NSOL	485 TEMP	s05o090	82.54	.3156E+11	269.5	.3156E+08
14	NSOL	493 TEMP	a05o090	82.52	.3156E+11	269.0	.3156E+08
15	NSOL	483 TEMP	t05i090	82.51	.3156E+11	269.0	.3156E+08

16	NSOL	2315	TEMP	t13i090	82.49	.3156E+11	268.5	.3156E+08
17	NSOL	2324	TEMP	a13i090	82.49	.3156E+11	268.5	.3156E+08
18	NSOL	2322	TEMP	s13i090	82.48	.3156E+11	268.1	.3156E+08
19	NSOL	2321	TEMP	h13i090	82.45	.3156E+11	267.4	.3156E+08
20	NSOL	2319	TEMP	c13i090	82.39	.3156E+11	265.9	.3156E+08
21	NSOL	3003	TEMP	h13o090	82.31	.3156E+11	264.0	.3156E+08
22	NSOL	2316	TEMP	s13o090	82.26	.3156E+11	262.9	.3156E+08
23	NSOL	2333	TEMP	a13o090	82.23	.3156E+11	262.2	.3156E+08
24	NSOL	3359	TEMP	t16o045	81.27	.3156E+11	239.9	.6312E+08
25	NSOL	4698	TEMP	g16i045	78.99	.3156E+11	209.3	.6312E+08
26	NSOL	2315	TEMP	t13i090	82.49	.3156E+11	268.5	.3156E+08
27	NSOL	574	TEMP	t21i090	82.20	.3156E+11	261.4	.3156E+08
28	NSOL	582	TEMP	a21i090	82.19	.3156E+11	261.4	.3156E+08
29	NSOL	581	TEMP	s21i090	82.17	.3156E+11	260.8	.3156E+08
30	NSOL	3829	TEMP	h21i090	82.13	.3156E+11	259.8	.3156E+08
31	NSOL	578	TEMP	c21i090	82.06	.3156E+11	257.9	.3156E+08
32	NSOL	576	TEMP	h21o090	81.96	.3156E+11	255.6	.3156E+08
33	NSOL	573	TEMP	s21o090	81.88	.3156E+11	253.5	.3156E+08
34	NSOL	573	TEMP	t21o090	81.88	.3156E+11	253.5	.3156E+08
35	NSOL	4555	TEMP	g04i090	79.79	.3156E+11	222.5	.6312E+08
36	NSOL	4516	TEMP	g04o090	79.72	.3156E+11	221.1	.6312E+08
37	NSOL	4625	TEMP	m04i090	77.50	.3156E+11	189.4	.9467E+08
38	NSOL	4873	TEMP	m04o090	77.33	.3156E+11	186.5	.9467E+08
39	NSOL	5432	TEMP	i04i090	29.81	.1000E-05	133.3	.2525E+09
40	NSOL	5431	TEMP	i04o090	27.97	.1000E-05	131.9	.2525E+09
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	130.5	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP c01i090	928 TEMP h01o090	453 TEMP s01o090	930 TEMP a01o090	926 TEMP t01o090	484 TEMP t05i090
.10000E-05	243.276	243.069	242.835	242.658	242.645	242.485
.20000E-05	257.841	257.635	257.401	257.225	257.212	257.053
31.558	257.841	257.635	257.401	257.225	257.212	257.053
.31558E+07	268.347	268.143	267.910	267.740	267.726	267.564
.63116E+07	270.415	270.211	269.979	269.810	269.796	269.634
.94673E+07	271.451	271.249	271.018	270.850	270.836	270.675
.12623E+08	272.047	271.845	271.615	271.448	271.434	271.273
.15779E+08	272.504	272.304	272.074	271.908	271.894	271.734
.18935E+08	272.743	272.543	272.315	272.149	272.135	271.976
.22090E+08	272.904	272.705	272.477	272.312	272.299	272.140
.25246E+08	272.995	272.797	272.570	272.406	272.392	272.234
.28402E+08	273.029	272.832	272.606	272.442	272.429	272.271
.31558E+08	273.022	272.826	272.600	272.437	272.424	272.267
.63115E+08	271.915	271.725	271.507	271.350	271.337	271.185
.94673E+08	269.903	269.719	269.508	269.356	269.343	269.196
.12623E+09	267.679	267.500	267.295	267.147	267.135	266.991
.15779E+09	265.545	265.370	265.170	265.026	265.014	264.873
.18935E+09	263.067	262.897	262.701	262.561	262.550	262.412
.22090E+09	260.816	260.650	260.459	260.322	260.311	260.176
.25246E+09	258.688	258.525	258.339	258.205	258.194	258.062
.28402E+09	256.247	256.088	255.906	255.775	255.764	255.635
.31558E+09	254.174	254.018	253.839	253.710	253.699	253.573
.63115E+09	233.408	233.279	233.130	233.024	233.015	232.909
.94673E+09	215.635	215.526	215.400	215.311	215.304	215.213
.12623E+10	200.176	200.083	199.975	199.899	199.892	199.813
.15779E+10	186.850	186.769	186.676	186.610	186.604	186.536
.18935E+10	175.909	175.838	175.756	175.698	175.693	175.632
.22090E+10	166.678	166.615	166.542	166.491	166.487	166.433
.25246E+10	158.558	158.501	158.436	158.390	158.386	158.337

.28402E+10	152.121	152.070	152.010	151.969	151.965	151.920
.31558E+10	146.322	146.275	146.221	146.183	146.179	146.139
.63115E+10	117.953	117.925	117.894	117.872	117.870	117.846
.94673E+10	107.055	107.034	107.010	106.993	106.992	106.974
.12623E+11	100.698	100.681	100.661	100.648	100.647	100.631
.15779E+11	96.3039	96.2893	96.2724	96.2607	96.2598	96.2466
.18935E+11	92.5071	92.4944	92.4796	92.4694	92.4686	92.4570
.22090E+11	89.4531	89.4418	89.4286	89.4196	89.4188	89.4086
.25246E+11	86.7921	86.7820	86.7702	86.7621	86.7615	86.7523
.28402E+11	84.5615	84.5523	84.5416	84.5343	84.5337	84.5253
.31558E+11	82.6853	82.6769	82.6671	82.6604	82.6599	82.6522

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	492 TEMP a05i090	491 TEMP s05i090	490 TEMP h05i090	488 TEMP c05i090	1749 TEMP h05o090	485 TEMP s05o090
.10000E-05	242.471	242.335	242.106	241.394	240.268	239.570
.20000E-05	257.040	256.903	256.674	255.963	254.839	254.143
31.558	257.040	256.903	256.674	255.963	254.839	254.143
.31558E+07	267.550	267.416	267.189	266.481	265.365	264.672
.63116E+07	269.620	269.487	269.261	268.555	267.442	266.751
.94673E+07	270.661	270.528	270.302	269.600	268.492	267.804
.12623E+08	271.259	271.127	270.903	270.202	269.099	268.414
.15779E+08	271.720	271.588	271.365	270.667	269.569	268.887
.18935E+08	271.962	271.831	271.608	270.914	269.819	269.140
.22090E+08	272.126	271.995	271.774	271.082	269.992	269.316
.25246E+08	272.221	272.090	271.869	271.180	270.095	269.421
.28402E+08	272.257	272.127	271.908	271.221	270.140	269.469
.31558E+08	272.254	272.124	271.905	271.221	270.144	269.476
.63115E+08	271.172	271.047	270.836	270.175	269.135	268.489
.94673E+08	269.183	269.062	268.857	268.217	267.208	266.582
.12623E+09	266.978	266.861	266.662	266.039	265.059	264.450
.15779E+09	264.861	264.747	264.553	263.946	262.990	262.396
.18935E+09	262.400	262.289	262.100	261.509	260.578	259.999
.22090E+09	260.165	260.056	259.871	259.295	258.385	257.820
.25246E+09	258.051	257.944	257.764	257.200	256.311	255.758
.28402E+09	255.624	255.520	255.343	254.791	253.921	253.381
.31558E+09	253.562	253.460	253.287	252.745	251.891	251.360
.63115E+09	232.900	232.816	232.674	232.228	231.523	231.084
.94673E+09	215.205	215.135	215.016	214.640	214.047	213.677
.12623E+10	199.807	199.747	199.645	199.324	198.815	198.498
.15779E+10	186.530	186.478	186.390	186.113	185.674	185.400
.18935E+10	175.627	175.582	175.505	175.262	174.877	174.636
.22090E+10	166.428	166.388	166.320	166.105	165.763	165.550
.25246E+10	158.333	158.298	158.237	158.044	157.738	157.547
.28402E+10	151.917	151.884	151.829	151.654	151.376	151.202
.31558E+10	146.135	146.106	146.055	145.896	145.642	145.483
.63115E+10	117.844	117.827	117.798	117.706	117.559	117.467
.94673E+10	106.972	106.959	106.937	106.868	106.756	106.687
.12623E+11	100.630	100.620	100.602	100.545	100.453	100.396
.15779E+11	96.2456	96.2366	96.2211	96.1719	96.0934	96.0442
.18935E+11	92.4562	92.4483	92.4348	92.3918	92.3233	92.2804
.22090E+11	89.4078	89.4008	89.3888	89.3505	89.2895	89.2513
.25246E+11	86.7516	86.7453	86.7346	86.7004	86.6458	86.6116
.28402E+11	84.5247	84.5191	84.5093	84.4783	84.4289	84.3979
.31558E+11	82.6517	82.6465	82.6376	82.6092	82.5640	82.5356

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.540

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	493 TEMP a05i090	483 TEMP t05i090	2315 TEMP t13i090	2324 TEMP a13i090	2322 TEMP s13i090	2321 TEMP h13i090
.10000E-05	239.078	239.039	238.572	238.533	238.099	237.434
.20000E-05	253.651	253.613	253.150	253.110	252.676	252.011
31.558	253.651	253.613	253.150	253.110	252.676	252.011
.31558E+07	264.183	264.144	263.687	263.647	263.216	262.556
.63116E+07	266.263	266.225	265.770	265.730	265.300	264.642
.94673E+07	267.318	267.280	266.827	266.788	266.360	265.704
.12623E+08	267.930	267.892	267.441	267.402	266.976	266.322
.15779E+08	268.404	268.367	267.918	267.878	267.454	266.803
.18935E+08	268.660	268.622	268.175	268.136	267.713	267.065
.22090E+08	268.837	268.800	268.354	268.316	267.895	267.249
.25246E+08	268.944	268.907	268.464	268.425	268.006	267.363
.28402E+08	268.994	268.957	268.515	268.477	268.059	267.418
.31558E+08	269.003	268.966	268.526	268.487	268.071	267.433
.63115E+08	268.032	267.997	267.571	267.534	267.133	266.516
.94673E+08	266.139	266.105	265.692	265.656	265.267	264.669
.12623E+09	264.020	263.986	263.584	263.549	263.171	262.590
.15779E+09	261.976	261.943	261.551	261.516	261.148	260.582
.18935E+09	259.590	259.559	259.176	259.143	258.783	258.233
.22090E+09	257.420	257.390	257.015	256.983	256.632	256.094
.25246E+09	255.367	255.337	254.971	254.939	254.596	254.070
.28402E+09	252.998	252.969	252.610	252.579	252.243	251.729
.31558E+09	250.984	250.955	250.603	250.572	250.243	249.738
.63115E+09	230.774	230.750	230.456	230.431	230.160	229.745
.94673E+09	213.416	213.396	213.146	213.125	212.897	212.548
.12623E+10	198.274	198.257	198.040	198.022	197.828	197.530
.15779E+10	185.206	185.192	185.002	184.987	184.820	184.562
.18935E+10	174.467	174.454	174.287	174.273	174.127	173.901
.22090E+10	165.400	165.388	165.240	165.228	165.098	164.898
.25246E+10	157.412	157.402	157.268	157.257	157.141	156.962
.28402E+10	151.079	151.070	150.948	150.938	150.833	150.670
.31558E+10	145.371	145.363	145.252	145.243	145.147	144.999
.63115E+10	117.402	117.397	117.332	117.326	117.271	117.186
.94673E+10	106.637	106.634	106.584	106.580	106.538	106.473
.12623E+11	100.356	100.353	100.312	100.308	100.274	100.221
.15779E+11	96.0095	96.0070	95.9716	95.9689	95.9394	95.8939
.18935E+11	92.2501	92.2478	92.2169	92.2145	92.1888	92.1491
.22090E+11	89.2243	89.2224	89.1948	89.1927	89.1698	89.1345
.25246E+11	86.5875	86.5857	86.5611	86.5592	86.5387	86.5071
.28402E+11	84.3761	84.3745	84.3522	84.3505	84.3319	84.3033
.31558E+11	82.5156	82.5142	82.4937	82.4922	82.4752	82.4490

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.550
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2319 TEMP c13i090	3003 TEMP h13o090	2316 TEMP s13o090	2333 TEMP a13o090	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	235.857	233.867	232.734	231.952	208.165	169.550
.20000E-05	250.434	248.446	247.314	246.532	222.907	186.833
31.558	250.434	248.446	247.314	246.532	222.907	186.833
.31558E+07	260.986	259.010	257.883	257.104	233.942	199.958

.63116E+07	263.077	261.106	259.983	259.206	236.144	202.610
.94673E+07	264.146	262.184	261.066	260.293	237.343	204.127
.12623E+08	264.770	262.816	261.702	260.932	238.083	205.135
.15779E+08	265.257	263.311	262.202	261.435	238.686	205.959
.18935E+08	265.525	263.587	262.482	261.718	239.067	206.543
.22090E+08	265.716	263.785	262.684	261.923	239.369	207.030
.25246E+08	265.835	263.912	262.816	262.058	239.596	207.430
.28402E+08	265.897	263.981	262.889	262.134	239.764	207.759
.31558E+08	265.918	264.009	262.922	262.170	239.889	208.037
.63115E+08	265.053	263.210	262.159	261.433	239.930	209.266
.94673E+08	263.251	261.464	260.446	259.742	238.903	209.128
.12623E+09	261.211	259.475	258.485	257.801	237.543	208.498
.15779E+09	259.237	257.544	256.579	255.911	236.154	207.716
.18935E+09	256.923	255.275	254.335	253.685	234.442	206.603
.22090E+09	254.816	253.206	252.288	251.653	232.855	205.528
.25246E+09	252.821	251.247	250.349	249.728	231.346	204.499
.28402E+09	250.506	248.966	248.088	247.481	229.484	203.042
.31558E+09	248.538	247.027	246.165	245.569	227.895	201.794
.63115E+09	228.756	227.510	226.798	226.306	211.653	188.835
.94673E+09	211.718	210.670	210.071	209.657	197.279	177.059
.12623E+10	196.819	195.921	195.408	195.054	184.408	166.260
.15779E+10	183.949	183.174	182.731	182.425	173.208	156.899
.18935E+10	173.364	172.685	172.296	172.028	163.933	149.157
.22090E+10	164.422	163.821	163.476	163.238	156.055	142.588
.25246E+10	156.536	155.997	155.689	155.476	149.031	136.650
.28402E+10	150.283	149.793	149.512	149.319	143.449	131.958
.31558E+10	144.646	144.199	143.943	143.767	138.411	127.755
.63115E+10	116.982	116.724	116.575	116.473	113.364	106.656
.94673E+10	106.319	106.124	106.011	105.934	103.578	98.3268
.12623E+11	100.095	99.9345	99.8424	99.7790	97.8454	93.4562
.15779E+11	95.7851	95.6473	95.5681	95.5136	93.8509	90.0337
.18935E+11	92.0542	91.9338	91.8647	91.8171	90.3653	86.9993
.22090E+11	89.0500	88.9430	88.8814	88.8391	87.5469	84.5270
.25246E+11	86.4316	86.3358	86.2808	86.2429	85.0873	82.3669
.28402E+11	84.2348	84.1481	84.0982	84.0639	83.0172	80.5381
.31558E+11	82.3864	82.3070	82.2614	82.2299	81.2723	78.9923

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.560
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2315 TEMP t13i090	574 TEMP t21i090	582 TEMP a21i090	581 TEMP s21i090	3829 TEMP h21i090	578 TEMP c21i090
.10000E-05	238.572	231.167	231.108	230.489	229.456	227.502
.20000E-05	253.150	245.752	245.692	245.070	244.030	242.068
31.558	253.150	245.752	245.692	245.070	244.030	242.068
.31558E+07	263.687	256.331	256.271	255.651	254.614	252.654
.63116E+07	265.770	258.435	258.376	257.757	256.722	254.766
.94673E+07	266.827	259.525	259.466	258.849	257.818	255.870
.12623E+08	267.441	260.168	260.108	259.494	258.467	256.525
.15779E+08	267.918	260.674	260.615	260.003	258.979	257.045
.18935E+08	268.175	260.960	260.901	260.292	259.272	257.346
.22090E+08	268.354	261.169	261.110	260.503	259.487	257.568
.25246E+08	268.464	261.306	261.248	260.643	259.632	257.720
.28402E+08	268.515	261.386	261.327	260.725	259.717	257.813
.31558E+08	268.526	261.424	261.366	260.766	259.762	257.865
.63115E+08	267.571	260.712	260.656	260.077	259.107	257.275
.94673E+08	265.692	259.043	258.989	258.427	257.488	255.713
.12623E+09	263.584	257.121	257.068	256.522	255.610	253.886
.15779E+09	261.551	255.248	255.196	254.665	253.776	252.095
.18935E+09	259.176	253.038	252.988	252.471	251.606	249.970
.22090E+09	257.015	251.021	250.972	250.468	249.623	248.027

.25246E+09	254.971	249.111	249.063	248.570	247.745	246.185
.28402E+09	252.610	246.876	246.829	246.347	245.540	244.015
.31558E+09	250.603	244.974	244.929	244.456	243.665	242.168
.63115E+09	230.456	225.813	225.775	225.388	224.740	223.512
.94673E+09	213.146	209.238	209.207	208.883	208.342	207.315
.12623E+10	198.040	194.692	194.666	194.390	193.929	193.053
.15779E+10	185.002	182.111	182.088	181.851	181.455	180.702
.18935E+10	174.287	171.751	171.731	171.525	171.178	170.521
.22090E+10	165.240	162.993	162.975	162.793	162.487	161.905
.25246E+10	157.268	155.255	155.240	155.077	154.804	154.284
.28402E+10	150.948	149.118	149.104	148.956	148.708	148.236
.31558E+10	145.252	143.583	143.570	143.435	143.210	142.781
.63115E+10	117.332	116.366	116.359	116.282	116.153	115.907
.94673E+10	106.584	105.853	105.847	105.789	105.692	105.506
.12623E+11	100.312	99.7121	99.7074	99.6599	99.5804	99.4284
.15779E+11	95.9716	95.4560	95.4520	95.4113	95.3430	95.2124
.18935E+11	92.2169	91.7668	91.7634	91.7278	91.6683	91.5544
.22090E+11	89.1948	88.7944	88.7913	88.7597	88.7067	88.6055
.25246E+11	86.5611	86.2029	86.2002	86.1719	86.1246	86.0341
.28402E+11	84.3522	84.0277	84.0252	83.9996	83.9568	83.8749
.31558E+11	82.4937	82.1968	82.1945	82.1712	82.1320	82.0571

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	576 TEMP h21o090	573 TEMP s21o090	573 TEMP t21o090	4555 TEMP g04i090	4516 TEMP g04o090	4625 TEMP m04i090
.10000E-05	225.131	222.936	222.936	186.368	184.776	143.679
.20000E-05	239.690	237.492	237.492	202.716	201.175	162.966
31.558	239.690	237.492	237.492	202.716	201.175	162.966
.31558E+07	250.282	248.092	248.092	214.711	213.212	177.199
.63116E+07	252.400	250.216	250.216	217.178	215.690	180.176
.94673E+07	253.514	251.338	251.338	218.557	217.079	181.928
.12623E+08	254.178	252.011	252.011	219.450	217.980	183.132
.15779E+08	254.707	252.549	252.549	220.177	218.715	184.116
.18935E+08	255.017	252.867	252.867	220.671	219.216	184.848
.22090E+08	255.249	253.107	253.107	221.073	219.625	185.469
.25246E+08	255.409	253.276	253.276	221.395	219.954	185.993
.28402E+08	255.511	253.387	253.387	221.650	220.215	186.438
.31558E+08	255.572	253.456	253.456	221.857	220.429	186.825
.63115E+08	255.061	253.017	253.017	222.526	221.149	188.892
.94673E+08	253.567	251.586	251.586	221.957	220.623	189.374
.12623E+09	251.800	249.876	249.876	220.968	219.671	189.247
.15779E+09	250.062	248.186	248.186	219.887	218.620	188.882
.18935E+09	247.992	246.165	246.165	218.476	217.241	188.176
.22090E+09	246.096	244.312	244.312	217.147	215.938	187.449
.25246E+09	244.297	242.554	242.554	215.879	214.696	186.744
.28402E+09	242.169	240.464	240.464	214.220	213.060	185.566
.31558E+09	240.357	238.684	238.684	212.802	211.660	184.548
.63115E+09	222.025	220.648	220.648	198.218	197.257	173.783
.94673E+09	206.068	204.912	204.912	185.201	184.377	163.745
.12623E+10	191.989	191.001	191.001	173.444	172.724	154.336
.15779E+10	179.785	178.934	178.934	163.251	162.622	146.195
.18935E+10	169.719	168.974	168.974	154.835	154.278	139.458
.22090E+10	161.196	160.537	160.537	147.709	147.211	133.745
.25246E+10	153.650	153.060	153.060	141.318	140.867	128.523
.28402E+10	147.660	147.124	147.124	136.261	135.848	124.417
.31558E+10	142.256	141.767	141.767	131.720	131.341	120.761
.63115E+10	115.605	115.323	115.323	109.082	108.855	102.254
.94673E+10	105.278	105.065	105.065	100.205	100.030	94.8801
.12623E+11	99.2419	99.0673	99.0673	95.0158	94.8717	90.5742

.15779E+11	95.0522	94.9022	94.9022	91.3848	91.2604	87.5284
.18935E+11	91.4147	91.2838	91.2838	88.1873	88.0785	84.7912
.22090E+11	88.4812	88.3647	88.3647	85.5905	85.4935	82.5465
.25246E+11	85.9230	85.8189	85.8189	83.3227	83.2358	80.5830
.28402E+11	83.7743	83.6800	83.6800	81.4074	81.3285	78.9122
.31558E+11	81.9650	81.8787	81.8787	79.7903	79.7180	77.4964

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:45 APR 11, 1995 CP= 107280.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4873 TEMP	5432 TEMP	5431 TEMP	6019 TEMP
	m04o090	i04i090	i04o090	o04o090
.10000E-05	140.081	29.8085	27.9706	26.1409
.20000E-05	159.532	72.6643	70.8263	68.9905
31.558	159.532	72.6644	70.8263	68.9905
.31558E+07	173.886	99.4618	97.6391	95.7828
.63116E+07	176.894	104.804	102.995	101.148
.94673E+07	178.672	108.095	106.298	104.468
.12623E+08	179.900	110.534	108.748	106.933
.15779E+08	180.903	112.479	110.704	108.900
.18935E+08	181.654	114.088	112.324	110.533
.22090E+08	182.293	115.471	113.715	111.936
.25246E+08	182.834	116.680	114.934	113.165
.28402E+08	183.294	117.750	116.012	114.253
.31558E+08	183.696	118.711	116.982	115.232
.63115E+08	185.885	124.873	123.214	121.541
.94673E+08	186.463	128.121	126.523	124.909
.12623E+09	186.417	130.100	128.552	126.989
.15779E+09	186.121	131.410	129.903	128.384
.18935E+09	185.484	132.265	130.802	129.324
.22090E+09	184.816	132.840	131.412	129.972
.25246E+09	184.165	133.335	131.940	130.533
.28402E+09	183.035	133.081	131.717	130.341
.31558E+09	182.059	132.829	131.490	130.139
.63115E+09	171.678	129.136	128.030	126.913
.94673E+09	161.936	124.351	123.417	122.473
.12623E+10	152.755	118.895	118.092	117.278
.15779E+10	144.803	114.257	113.562	112.857
.18935E+10	138.216	110.431	109.821	109.200
.22090E+10	132.629	107.212	106.671	106.118
.25246E+10	127.509	104.036	103.550	103.053
.28402E+10	123.485	101.627	101.185	100.731
.31558E+10	119.904	99.5775	99.1743	98.7610
.63115E+10	101.737	88.6876	88.4558	88.2193
.94673E+10	94.4816	84.1580	83.9832	83.8047
.12623E+11	90.2444	81.5574	81.4145	81.2685
.15779E+11	87.2435	79.6468	79.5243	79.3991
.18935E+11	84.5414	77.8027	77.6961	77.5872
.22090E+11	82.3234	76.2446	76.1500	76.0534
.25246E+11	80.3828	74.8810	74.7965	74.7102
.28402E+11	78.7303	73.6946	73.6182	73.5401
.31558E+11	77.3296	72.6799	72.6101	72.5389

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 6 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 107280.800 TIME= 11:45:45
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3	IS AT NODE	37	ITEM= TEMP COMP=	NAME= h01o135
VARIABLE 4	IS AT NODE	10	ITEM= TEMP COMP=	NAME= s01o135
VARIABLE 5	IS AT NODE	265	ITEM= TEMP COMP=	NAME= a01o135
VARIABLE 6	IS AT NODE	461	ITEM= TEMP COMP=	NAME= t01o135
VARIABLE 7	IS AT NODE	1270	ITEM= TEMP COMP=	NAME= t04i135
VARIABLE 8	IS AT NODE	1278	ITEM= TEMP COMP=	NAME= a04i135
VARIABLE 9	IS AT NODE	1188	ITEM= TEMP COMP=	NAME= s04i135
VARIABLE 10	IS AT NODE	1228	ITEM= TEMP COMP=	NAME= h04i135
VARIABLE 11	IS AT NODE	1244	ITEM= TEMP COMP=	NAME= c04i135
VARIABLE 12	IS AT NODE	1260	ITEM= TEMP COMP=	NAME= h04o135
VARIABLE 13	IS AT NODE	1197	ITEM= TEMP COMP=	NAME= s04o135
VARIABLE 14	IS AT NODE	1305	ITEM= TEMP COMP=	NAME= a04o135
VARIABLE 15	IS AT NODE	1323	ITEM= TEMP COMP=	NAME= t04o135
VARIABLE 16	IS AT NODE	2733	ITEM= TEMP COMP=	NAME= t11i135
VARIABLE 17	IS AT NODE	2741	ITEM= TEMP COMP=	NAME= a11i135
VARIABLE 18	IS AT NODE	2651	ITEM= TEMP COMP=	NAME= s11i135
VARIABLE 19	IS AT NODE	2691	ITEM= TEMP COMP=	NAME= h11i135
VARIABLE 20	IS AT NODE	2707	ITEM= TEMP COMP=	NAME= c11i135
VARIABLE 21	IS AT NODE	2723	ITEM= TEMP COMP=	NAME= h11o135
VARIABLE 22	IS AT NODE	2660	ITEM= TEMP COMP=	NAME= s11o135
VARIABLE 23	IS AT NODE	2768	ITEM= TEMP COMP=	NAME= a11o135
VARIABLE 24	IS AT NODE	2786	ITEM= TEMP COMP=	NAME= t11o135
VARIABLE 25	IS AT NODE	4344	ITEM= TEMP COMP=	NAME= g11i135
VARIABLE 26	IS AT NODE	5109	ITEM= TEMP COMP=	NAME= m11i135
VARIABLE 27	IS AT NODE	4910	ITEM= TEMP COMP=	NAME= m11o135
VARIABLE 28	IS AT NODE	5767	ITEM= TEMP COMP=	NAME= i11i135
VARIABLE 29	IS AT NODE	5839	ITEM= TEMP COMP=	NAME= i11o135
VARIABLE 30	IS AT NODE	6280	ITEM= TEMP COMP=	NAME= o11o135
Add centers of assemblies 5, 10, 12, 13, 20, 21				
VARIABLE 31	IS AT NODE	102	ITEM= TEMP COMP=	NAME= c06i135
VARIABLE 32	IS AT NODE	102	ITEM= TEMP COMP=	NAME= c14i135
VARIABLE 33	IS AT NODE	2289	ITEM= TEMP COMP=	NAME= c15i135
VARIABLE 34	IS AT NODE	2498	ITEM= TEMP COMP=	NAME= c17i135
VARIABLE 35	IS AT NODE	228	ITEM= TEMP COMP=	NAME= c22i135
VARIABLE 36	IS AT NODE	3543	ITEM= TEMP COMP=	NAME= c23i135

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	6 TEMP	c01i135	83.38	.3156E+11	282.0	.2525E+08
3 NSOL	37 TEMP	h01o135	83.06	.3156E+11	277.5	.2840E+08
4 NSOL	10 TEMP	s01o135	82.56	.3156E+11	270.2	.3156E+08
5 NSOL	265 TEMP	a01o135	82.56	.3156E+11	270.1	.3156E+08
6 NSOL	461 TEMP	t01o135	82.55	.3156E+11	270.1	.3156E+08
7 NSOL	1270 TEMP	t04i135	82.53	.3156E+11	269.5	.3156E+08
8 NSOL	1278 TEMP	a04i135	82.52	.3156E+11	269.4	.3156E+08
9 NSOL	1188 TEMP	s04i135	82.52	.3156E+11	269.3	.3156E+08
10 NSOL	1228 TEMP	h04i135	82.91	.3156E+11	273.9	.2840E+08
11 NSOL	1244 TEMP	c04i135	83.08	.3156E+11	275.4	.2840E+08
12 NSOL	1260 TEMP	h04o135	82.68	.3156E+11	268.8	.3156E+08
13 NSOL	1197 TEMP	s04o135	82.11	.3156E+11	259.7	.3156E+08
14 NSOL	1305 TEMP	a04o135	82.10	.3156E+11	259.5	.3156E+08
15 NSOL	1323 TEMP	t04o135	82.09	.3156E+11	259.3	.3156E+08
16 NSOL	2733 TEMP	t11i135	82.03	.3156E+11	258.0	.3156E+08
17 NSOL	2741 TEMP	a11i135	82.02	.3156E+11	257.8	.3156E+08
18 NSOL	2651 TEMP	s11i135	82.02	.3156E+11	257.6	.3156E+08
19 NSOL	2691 TEMP	h11i135	82.33	.3156E+11	260.7	.3156E+08
20 NSOL	2707 TEMP	c11i135	82.40	.3156E+11	259.8	.3156E+08
21 NSOL	2723 TEMP	h11o135	81.88	.3156E+11	250.5	.3156E+08
22 NSOL	2660 TEMP	s11o135	81.25	.3156E+11	239.8	.6312E+08
23 NSOL	2768 TEMP	a11o135	81.24	.3156E+11	239.6	.6312E+08
24 NSOL	2786 TEMP	t11o135	81.23	.3156E+11	239.5	.6312E+08
25 NSOL	4344 TEMP	g11i135	78.93	.3156E+11	208.5	.6312E+08
26 NSOL	5109 TEMP	m11i135	77.71	.3156E+11	191.6	.9467E+08
27 NSOL	4910 TEMP	m11o135	77.61	.3156E+11	189.7	.9467E+08
28 NSOL	5767 TEMP	i11i135	30.15	.1000E-05	133.1	.2525E+09
29 NSOL	5839 TEMP	i11o135	28.14	.1000E-05	131.6	.2525E+09
30 NSOL	6280 TEMP	o11o135	26.14	.1000E-05	130.1	.2525E+09
31 NSOL	102 TEMP	c06i135	83.30	.3156E+11	280.2	.2840E+08
32 NSOL	102 TEMP	c14i135	83.30	.3156E+11	280.2	.2840E+08
33 NSOL	2289 TEMP	c15i135	83.07	.3156E+11	275.0	.2840E+08
34 NSOL	2498 TEMP	c17i135	82.83	.3156E+11	269.6	.3156E+08
35 NSOL	228 TEMP	c22i135	82.58	.3156E+11	264.4	.3156E+08
36 NSOL	3543 TEMP	c23i135	82.17	.3156E+11	256.4	.3156E+08
37 NSOL	4625 TEMP	m04i090	77.50	.3156E+11	189.4	.9467E+08
38 NSOL	4873 TEMP	m04o090	77.33	.3156E+11	186.5	.9467E+08
39 NSOL	5432 TEMP	i04i090	29.81	.1000E-05	133.3	.2525E+09
40 NSOL	5431 TEMP	i04o090	27.97	.1000E-05	131.9	.2525E+09
41 NSOL	6019 TEMP	o04o090	26.14	.1000E-05	130.5	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:52 APR 11, 1995 CP= 107287.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	6 TEMP c01i135	37 TEMP h01o135	10 TEMP s01o135	265 TEMP a01o135	461 TEMP t01o135	1270 TEMP t04i135
.10000E-05	253.632	248.576	240.429	240.325	240.235	239.634
.20000E-05	267.686	262.830	255.007	254.903	254.813	254.219
31.558	267.686	262.830	255.007	254.903	254.813	254.219
.31558E+07	277.768	273.053	265.479	265.375	265.285	264.695
.63116E+07	279.729	275.056	267.555	267.451	267.361	266.773
.94673E+07	280.699	276.056	268.603	268.500	268.410	267.825
.12623E+08	281.234	276.617	269.209	269.106	269.017	268.435
.15779E+08	281.643	277.049	269.678	269.575	269.487	268.907
.18935E+08	281.837	277.264	269.928	269.826	269.737	269.160
.22090E+08	281.957	277.404	270.100	269.998	269.910	269.335

.25246E+08	282.009	277.475	270.202	270.100	270.013	269.440
.28402E+08	282.007	277.490	270.246	270.145	270.058	269.487
.31558E+08	281.965	277.466	270.250	270.149	270.062	269.494
.63115E+08	280.583	276.223	269.234	269.137	269.053	268.503
.94673E+08	278.361	274.111	267.302	267.207	267.126	266.592
.12623E+09	275.962	271.806	265.147	265.056	264.976	264.457
.15779E+09	273.681	269.604	263.074	262.985	262.907	262.399
.18935E+09	271.056	267.059	260.658	260.571	260.496	260.000
.22090E+09	268.679	264.752	258.462	258.377	258.303	257.818
.25246E+09	266.433	262.569	256.384	256.301	256.229	255.754
.28402E+09	263.891	260.085	253.992	253.911	253.840	253.375
.31558E+09	261.732	257.975	251.959	251.879	251.810	251.353
.63115E+09	240.097	236.814	231.569	231.504	231.447	231.064
.94673E+09	221.609	218.710	214.080	214.024	213.976	213.649
.12623E+10	205.581	202.985	198.839	198.792	198.751	198.466
.15779E+10	191.724	189.398	185.691	185.650	185.615	185.366
.18935E+10	180.338	178.237	174.889	174.853	174.822	174.602
.22090E+10	170.726	168.816	165.772	165.740	165.713	165.516
.25246E+10	162.290	160.537	157.744	157.716	157.691	157.514
.28402E+10	155.595	153.969	151.380	151.354	151.332	151.170
.31558E+10	149.549	148.042	145.645	145.621	145.601	145.453
.63115E+10	119.991	119.051	117.558	117.544	117.532	117.445
.94673E+10	108.655	107.921	106.754	106.744	106.735	106.668
.12623E+11	102.039	101.425	100.451	100.443	100.435	100.380
.15779E+11	97.4699	96.9370	96.0915	96.0841	96.0778	96.0303
.18935E+11	93.5348	93.0656	92.3215	92.3151	92.3096	92.2681
.22090E+11	90.3747	89.9544	89.2879	89.2822	89.2773	89.2403
.25246E+11	87.6221	87.2440	86.6443	86.6391	86.6348	86.6017
.28402E+11	85.3176	84.9733	84.4274	84.4227	84.4188	84.3888
.31558E+11	83.3806	83.0642	82.5625	82.5583	82.5546	82.5272

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:52 APR 11, 1995 CP= 107287.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1278 TEMP a04i135	1188 TEMP s04i135	1228 TEMP h04i135	1244 TEMP c04i135	1260 TEMP h04o135	1197 TEMP s04o135
.10000E-05	239.543	239.461	244.902	246.771	239.551	229.445
.20000E-05	254.128	254.046	259.175	260.860	253.845	244.060
31.558	254.128	254.046	259.175	260.860	253.845	244.060
.31558E+07	264.603	264.521	269.394	270.927	264.074	254.563
.63116E+07	266.682	266.600	271.407	272.905	266.102	256.673
.94673E+07	267.735	267.653	272.422	273.904	267.140	257.769
.12623E+08	268.345	268.264	272.998	274.463	267.736	258.419
.15779E+08	268.817	268.736	273.444	274.898	268.202	258.932
.18935E+08	269.071	268.990	273.673	275.118	268.452	259.225
.22090E+08	269.246	269.166	273.826	275.264	268.626	259.440
.25246E+08	269.351	269.271	273.911	275.341	268.731	259.584
.28402E+08	269.399	269.319	273.940	275.364	268.779	259.670
.31558E+08	269.406	269.326	273.929	275.347	268.788	259.714
.63115E+08	268.418	268.341	272.803	274.182	267.834	259.056
.94673E+08	266.510	266.435	270.793	272.148	265.972	257.431
.12623E+09	264.377	264.304	268.577	269.916	263.887	255.549
.15779E+09	262.321	262.251	266.452	267.779	261.876	253.710
.18935E+09	259.924	259.855	263.987	265.303	259.529	251.536
.22090E+09	257.744	257.677	261.749	263.056	257.392	249.549
.25246E+09	255.681	255.616	259.631	260.930	255.369	247.667
.28402E+09	253.304	253.240	257.209	258.503	253.035	245.460
.31558E+09	251.283	251.220	255.149	256.439	251.048	243.582
.63115E+09	231.006	230.954	234.464	235.688	231.061	224.635
.94673E+09	213.600	213.557	216.721	217.878	213.847	208.228
.12623E+10	198.425	198.388	201.272	202.367	198.799	193.815

.15779E+10	185.330	185.298	187.912	188.932	185.770	181.343
.18935E+10	174.571	174.543	176.930	177.882	175.047	171.071
.22090E+10	165.488	165.464	167.654	168.543	165.983	162.384
.25246E+10	157.489	157.467	159.494	160.329	157.994	154.705
.28402E+10	151.148	151.127	153.019	153.808	151.653	148.614
.31558E+10	145.432	145.414	147.173	147.914	145.925	143.121
.63115E+10	117.433	117.422	118.544	119.036	117.817	116.092
.94673E+10	106.659	106.651	107.535	107.929	106.984	105.642
.12623E+11	100.373	100.366	101.108	101.442	100.655	99.5384
.15779E+11	96.0239	96.0183	96.6640	96.9556	96.2741	95.3062
.18935E+11	92.2625	92.2577	92.8272	93.0853	92.4866	91.6358
.22090E+11	89.2354	89.2310	89.7421	89.9745	89.4389	88.6776
.25246E+11	86.5973	86.5934	87.0539	87.2639	86.7827	86.0983
.28402E+11	84.3848	84.3813	84.8011	84.9929	84.5553	83.9327
.31558E+11	82.5235	82.5203	82.9065	83.0832	82.6814	82.1097

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:52 APR 11, 1995 CP= 107287.740
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1305 TEMP a04o135	1323 TEMP t04o135	2733 TEMP t11i135	2741 TEMP a11i135	2651 TEMP s11i135	2691 TEMP h11i135
.10000E-05	229.225	229.022	227.660	227.457	227.259	231.096
.20000E-05	243.840	243.637	242.290	242.086	241.889	245.405
31.558	243.840	243.637	242.290	242.086	241.889	245.405
.31558E+07	254.343	254.141	252.806	252.603	252.406	255.679
.63116E+07	256.454	256.252	254.923	254.720	254.524	257.732
.94673E+07	257.551	257.350	256.028	255.826	255.630	258.806
.12623E+08	258.202	258.002	256.685	256.484	256.289	259.433
.15779E+08	258.716	258.516	257.205	257.005	256.810	259.933
.18935E+08	259.010	258.811	257.506	257.306	257.112	260.215
.22090E+08	259.225	259.028	257.728	257.529	257.336	260.421
.25246E+08	259.370	259.173	257.879	257.681	257.488	260.558
.28402E+08	259.457	259.260	257.971	257.774	257.582	260.637
.31558E+08	259.502	259.307	258.022	257.825	257.635	260.677
.63115E+08	258.851	258.662	257.421	257.231	257.047	259.993
.94673E+08	257.233	257.050	255.846	255.662	255.483	258.366
.12623E+09	255.356	255.178	254.006	253.827	253.654	256.489
.15779E+09	253.522	253.349	252.205	252.030	251.861	254.656
.18935E+09	251.353	251.184	250.069	249.899	249.734	252.492
.22090E+09	249.370	249.206	248.115	247.949	247.789	250.513
.25246E+09	247.492	247.331	246.264	246.102	245.945	248.636
.28402E+09	245.289	245.131	244.086	243.927	243.774	246.441
.31558E+09	243.414	243.259	242.232	242.076	241.926	244.572
.63115E+09	224.497	224.370	223.510	223.382	223.258	225.693
.94673E+09	208.112	208.005	207.272	207.164	207.060	209.312
.12623E+10	193.715	193.624	192.988	192.896	192.808	194.894
.15779E+10	181.257	181.179	180.624	180.545	180.469	182.388
.18935E+10	170.996	170.927	170.437	170.368	170.301	172.077
.22090E+10	162.317	162.256	161.820	161.759	161.700	163.345
.25246E+10	154.646	154.591	154.199	154.144	154.091	155.628
.28402E+10	148.560	148.511	148.153	148.103	148.055	149.496
.31558E+10	143.072	143.026	142.699	142.654	142.610	143.956
.63115E+10	116.063	116.037	115.844	115.818	115.793	116.672
.94673E+10	105.621	105.601	105.454	105.434	105.415	106.114
.12623E+11	99.5208	99.5047	99.3836	99.3674	99.3519	99.9409
.15779E+11	95.2910	95.2772	95.1730	95.1591	95.1457	95.6594
.18935E+11	91.6226	91.6105	91.5195	91.5074	91.4957	91.9499
.22090E+11	88.6659	88.6551	88.5741	88.5633	88.5530	88.9612
.25246E+11	86.0878	86.0781	86.0057	85.9961	85.9868	86.3553
.28402E+11	83.9232	83.9144	83.8489	83.8401	83.8317	84.1680
.31558E+11	82.1010	82.0930	82.0330	82.0249	82.0173	82.3270

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:52 APR 11, 1995 CP= 107287.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2707 TEMP c11i135	2723 TEMP h11o135	2660 TEMP s11o135	2768 TEMP s11o135	2786 TEMP t11o135	4344 TEMP g11i135
.10000E-05	230.607	220.467	208.509	208.311	208.135	169.569
.20000E-05	244.728	234.808	223.238	223.043	222.870	186.832
31.558	244.728	234.808	223.238	223.043	222.870	186.832
.31558E+07	254.871	245.138	233.874	233.682	233.511	199.300
.63116E+07	256.895	247.229	236.057	235.866	235.696	201.926
.94673E+07	257.962	248.350	237.247	237.056	236.887	203.432
.12623E+08	258.581	249.020	237.981	237.792	237.623	204.434
.15779E+08	259.079	249.563	238.580	238.391	238.223	205.254
.18935E+08	259.360	249.887	238.957	238.769	238.602	205.834
.22090E+08	259.567	250.135	239.254	239.067	238.901	206.318
.25246E+08	259.704	250.312	239.479	239.293	239.128	206.717
.28402E+08	259.785	250.432	239.644	239.459	239.294	207.044
.31558E+08	259.827	250.510	239.767	239.582	239.418	207.321
.63115E+08	259.175	250.168	239.792	239.614	239.455	208.546
.94673E+08	257.585	248.833	238.755	238.582	238.429	208.410
.12623E+09	255.745	247.212	237.390	237.221	237.072	207.784
.15779E+09	253.946	245.602	235.997	235.832	235.687	207.009
.18935E+09	251.818	243.667	234.281	234.121	233.979	205.902
.22090E+09	249.871	241.888	232.692	232.536	232.397	204.833
.25246E+09	248.024	240.200	231.180	231.027	230.891	203.809
.28402E+09	245.860	238.181	229.322	229.172	229.039	202.368
.31558E+09	244.018	236.460	227.735	227.588	227.457	201.130
.63115E+09	225.376	218.964	211.503	211.380	211.271	188.253
.94673E+09	209.162	203.626	197.138	197.035	196.942	176.543
.12623E+10	194.851	189.996	184.284	184.194	184.114	165.809
.15779E+10	182.420	178.147	173.094	173.016	172.946	156.495
.18935E+10	172.159	168.351	163.828	163.759	163.698	148.790
.22090E+10	163.460	160.037	155.956	155.895	155.840	142.252
.25246E+10	155.767	152.659	148.940	148.885	148.836	136.343
.28402E+10	149.647	146.788	143.362	143.312	143.267	131.672
.31558E+10	144.112	141.483	138.328	138.282	138.241	127.486
.63115E+10	116.822	115.234	113.308	113.281	113.257	106.483
.94673E+10	106.247	105.023	103.532	103.511	103.493	98.1888
.12623E+11	100.060	99.0443	97.8052	97.7885	97.7733	93.3384
.15779E+11	95.7659	94.8880	93.8155	93.8011	93.7880	89.9306
.18935E+11	92.0463	91.2763	90.3344	90.3218	90.3104	86.9091
.22090E+11	89.0495	88.3616	87.5194	87.5082	87.4980	84.4465
.25246E+11	86.4363	85.8189	85.0623	85.0523	85.0431	82.2941
.28402E+11	84.2430	83.6820	82.9942	82.9850	82.9768	80.4713
.31558E+11	82.3967	81.8821	81.2507	81.2424	81.2348	78.9302

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:52 APR 11, 1995 CP= 107287.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5109 TEMP m11i135	4910 TEMP m11o135	5767 TEMP i11i135	5839 TEMP i11o135	6280 TEMP o11o135	102 TEMP c06i135
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.10000E-05	147.387	145.164	30.1477	28.1397	26.1409	251.797
.20000E-05	166.218	164.048	72.9928	70.9830	68.9757	265.856
31.558	166.218	164.048	72.9929	70.9830	68.9757	265.856
.31558E+07	179.869	177.749	99.2161	97.2367	95.2317	275.947
.63116E+07	182.770	180.665	104.555	102.590	100.594	277.912
.94673E+07	184.474	182.383	107.846	105.895	103.917	278.890
.12623E+08	185.642	183.564	110.286	108.347	106.385	279.431
.15779E+08	186.598	184.530	112.234	110.306	108.357	279.848
.18935E+08	187.305	185.248	113.845	111.928	109.993	280.048
.22090E+08	187.904	185.857	115.229	113.322	111.399	280.175
.25246E+08	188.408	186.371	116.440	114.543	112.632	280.235
.28402E+08	188.835	186.807	117.511	115.624	113.723	280.239
.31558E+08	189.205	187.186	118.473	116.595	114.704	280.204
.63115E+08	191.155	189.211	124.643	122.842	121.033	278.880
.94673E+08	191.558	189.675	127.896	126.160	124.417	276.709
.12623E+09	191.371	189.541	129.879	128.197	126.509	274.355
.15779E+09	190.960	189.174	131.192	129.555	127.913	272.113
.18935E+09	190.210	188.469	132.050	130.459	128.863	269.529
.22090E+09	189.447	187.745	132.627	131.075	129.519	267.187
.25246E+09	188.707	187.041	133.122	131.607	130.087	264.973
.28402E+09	187.507	185.874	132.875	131.393	129.906	262.462
.31558E+09	186.470	184.866	132.627	131.172	129.712	260.329
.63115E+09	175.518	174.173	128.955	127.752	126.545	238.932
.94673E+09	165.326	164.182	124.185	123.169	122.150	220.626
.12623E+10	155.792	154.803	118.745	117.872	116.994	204.736
.15779E+10	147.530	146.667	114.118	113.363	112.602	190.991
.18935E+10	140.687	139.923	110.300	109.638	108.968	179.695
.22090E+10	134.880	134.197	107.088	106.500	105.905	170.155
.25246E+10	129.579	128.962	103.920	103.393	102.858	161.778
.28402E+10	125.406	124.841	101.517	101.037	100.549	155.128
.31558E+10	121.683	121.166	99.4711	99.0342	98.5899	149.123
.63115E+10	102.857	102.551	88.6122	88.3619	88.1085	119.743
.94673E+10	95.3580	95.1244	84.0949	83.9064	83.7156	108.467
.12623E+11	90.9763	90.7839	81.5022	81.3483	81.1924	101.884
.15779E+11	87.8794	87.7138	79.5976	79.4658	79.3322	97.3369
.18935E+11	85.1024	84.9578	77.7593	77.6446	77.5284	93.4185
.22090E+11	82.8269	82.6980	76.2054	76.1037	76.0007	90.2712
.25246E+11	80.8362	80.7209	74.8450	74.7542	74.6623	87.5295
.28402E+11	79.1434	79.0389	73.6611	73.5791	73.4960	85.2337
.31558E+11	77.7093	77.6136	72.6483	72.5734	72.4976	83.3037

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:45:53 APR 11, 1995 CP= 107287.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	102 TEMP	2289 TEMP	2498 TEMP	228 TEMP	3543 TEMP
	c14i135	c15i135	c17i135	c22i135	c23i135
.10000E-05	251.797	246.332	240.770	235.189	226.597
.20000E-05	265.856	260.410	254.886	249.325	240.890
31.558	265.856	260.410	254.886	249.325	240.890
.31558E+07	275.947	270.525	264.998	259.540	251.214
.63116E+07	277.912	272.504	266.993	261.556	253.276
.94673E+07	278.890	273.505	268.017	262.605	254.371
.12623E+08	279.431	274.066	268.598	263.208	255.014
.15779E+08	279.848	274.503	269.057	263.689	255.533
.18935E+08	280.048	274.725	269.300	263.952	255.832
.22090E+08	280.175	274.872	269.468	264.142	256.056
.25246E+08	280.235	274.952	269.568	264.263	256.210
.28402E+08	280.239	274.976	269.612	264.327	256.306
.31558E+08	280.204	274.961	269.617	264.352	256.363
.63115E+08	278.880	273.812	268.643	263.552	255.827
.94673E+08	276.709	271.792	266.775	261.833	254.329
.12623E+09	274.355	269.573	264.688	259.878	252.564

.15779E+09	272.113	267.447	262.678	257.981	250.829
.18935E+09	269.529	264.982	260.332	255.751	248.765
.22090E+09	267.187	262.745	258.196	253.716	246.874
.25246E+09	264.973	260.628	256.174	251.787	245.080
.28402E+09	262.462	258.208	253.843	249.542	242.963
.31558E+09	260.329	256.151	251.860	247.632	241.160
.63115E+09	238.932	235.464	231.883	228.360	222.896
.94673E+09	220.626	217.699	214.661	211.670	206.975
.12623E+10	204.736	202.220	199.593	197.001	192.897
.15779E+10	190.991	188.810	186.526	184.273	180.676
.18935E+10	179.695	177.779	175.766	173.781	170.589
.22090E+10	170.155	168.455	166.664	164.897	162.038
.25246E+10	161.778	160.252	158.642	157.052	154.465
.28402E+10	155.128	153.740	152.270	150.817	148.441
.31558E+10	149.123	147.853	146.508	145.178	142.997
.63115E+10	119.743	119.005	118.215	117.435	116.131
.94673E+10	108.467	107.906	107.305	106.711	105.710
.12623E+11	101.884	101.424	100.929	100.440	99.6115
.15779E+11	97.3369	96.9403	96.5140	96.0924	95.3771
.18935E+11	93.4185	93.0720	92.6994	92.3310	91.7043
.22090E+11	90.2712	89.9627	89.6308	89.3026	88.7433
.25246E+11	87.5295	87.2534	86.9564	86.6627	86.1611
.28402E+11	85.2337	84.9836	84.7142	84.4480	83.9926
.31558E+11	83.3037	83.0747	82.8280	82.5844	82.1668

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= t02i000

*** WARNING *** CP= 107287.990 TIME= 11:45:53
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 253 ITEM= TEMP COMP= NAME= a02i000

VARIABLE 4 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02i000

VARIABLE 5 IS AT NODE 4 ITEM= TEMP COMP= NAME= h02i000

VARIABLE 6 IS AT NODE 6 ITEM= TEMP COMP= NAME= c02i000

VARIABLE 7 IS AT NODE 8 ITEM= TEMP COMP= NAME= h02o000

VARIABLE 8 IS AT NODE 2 ITEM= TEMP COMP= NAME= s02o000

VARIABLE 9 IS AT NODE 263 ITEM= TEMP COMP= NAME= a02o000

VARIABLE 10 IS AT NODE 459 ITEM= TEMP COMP= NAME= t08i000

VARIABLE 11 IS AT NODE 669 ITEM= TEMP COMP= NAME= a08i000

VARIABLE 12 IS AT NODE 623 ITEM= TEMP COMP= NAME= s08i000

VARIABLE 13 IS AT NODE 626 ITEM= TEMP COMP= NAME= h08i000

VARIABLE 14 IS AT NODE 628 ITEM= TEMP COMP= NAME= c08i000

VARIABLE 15 IS AT NODE 630 ITEM= TEMP COMP= NAME= h08o000

VARIABLE 16 IS AT NODE 624 ITEM= TEMP COMP= NAME= s08o000

VARIABLE 17 IS AT NODE 688 ITEM= TEMP COMP= NAME= a08o000

VARIABLE 18 IS AT NODE 698 ITEM= TEMP COMP= NAME= t18i000

VARIABLE 19 IS AT NODE 782 ITEM= TEMP COMP= NAME= a18i000

VARIABLE 20 IS AT NODE 736 ITEM= TEMP COMP= NAME= s18i000

VARIABLE 21 IS AT NODE 739 ITEM= TEMP COMP= NAME= h18i000
 VARIABLE 22 IS AT NODE 741 ITEM= TEMP COMP= NAME= c18i000
 VARIABLE 23 IS AT NODE 743 ITEM= TEMP COMP= NAME= h18o000
 VARIABLE 24 IS AT NODE 737 ITEM= TEMP COMP= NAME= s18o000
 VARIABLE 25 IS AT NODE 801 ITEM= TEMP COMP= NAME= a18o000
 VARIABLE 26 IS AT NODE 811 ITEM= TEMP COMP= NAME= t24i000
 VARIABLE 27 IS AT NODE 351 ITEM= TEMP COMP= NAME= a24i000
 VARIABLE 28 IS AT NODE 127 ITEM= TEMP COMP= NAME= s24i000
 VARIABLE 29 IS AT NODE 130 ITEM= TEMP COMP= NAME= h24i000
 VARIABLE 30 IS AT NODE 132 ITEM= TEMP COMP= NAME= c24i000
 VARIABLE 31 IS AT NODE 134 ITEM= TEMP COMP= NAME= h24o000
 VARIABLE 32 IS AT NODE 128 ITEM= TEMP COMP= NAME= s24o000
 VARIABLE 33 IS AT NODE 361 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4271 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4269 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5135 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4872 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5728 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5727 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6241 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	82.69	.3156E+11	273.0	.2840E+08
3	NSOL	253 TEMP	a02i000	82.69	.3156E+11	273.0	.2840E+08
4	NSOL	1 TEMP	s02i000	82.69	.3156E+11	273.1	.2840E+08
5	NSOL	4 TEMP	h02i000	83.24	.3156E+11	280.4	.2840E+08
6	NSOL	6 TEMP	c02i000	83.38	.3156E+11	282.0	.2525E+08
7	NSOL	8 TEMP	h02o000	83.19	.3156E+11	279.2	.2840E+08
8	NSOL	2 TEMP	s02o000	82.58	.3156E+11	270.6	.3156E+08
9	NSOL	263 TEMP	a02o000	82.57	.3156E+11	270.5	.3156E+08
10	NSOL	459 TEMP	t08i000	82.57	.3156E+11	270.5	.3156E+08
11	NSOL	669 TEMP	a08i000	82.57	.3156E+11	270.5	.3156E+08
12	NSOL	623 TEMP	s08i000	82.57	.3156E+11	270.5	.3156E+08
13	NSOL	626 TEMP	h08i000	83.07	.3156E+11	276.6	.2840E+08
14	NSOL	628 TEMP	c08i000	83.16	.3156E+11	277.1	.2840E+08
15	NSOL	630 TEMP	h08o000	82.91	.3156E+11	273.1	.2840E+08
16	NSOL	624 TEMP	s08o000	82.25	.3156E+11	263.1	.3156E+08
17	NSOL	688 TEMP	a08o000	82.24	.3156E+11	263.0	.3156E+08
18	NSOL	698 TEMP	t18i000	82.24	.3156E+11	263.0	.3156E+08
19	NSOL	782 TEMP	a18i000	82.24	.3156E+11	263.0	.3156E+08
20	NSOL	736 TEMP	s18i000	82.25	.3156E+11	263.1	.3156E+08
21	NSOL	739 TEMP	h18i000	82.68	.3156E+11	268.1	.3156E+08
22	NSOL	741 TEMP	c18i000	82.71	.3156E+11	267.3	.3156E+08
23	NSOL	743 TEMP	h18o000	82.40	.3156E+11	261.8	.3156E+08
24	NSOL	737 TEMP	s18o000	81.66	.3156E+11	250.0	.3156E+08
25	NSOL	801 TEMP	a18o000	81.65	.3156E+11	249.8	.3156E+08

26	NSOL	811	TEMP	t24i000	81.65	.3156E+11	249.8	.3156E+08
27	NSOL	351	TEMP	a24i000	81.65	.3156E+11	249.8	.3156E+08
28	NSOL	127	TEMP	s24i000	81.65	.3156E+11	249.8	.3156E+08
29	NSOL	130	TEMP	h24i000	81.90	.3156E+11	252.1	.3156E+08
30	NSOL	132	TEMP	c24i000	81.72	.3156E+11	248.2	.3156E+08
31	NSOL	134	TEMP	h24o000	81.11	.3156E+11	238.1	.6312E+08
32	NSOL	128	TEMP	s24o000	79.87	.3156E+11	218.8	.6312E+08
33	NSOL	361	TEMP	t24o000	79.85	.3156E+11	218.5	.6312E+08
34	NSOL	4271	TEMP	g24i000	78.92	.3156E+11	205.8	.6312E+08
35	NSOL	4269	TEMP	g24o000	78.91	.3156E+11	205.6	.6312E+08
36	NSOL	5135	TEMP	m24i000	78.26	.3156E+11	195.5	.9467E+08
37	NSOL	4872	TEMP	m24o000	78.20	.3156E+11	194.2	.9467E+08
38	NSOL	5728	TEMP	i24i000	29.83	.1000E-05	132.5	.2525E+09
39	NSOL	5727	TEMP	i24o000	28.10	.1000E-05	131.1	.2525E+09
40	NSOL	6241	TEMP	o24o000	26.14	.1000E-05	129.6	.2525E+09
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	130.5	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:00 APR 11, 1995 CP= 107295.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	253 TEMP a02i000	1 TEMP s02i000	4 TEMP h02i000	6 TEMP c02i000	8 TEMP h02o000
.10000E-05	243.276	243.279	243.390	251.709	253.632	250.465
.20000E-05	257.841	257.844	257.954	265.872	267.686	264.635
31.558	257.841	257.844	257.954	265.872	267.686	264.635
.31558E+07	268.347	268.350	268.458	276.051	277.768	274.793
.63116E+07	270.415	270.418	270.524	278.033	279.729	276.779
.94673E+07	271.451	271.454	271.560	279.017	280.699	277.767
.12623E+08	272.047	272.050	272.155	279.563	281.234	278.318
.15779E+08	272.504	272.507	272.612	279.981	281.643	278.741
.18935E+08	272.743	272.746	272.851	280.184	281.837	278.948
.22090E+08	272.904	272.907	273.011	280.311	281.957	279.080
.25246E+08	272.995	272.998	273.102	280.371	282.009	279.144
.28402E+08	273.029	273.032	273.135	280.375	282.007	279.153
.31558E+08	273.022	273.025	273.128	280.340	281.965	279.122
.63115E+08	271.915	271.918	272.017	279.007	280.583	277.828
.94673E+08	269.903	269.906	270.002	276.821	278.361	275.676
.12623E+09	267.679	267.682	267.776	274.452	275.962	273.337
.15779E+09	265.545	265.548	265.640	272.196	273.681	271.107
.18935E+09	263.067	263.069	263.159	269.595	271.056	268.534
.22090E+09	260.816	260.819	260.907	267.240	268.679	266.202
.25246E+09	258.688	258.690	258.776	265.013	266.433	263.997
.28402E+09	256.247	256.250	256.334	262.487	263.891	261.492
.31558E+09	254.174	254.177	254.260	260.343	261.732	259.365
.63115E+09	233.408	233.410	233.480	238.851	240.097	238.036
.94673E+09	215.635	215.636	215.696	220.486	221.609	219.794
.12623E+10	200.176	200.178	200.230	204.556	205.581	203.960
.15779E+10	186.850	186.851	186.897	190.793	191.724	190.275
.18935E+10	175.909	175.910	175.951	179.488	180.338	179.032
.22090E+10	166.678	166.679	166.716	169.946	170.726	169.540
.25246E+10	158.558	158.559	158.591	161.568	162.290	161.203
.28402E+10	152.121	152.122	152.152	154.921	155.595	154.588
.31558E+10	146.322	146.322	146.350	148.921	149.549	148.616
.63115E+10	117.953	117.953	117.969	119.590	119.991	119.412
.94673E+10	107.055	107.055	107.067	108.339	108.655	108.203
.12623E+11	100.698	100.698	100.709	101.773	102.039	101.661
.15779E+11	96.3039	96.3041	96.3130	97.2386	97.4699	97.1421
.18935E+11	92.5071	92.5073	92.5150	93.3307	93.5348	93.2463
.22090E+11	89.4531	89.4533	89.4602	90.1915	90.3747	90.1163
.25246E+11	86.7921	86.7923	86.7985	87.4570	87.6221	87.3897
.28402E+11	84.5615	84.5616	84.5672	85.1671	85.3176	85.1061

1 .31558E+11 82.6853 82.6854 82.6906 83.2421 83.3806 83.1862

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP s02o000	263 TEMP a02o000	459 TEMP t08i000	669 TEMP a08i000	623 TEMP s08i000	626 TEMP h08i000
.10000E-05	240.784	240.660	240.655	240.646	240.745	247.873
.20000E-05	255.361	255.239	255.234	255.225	255.322	262.060
31.558	255.361	255.239	255.234	255.225	255.322	262.060
.31558E+07	265.827	265.706	265.701	265.692	265.787	272.207
.63116E+07	267.901	267.780	267.776	267.766	267.860	274.199
.94673E+07	268.948	268.828	268.823	268.814	268.907	275.199
.12623E+08	269.553	269.433	269.429	269.419	269.512	275.759
.15779E+08	270.020	269.901	269.896	269.887	269.980	276.192
.18935E+08	270.268	270.150	270.145	270.136	270.228	276.409
.22090E+08	270.439	270.321	270.316	270.307	270.399	276.551
.25246E+08	270.539	270.422	270.417	270.408	270.500	276.624
.28402E+08	270.582	270.465	270.461	270.452	270.543	276.642
.31558E+08	270.585	270.468	270.464	270.454	270.545	276.621
.63115E+08	269.557	269.445	269.440	269.431	269.519	275.409
.94673E+08	267.615	267.505	267.501	267.493	267.578	273.329
.12623E+09	265.452	265.345	265.341	265.333	265.416	271.052
.15779E+09	263.371	263.267	263.263	263.254	263.336	268.876
.18935E+09	260.947	260.845	260.841	260.834	260.913	266.359
.22090E+09	258.743	258.644	258.640	258.633	258.711	264.076
.25246E+09	256.659	256.562	256.558	256.551	256.627	261.916
.28402E+09	254.261	254.166	254.163	254.155	254.230	259.455
.31558E+09	252.224	252.130	252.127	252.119	252.193	257.364
.63115E+09	231.787	231.709	231.706	231.701	231.763	236.367
.94673E+09	214.263	214.196	214.193	214.189	214.243	218.381
.12623E+10	198.996	198.938	198.936	198.932	198.979	202.742
.15779E+10	185.826	185.776	185.774	185.770	185.812	189.216
.18935E+10	175.008	174.963	174.961	174.958	174.995	178.099
.22090E+10	165.877	165.837	165.836	165.833	165.866	168.711
.25246E+10	157.838	157.802	157.801	157.799	157.829	160.458
.28402E+10	151.465	151.433	151.431	151.429	151.457	153.909
.31558E+10	145.723	145.693	145.692	145.690	145.715	147.995
.63115E+10	117.602	117.585	117.584	117.583	117.598	119.048
.94673E+10	106.788	106.775	106.774	106.773	106.785	107.926
.12623E+11	100.479	100.468	100.467	100.467	100.476	101.434
.15779E+11	96.1152	96.1056	96.1053	96.1048	96.1130	96.9460
.18935E+11	92.3423	92.3339	92.3336	92.3332	92.3403	93.0750
.22090E+11	89.3064	89.2989	89.2987	89.2983	89.3046	89.9638
.25246E+11	86.6608	86.6541	86.6539	86.6535	86.6592	87.2532
.28402E+11	84.4424	84.4363	84.4361	84.4358	84.4410	84.9823
.31558E+11	82.5762	82.5707	82.5705	82.5702	82.5749	83.0728

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	628 TEMP c08i000	630 TEMP h08o000	624 TEMP s08o000	688 TEMP a08o000	698 TEMP t18i000	782 TEMP a18i000
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.10000E-05	248.617	244.185	233.014	232.877	232.871	232.850
.20000E-05	262.702	258.396	247.633	247.497	247.491	247.469
31.558	262.702	258.396	247.633	247.497	247.491	247.469
.31558E+07	272.760	268.543	258.114	257.979	257.973	257.951
.63116E+07	274.734	270.546	260.214	260.080	260.074	260.051
.94673E+07	275.725	271.561	261.296	261.162	261.156	261.134
.12623E+08	276.278	272.135	261.932	261.799	261.793	261.771
.15779E+08	276.706	272.583	262.431	262.298	262.292	262.270
.18935E+08	276.919	272.814	262.710	262.578	262.572	262.550
.22090E+08	277.058	272.970	262.911	262.780	262.773	262.752
.25246E+08	277.129	273.058	263.041	262.910	262.904	262.883
.28402E+08	277.144	273.089	263.113	262.983	262.977	262.955
.31558E+08	277.121	273.081	263.145	263.015	263.009	262.987
.63115E+08	275.897	271.986	262.368	262.243	262.237	262.216
.94673E+08	273.812	270.007	260.642	260.520	260.515	260.494
.12623E+09	271.534	267.820	258.669	258.550	258.545	258.525
.15779E+09	269.358	265.721	256.752	256.636	256.631	256.612
.18935E+09	266.841	263.283	254.497	254.384	254.379	254.361
.22090E+09	264.558	261.069	252.440	252.330	252.325	252.307
.25246E+09	262.399	258.974	250.492	250.385	250.380	250.362
.28402E+09	259.941	256.574	248.224	248.119	248.114	248.097
.31558E+09	257.852	254.533	246.294	246.191	246.186	246.169
.63115E+09	236.859	234.010	226.867	226.781	226.777	226.764
.94673E+09	218.865	216.385	210.101	210.028	210.025	210.013
.12623E+10	203.215	201.021	195.416	195.352	195.350	195.340
.15779E+10	189.667	187.722	182.722	182.667	182.665	182.657
.18935E+10	178.527	176.784	172.278	172.229	172.227	172.220
.22090E+10	169.115	167.541	163.452	163.408	163.407	163.400
.25246E+10	160.842	159.407	155.661	155.622	155.620	155.615
.28402E+10	154.275	152.951	149.482	149.447	149.445	149.440
.31558E+10	148.341	147.119	143.911	143.879	143.878	143.873
.63115E+10	119.284	118.536	116.546	116.527	116.527	116.524
.94673E+10	108.116	107.537	105.986	105.972	105.971	105.969
.12623E+11	101.596	101.114	99.8200	99.8080	99.8076	99.8060
.15779E+11	97.0881	96.6703	95.5481	95.5378	95.5374	95.5361
.18935E+11	93.2011	92.8340	91.8469	91.8379	91.8376	91.8364
.22090E+11	90.0775	89.7492	88.8653	88.8574	88.8571	88.8560
.25246E+11	87.3561	87.0611	86.2661	86.2590	86.2587	86.2578
.28402E+11	85.0764	84.8082	84.0846	84.0782	84.0779	84.0771
.31558E+11	83.1597	82.9134	82.2487	82.2428	82.2426	82.2418

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	736 TEMP s18i000	739 TEMP h18i000	741 TEMP c18i000	743 TEMP h18o000	737 TEMP s18o000	801 TEMP a18o000
.10000E-05	232.937	238.926	238.384	232.381	219.107	218.951
.20000E-05	247.554	253.166	252.532	246.663	233.846	233.692
31.558	247.554	253.166	252.532	246.663	233.846	233.692
.31558E+07	258.034	263.335	262.630	256.882	244.423	244.270
.63116E+07	260.134	265.355	264.635	258.926	246.576	246.424
.94673E+07	261.216	266.392	265.670	259.993	247.723	247.571
.12623E+08	261.852	266.986	266.261	260.613	248.417	248.266
.15779E+08	262.351	267.455	266.729	261.107	248.974	248.823
.18935E+08	262.630	267.706	266.981	261.384	249.310	249.160
.22090E+08	262.832	267.882	267.158	261.585	249.566	249.417
.25246E+08	262.962	267.989	267.267	261.717	249.750	249.602
.28402E+08	263.035	268.040	267.320	261.792	249.875	249.727
.31558E+08	263.066	268.051	267.334	261.827	249.959	249.811
.63115E+08	262.293	267.123	266.432	261.106	249.633	249.490

.94673E+08	260.569	265.287	264.626	259.449	248.290	248.152
.12623E+09	258.598	263.227	262.594	257.546	246.655	246.520
.15779E+09	256.683	261.238	260.630	255.690	245.028	244.897
.18935E+09	254.430	258.913	258.331	253.502	243.072	242.944
.22090E+09	252.375	256.796	256.237	251.504	241.274	241.149
.25246E+09	250.429	254.791	254.253	249.608	239.567	239.445
.28402E+09	248.162	252.475	251.958	247.395	237.525	237.406
.31558E+09	246.234	250.503	250.004	245.512	235.785	235.668
.63115E+09	226.819	230.655	230.318	226.496	218.124	218.027
.94673E+09	210.061	213.541	213.319	210.012	202.690	202.607
.12623E+10	195.382	198.565	198.422	195.513	189.026	188.955
.15779E+10	182.694	185.589	185.502	182.936	177.173	177.111
.18935E+10	172.253	174.906	174.858	172.568	167.392	167.338
.22090E+10	163.430	165.871	165.851	163.790	159.105	159.057
.25246E+10	155.642	157.906	157.907	156.035	151.755	151.711
.28402E+10	149.465	151.582	151.597	149.872	145.920	145.880
.31558E+10	143.896	145.866	145.890	144.302	140.655	140.619
.63115E+10	116.538	117.802	117.848	116.885	114.641	114.620
.94673E+10	105.980	106.979	107.024	106.280	104.537	104.521
.12623E+11	99.8147	100.655	100.696	100.080	98.6283	98.6152
.15779E+11	95.5436	96.2749	96.3132	95.7796	94.5220	94.5107
.18935E+11	91.8430	92.4885	92.5238	92.0555	90.9502	90.9404
.22090E+11	88.8619	89.4415	89.4742	89.0557	88.0668	88.0580
.25246E+11	86.2630	86.7856	86.8160	86.4403	85.5513	85.5435
.28402E+11	84.0818	84.5585	84.5868	84.2453	83.4367	83.4296
.31558E+11	82.2461	82.6847	82.7112	82.3979	81.6554	81.6489

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.690
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	811 TEMP t24i000	351 TEMP a24i000	127 TEMP s24i000	130 TEMP h24i000	132 TEMP c24i000	134 TEMP h24o000
.10000E-05	218.943	218.896	218.955	221.936	217.784	206.379
.20000E-05	233.684	233.637	233.694	236.390	232.293	221.311
.31558E+07	244.261	244.215	244.270	246.749	242.690	232.017
.63116E+07	246.415	246.369	246.423	248.847	244.804	234.219
.94673E+07	247.563	247.517	247.570	249.970	245.948	235.434
.12623E+08	248.258	248.212	248.265	250.638	246.634	236.182
.15779E+08	248.815	248.769	248.822	251.179	247.192	236.795
.18935E+08	249.151	249.106	249.159	251.499	247.530	237.184
.22090E+08	249.409	249.363	249.416	251.742	247.790	237.493
.25246E+08	249.594	249.548	249.601	251.915	247.979	237.728
.28402E+08	249.719	249.674	249.726	252.029	248.109	237.902
.31558E+08	249.803	249.758	249.810	252.102	248.197	238.033
.63115E+08	249.482	249.439	249.489	251.707	247.934	238.118
.94673E+08	248.145	248.103	248.152	250.319	246.657	237.121
.12623E+09	246.513	246.472	246.520	248.649	245.085	235.786
.15779E+09	244.890	244.850	244.897	246.996	243.515	234.417
.18935E+09	242.937	242.899	242.944	245.014	241.619	232.725
.22090E+09	241.142	241.105	241.149	243.195	239.875	231.156
.25246E+09	239.439	239.402	239.446	241.469	238.218	229.663
.28402E+09	237.400	237.364	237.407	239.414	236.227	227.820
.31558E+09	235.661	235.626	235.669	237.662	234.530	226.246
.63115E+09	218.022	217.993	218.029	219.885	217.262	210.152
.94673E+09	202.603	202.579	202.611	204.342	202.103	195.896
.12623E+10	188.951	188.930	188.958	190.567	188.625	183.144
.15779E+10	177.108	177.090	177.115	178.607	176.917	172.061
.18935E+10	167.335	167.319	167.342	168.731	167.242	162.892
.22090E+10	159.055	159.041	159.061	160.357	159.031	155.104
.25246E+10	151.709	151.697	151.715	152.931	151.736	148.151

.28402E+10	145.878	145.867	145.884	147.025	145.931	142.626
.31558E+10	140.618	140.607	140.623	141.690	140.688	137.641
.63115E+10	114.619	114.613	114.623	115.329	114.740	112.875
.94673E+10	104.520	104.516	104.523	105.088	104.640	103.195
.12623E+11	98.6145	98.6107	98.6169	99.0937	98.7245	97.5235
.15779E+11	94.5102	94.5069	94.5122	94.9285	94.6104	93.5704
.18935E+11	90.9399	90.9370	90.9417	91.3103	91.0323	90.1190
.22090E+11	88.0576	88.0551	88.0592	88.3910	88.1433	87.3267
.25246E+11	85.5431	85.5408	85.5446	85.8444	85.6227	84.8892
.28402E+11	83.4293	83.4272	83.4306	83.7045	83.5036	82.8367
.31558E+11	81.6486	81.6467	81.6498	81.9022	81.7182	81.1060

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	128 TEMP s24o000	361 TEMP t24o000	4271 TEMP g24i000	4269 TEMP g24o000	5135 TEMP m24i000	4872 TEMP m24o000
.10000E-05	183.327	182.997	167.153	166.883	154.221	152.711
.20000E-05	199.319	198.999	184.196	183.931	171.945	170.456
31.558	199.319	198.999	184.196	183.931	171.945	170.456
.31558E+07	210.825	210.513	196.453	196.192	184.707	183.241
.63116E+07	213.245	212.935	199.059	198.801	187.443	185.986
.94673E+07	214.617	214.309	200.565	200.308	189.049	187.600
.12623E+08	215.508	215.202	201.569	201.314	190.139	188.698
.15779E+08	216.239	215.934	202.394	202.140	191.036	189.602
.18935E+08	216.740	216.437	202.982	202.729	191.692	190.265
.22090E+08	217.153	216.851	203.474	203.222	192.247	190.826
.25246E+08	217.486	217.185	203.880	203.629	192.712	191.298
.28402E+08	217.753	217.453	204.216	203.966	193.104	191.696
.31558E+08	217.973	217.675	204.502	204.253	193.443	192.041
.63115E+08	218.776	218.488	205.817	205.577	195.181	193.830
.94673E+08	218.342	218.063	205.768	205.536	195.460	194.150
.12623E+09	217.480	217.209	205.223	204.997	195.188	193.914
.15779E+09	216.511	216.246	204.518	204.297	194.712	193.469
.18935E+09	215.219	214.960	203.486	203.270	193.907	192.695
.22090E+09	213.993	213.740	202.483	202.272	193.100	191.915
.25246E+09	212.821	212.573	201.519	201.313	192.318	191.158
.28402E+09	211.263	211.020	200.139	199.937	191.098	189.962
.31558E+09	209.927	209.688	198.952	198.753	190.045	188.928
.63115E+09	196.092	195.890	186.546	186.378	178.908	177.973
.94673E+09	183.622	183.448	175.193	175.050	168.540	167.747
.12623E+10	172.277	172.125	164.729	164.605	158.850	158.165
.15779E+10	162.406	162.273	155.628	155.520	150.412	149.818
.18935E+10	154.220	154.102	148.080	147.985	143.401	142.876
.22090E+10	147.257	147.152	141.662	141.577	137.432	136.964
.25246E+10	140.991	140.896	135.850	135.773	131.990	131.568
.28402E+10	136.019	135.932	131.249	131.178	127.689	127.303
.31558E+10	131.545	131.464	127.121	127.057	123.838	123.485
.63115E+10	109.125	109.077	106.342	106.304	104.331	104.124
.94673E+10	100.283	100.246	98.1047	98.0754	96.5471	96.3894
.12623E+11	95.1022	95.0717	93.2808	93.2567	91.9867	91.8571
.15779E+11	91.4729	91.4465	89.8882	89.8674	88.7679	88.6566
.18935E+11	88.2761	88.2530	86.8780	86.8599	85.8940	85.7970
.22090E+11	85.6780	85.6575	84.4231	84.4070	83.5430	83.4567
.25246E+11	83.4075	83.3891	82.2765	82.2621	81.4858	81.4087
.28402E+11	81.4891	81.4724	80.4579	80.4448	79.7389	79.6691
.31558E+11	79.8686	79.8533	78.9197	78.9078	78.2596	78.1957

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:01 APR 11, 1995 CP= 107295.720

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5728 TEMP	5727 TEMP	6241 TEMP
	i24i000	i24o000	o24o000
.10000E-05	29.8292	28.0993	26.1409
.20000E-05	72.6512	70.9236	68.9605
31.558	72.6512	70.9236	68.9605
.31558E+07	98.3786	96.6613	94.6653
.63116E+07	103.717	102.013	100.024
.94673E+07	107.012	105.320	103.350
.12623E+08	109.457	107.777	105.823
.15779E+08	111.410	109.739	107.798
.18935E+08	113.026	111.365	109.438
.22090E+08	114.414	112.762	110.848
.25246E+08	115.630	113.986	112.083
.28402E+08	116.705	115.070	113.178
.31558E+08	117.671	116.044	114.162
.63115E+08	123.874	122.312	120.512
.94673E+08	127.152	125.646	123.911
.12623E+09	129.156	127.697	126.015
.15779E+09	130.487	129.067	127.430
.18935E+09	131.363	129.981	128.390
.22090E+09	131.955	130.606	129.053
.25246E+09	132.463	131.146	129.628
.28402E+09	132.233	130.944	129.459
.31558E+09	131.998	130.731	129.273
.63115E+09	128.430	127.379	126.168
.94673E+09	123.736	122.845	121.818
.12623E+10	118.357	117.589	116.702
.15779E+10	113.777	113.111	112.340
.18935E+10	109.996	109.410	108.730
.22090E+10	106.813	106.292	105.686
.25246E+10	103.670	103.203	102.657
.28402E+10	101.285	100.860	100.362
.31558E+10	99.2562	98.8678	98.4140
.63115E+10	88.4782	88.2547	87.9947
.94673E+10	83.9889	83.8204	83.6240
.12623E+11	81.4125	81.2748	81.1141
.15779E+11	79.5192	79.4012	79.2634
.18935E+11	77.6905	77.5879	77.4681
.22090E+11	76.1439	76.0529	75.9466
.25246E+11	74.7892	74.7080	74.6130
.28402E+11	73.6100	73.5365	73.4506
.31558E+11	72.6006	72.5336	72.4551

***** ROUTINE COMPLETED ***** CP = 107295.730

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40j1.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 20
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*-----*
                ANSYS RUN COMPLETED
-----*
      REV. 5.0 A                      HP 9000/7XX
CP TIME      (sec) =    107302.200    TIME = 11:46:07
ELAPSED TIME (sec) =    114685.000    DATE  = 04/11/95
*-----*
```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ma40h1
 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 03/07/1995
 3 /COM, 2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz
 4 /COM, *****
 5 /COM, *
 6 /COM, * File name: ma40h1.inp *
 7 /COM, * 40 BWR MPC 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 (check for Changes) *
 13 /COM, * GE-7 8x8 SNF Assembly *
 14 /COM, *
 15 /COM, * SNF Heat Loads file: bwr1049.dat *
 16 /COM, * SNF Type: 10 years old, 49 Gwd/MTU *
 17 /COM, *
 18 /COM, * Surface Temp. file: c21h5a.parm *

```

19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 90.0 m *
22 /COM, *      WP c/c spacing = 16.165 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Define Transient time parameters
33 /COM, TM_START = start time (sec)
34 /COM, TMI* = time increment for solution (sec)
35 /COM, TME* = start and stop for time do-loops (sec)
36 /COM, Note: 1 year = 3.15576e7 seconds
37 /COM, TMTMAX = time of maximum cladding temperature
38 TM_START=(1.0E-6)*(3.15576E7)
39 TMI0=0.1*3.15576E7
40 TMI1=1.0*3.15576E7
41 TMI10=10.0*3.15576E7
42 TMI100=100.0*3.15576E7
43 TMI1000=1000.0*3.15576E7
44 TME0=0.9*3.15576E7+TM_START
45 TME1=TMI1+TM_START
46 TME9=9.0*3.15576E7+TM_START
47 TME10=TMI10+TM_START
48 TME50=50.0*3.15576E7+TM_START
49 TME90=90.0*3.15576E7+TM_START
50 TME100=TMI100+TM_START
51 TME1000=TMI1000+TM_START
52 /COM,
53 /COM, *****
54 /COM, Read in average effective conductivities from SNF model
55 PARRES,CHANGE,pwr15e,param,
56 /COM, Read in surface temps. from repository model
57 PARRES,CHANGE,c21h5a,param,
58 /COM, *****
59 /COM, Define MPC/waste package parameters
60 /COM, (MPC dimensions converted from inches to meters)
61 /COM, Required Constants:
62 /COM,
63 PI=3.141592654
64 /COM,
65 /COM, Required container wall parameters:
66 /COM, MIRAD = inner radius of MPC shell (m)
67 /COM, MWALL = MPC shell thickness (m)
68 /COM, DCRAD = disposal container outer radius (m)
69 /COM, OWALL = outer barrier thickness (m)
70 /COM, IWALL = inner barrier thickness (m)
71 MIRAD=58.300*2.54/100.0/2.0
72 MWALL=1.0000*2.54/100.0
73 DCRAD=1.7016/2.0
74 OWALL=0.0500
75 IWALL=0.0200
76 /COM,
77 /COM, Required outer guide hardware parameters:
78 /COM, Set 1: TPGPL = top/bottom guide plate length (m)
79 /COM, TPGPT = top/bottom guide plate thickness (m)
80 TPGPL=6.3240*2.54/100.0
81 TPGPT=0.2500*2.54/100.0
82 /COM,
83 /COM, Set 2: SGCCW = Width; corner guide to far corner side guide (m)
84 /COM, SGCMW = Width; Side guide corner to Middle side guide (m)
85 /COM, SGCD1 = Vert. Dist. Down to Corner of Guide (m)
86 SGCCW=21.132*2.54/100.0
87 SGCMW=6.7810*2.54/100.0
88 SGCD1=6.9790*2.54/100.0

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89 /COM,
90 /COM,      SET 3:      GCORV = corner guide Vertical width (m)
91 /COM,      GCORH = corner guide Horizontal width (m)
92 /COM,      GX32 = X coord. of upper contact from drawing. (m)
93 /COM,      GY32 = Y coord. of upper contact from drawing. (m)
94 GCORV=7.7600*2.54/100.0
95 GCORH=6.7160*2.54/100.0
96 GX32=18.66137525*2.54/100.0
97 GY32=22.39365030*2.54/100.0
98 /COM,
99 /COM,      SET 4:      GLEN1 = side guide Low width (m)
100 /COM,      GLEN2 = side guide High width (m)
101 /COM,      GLENT = side guide total width (m)
102 /COM,      GWALL = guide thickness (m)
103 GLEN1=6.7290*2.54/100.0
104 GLEN2=13.937*2.54/100.0
105 GLENT=28.866*2.54/100.0
106 GWALL=0.3750*2.54/100.0
107 /COM,
108 /COM,      Required Tube/Fuel parameters:
109 /COM,      HCELL = 1/2 of basket cell opening (m)
110 /COM,      SWALL = stainless tube thickness (m)
111 /COM,      AWALL = Al/boron tube thickness (m)
112 /COM,      TWALL = stainless tube cladding thickness (m)
113 /COM,      ACTVL = active fuel length
114 /COM,      PEAKF = assembly heat axial peaking factor
115 HCELL=6.0000*2.54/100.0/2.0
116 SWALL=0.2500*2.54/100.0
117 AWALL=0.2500*2.54/100.0
118 TWALL=0.0940*2.54/100.0
119 ACTVL=150.00*2.54/100.0
120 PEAKF=1.40
121 /COM,
122 /COM,      *****
123 /COM,      Define calculated parameters
124 /COM,      ASSY = assembly heat production (W) f(yrs)
125 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
126 /COM,      FVOLUME=assy_volume=cell_width^2*active_length
127 /COM,      PITCH = basket cell outer width (m)
128 /COM,      QCELL = 1/4 of basket cell opening (m)
129 /COM,      SCELL = 1/2 of basket cell opening+SS wall(m)
130 /COM,      ACELL = 1/2 of basket cell opening+SS+AL (m)
131 /COM,      ATWCL = Dist. to edge of B-AL plate (m)
132 /COM,      STWCL = Dist. to edge of Steel Bask. Plate (m)
133 /COM,      TQPCL = Top quarter of cell dist. (m)
134 *SET,ASSY,
135 *DIM,ASSY, TABLE,101,1,
136 *DIM,FUEL, TABLE,101,1
137 FVOLUME=4*HCELL*HCELL*ACTVL
138 PITCH=(HCELL+SWALL+AWALL+TWALL)*2.0
139 QCELL=HCELL/2.0
140 SCELL=HCELL+SWALL
141 ACELL=HCELL+SWALL+AWALL
142 ATWCL=TWALL+AWALL
143 STWCL=TWALL+AWALL+SWALL
144 TQPCL=STWCL+QCELL
145 /COM,
146 /COM,      *****
147 /COM,      Determine the required contact points for the outer guide hardware
148 /COM,      GX## = x coord. of guide/shell contact
149 /COM,      GY## = y coord. of guide/shell contact
150 /COM,      Set 1:
151 GX11=TPGPL/2.0
152 GY11=SQRT(MIRAD*MIRAD - GX11*GX11)
153 /COM,
154 /COM,      Set 3:
155 GX31=GX32+GCORH-GWALL
156 GY31=GY32-GCORV+GWALL
157 /COM,
158 /COM,      Set 2:

```



```

159 GX24=GX31-SGCCW
160 GY24=SQRT(MIRAD*MIRAD-GX24*GX24)
161 GX23=GX24+GWALL
162 GY23=SQRT(MIRAD*MIRAD-GX23*GX23)
163 GX22=GX24+SGCCW
164 GY22=SQRT(MIRAD*MIRAD-GX22*GX22)
165 GX21=GX22+GWALL
166 GY21=SQRT(MIRAD*MIRAD-GX21*GX21)
167 /COM,
168 /COM,      Set 4:
169 GY41=GWALL/2.0
170 GX41=SQRT(MIRAD*MIRAD - GY41*GY41)
171 GY44=GY41+GLEN2
172 GX44=SQRT(MIRAD*MIRAD - GY44*GY44)
173 GY43=GY44-GLEN1
174 GX43=SQRT(MIRAD*MIRAD - GY43*GY43)
175 GY42=GY43-GWALL
176 GX42=SQRT(MIRAD*MIRAD - GY42*GY42)
177 /COM,
178 /COM,      Define 45 degree point of reference:
179 /COM,      MI45 = x coord. MIRAD at 45 deg.
180 /COM,      MO45 = x coord. MIRAD+MWALL at 45 deg.
181 /COM,      DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
182 /COM,      DM45 = x coord. DCRAD-OWALL at 45 deg.
183 /COM,      DO45 = x coord. DCRAD at 45 deg.
184 /COM,      OFFS = 45 degree Y off set to go through centers
185 MI45=MIRAD/SQRT(2.0)
186 MO45=(MIRAD+MWALL)/SQRT(2.0)
187 DI45=(DCRAD-OWALL-IWALL)/SQRT(2.0)
188 DM45=(DCRAD-OWALL)/SQRT(2.0)
189 DO45=DCRAD/SQRT(2.0)
190 OFFS=0.5*PITCH
191 /COM,
192 /COM,      *****
193 /COM,      Define different element types
194 /PREP7
195 ETYPE
196 ET, 1,55,
197 ET, 2,70,
198 ET, 7,32,
199 ET, 16,57,
200 ET, 17,32,
201 ET, 18,50,1,
202 ET, 19,31,
203 ET, 27,32,
204 /COM,      *****
205 /COM,      File props01.dat describes material properties
206 /COM,      and thier reference numbers
207 MPREAD,props01,dat,
208 /COM,      Read in single assembly heat loads
209 /COM,      Calculate the volumetric heat generation
210 /COM,      (Assembly time is in years, FUEL is in seconds)
211 /INPUT,bwr1049,dat
212 *VFACT,3.15576E7,
213 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
214 *VFACT,(PEAKF/FVOLUME),
215 *VFUN,FUEL(1),COPY,ASSY(1),
216 FUEL(0,1)=1.0
217 /COM,      *****
218 /COM,      Define new material 14 for SNF effective conductivity
219 /COM,      Density:      DENS      (kg/m^3)
220 /COM,      Conductivity: KXX      (W/m/K)
221 /COM,      Specific Heat: C      (J/kg/K)
222 MPTMP
223 MPTMP, 1, .00000E+00,
224 MPDATA,DENS,14, 1, .388242E+04,
225 MPDATA, C,14, 1, .28401E+03,
226 /COM,      Store average effective conductivities
227 IINC=1
228 TBSKT=25.0

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```

229 MPTEMP
230 MPTEMP,IINC,TBSKT,
231 IINC=IINC+1
232 *DO,TBSKT,50.0,400.0,50.0,
233   MPTEMP,IINC,TBSKT,
234   IINC=IINC+1
235 *ENDDO
236 IINC=1
237 TBSKT=25.0
238 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
239 IINC=IINC+1
240 *DO,TBSKT,50.0,400.0,50.0,
241   MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
242   IINC=IINC+1
243 *ENDDO
244 /COM, *****
245 /COM,      Define new material 15 for low thermal loading
246 /COM,      outer barrier of 70/30 Copper Nickel (C71500)
247 /COM,      Density:      DENS      (kg/m^3)
248 /COM,      Conductivity: KXX      (W/m/K)
249 /COM,      Specific Heat: C      (J/kg/K)
250 MPTEMP
251 MPTEMP, 1, .00000E+00,
252 /COM,      Density (lb/in^3 converted to kg/m^3)
253 MPDATA,DENS,15, 1,(0.323*2.768E+04),
254 /COM,      Specific Heat (Btu/lb/F converted to J/kg/K)
255 MPDATA, C,15, 1,(0.09/2.3886E-04),
256 /COM,      Conductivity (Btu/hr/ft/F converted to W/m/K)
257 MPTEMP
258 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
259 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
260 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
261 MPTEMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
262 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
263 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
264 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
265 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
266 /COM, *****
267 /COM,      Construct geometry for Disposal Container
268 /COM,
269 /COM,      Define center and axis keypoints for waste package
270 /COM,      Also, create placeholder keypoints and lines
271 /COM,      (K's 1,2,3,4,5,6,7,8)
272 /COM,      (L's 1,2,3,4)
273 K,1,0.0,0.0,0.0,
274 K,2,0.0,0.0,1.0,
275 K,3,0.0,0.0,1.3,
276 K,4,0.0,0.0,1.4,
277 K,5,0.0,0.0,1.5,
278 K,6,0.0,0.0,1.6,
279 K,7,0.0,0.0,1.7,
280 K,8,0.0,0.0,1.8,
281 L,3,4,
282 L,4,5,
283 L,5,6,
284 L,6,7,
285 /COM,      Define disposal container and MPC outer radius
286 /COM,      (K's 9,10,11,12,13,14,15,16,17,18,19,20)
287 /COM,      (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
288 /COM,      (A's 1,2,3,4,5)
289 K, 9,      0.0,      (0.0-DCRAD),0.0,
290 K,10,      DCRAD,      0.0,0.0,
291 K,11,      0.0,      DCRAD,0.0,
292 K,12,      0.0,      (OWALL-DCRAD),0.0,
293 K,13,      (DCRAD-OWALL),      0.0,0.0,
294 K,14,      0.0,      (DCRAD-OWALL),0.0,
295 K,15,      0.0,(OWALL+IWALL-DCRAD),0.0,
296 K,16,(DCRAD-OWALL-IWALL),      0.0,0.0,
297 K,17,      0.0,(DCRAD-OWALL-IWALL),0.0,
298 K,18,      0.0,      (0.0-MIRAD-MWALL),0.0,

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299 K,19,      (MIRAD+MWALL),      0.0,0.0,
300 K,20,      0.0,      (MIRAD+MWALL),0.0,
301 L,10,13,
302 L,13,16,
303 LARC,10, 9,1,      DCRAD,
304 LARC,11,10,1,      DCRAD,
305 LARC,13,12,1,      (DCRAD-OWALL),
306 LARC,14,13,1,      (DCRAD-OWALL),
307 L,11,14,
308 L, 9,12,
309 LARC,15,16,1,(DCRAD-OWALL-IWALL),
310 LARC,16,17,1,(DCRAD-OWALL-IWALL),
311 L,14,17,
312 L,12,15,
313 LARC,19,18,1,      (MIRAD+MWALL),
314 LARC,20,19,1,      (MIRAD+MWALL),
315 L,17,20,
316 L,15,18,
317 AL, 5, 7,12, 9,
318 AL,11, 8, 5,10,
319 AL, 6, 9,16,13,
320 AL,15,10, 6,14,
321 AL,19,14,13,20,17,18,
322 /COM,      *****
323 /COM,      Define MPC shell inner edge and area
324 /COM,      (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
325 /COM,      ( 38, 39, 40, 41, 42, 43, 44)
326 /COM,      (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
327 /COM,      ( 38,39, 40, 41, 42, 43, 44, 45)
328 /COM,      (A's 6)
329 K,21, 0.0,      MIRAD,0.0,
330 K,22, GX11,      GY11,0.0,
331 K,23, GX24,      GY24,0.0,
332 K,24, GX23,      GY23,0.0,
333 K,25, GX22,      GY22,0.0,
334 K,26, GX21,      GY21,0.0,
335 K,27, GX32,      GY32,0.0,
336 K,28, GX31,      GY31,0.0,
337 K,29, GX44,      GY44,0.0,
338 K,30, GX43,      GY43,0.0,
339 K,31, GX42,      GY42,0.0,
340 K,32, GX41,      GY41,0.0,
341 K,33, GX41, (0.0-GY41),0.0,
342 K,34, GX42, (0.0-GY42),0.0,
343 K,35, GX43, (0.0-GY43),0.0,
344 K,36, GX44, (0.0-GY44),0.0,
345 K,37, GX31, (0.0-GY31),0.0,
346 K,38, GX32, (0.0-GY32),0.0,
347 K,39, GX21, (0.0-GY21),0.0,
348 K,40, GX22, (0.0-GY22),0.0,
349 K,41, GX23, (0.0-GY23),0.0,
350 K,42, GX24, (0.0-GY24),0.0,
351 K,43, GX11, (0.0-GY11),0.0,
352 K,44, 0.0,(0.0-MIRAD),0.0,
353 L,20,21,
354 LARC,22,21,1,MIRAD,
355 LARC,23,22,1,MIRAD,
356 LARC,24,23,1,MIRAD,
357 LARC,25,24,1,MIRAD,
358 LARC,26,25,1,MIRAD,
359 LARC,27,26,1,MIRAD,
360 LARC,28,27,1,MIRAD,
361 LARC,29,28,1,MIRAD,
362 LARC,30,29,1,MIRAD,
363 LARC,31,30,1,MIRAD,
364 LARC,32,31,1,MIRAD,
365 LARC,33,32,1,MIRAD,
366 LARC,34,33,1,MIRAD,
367 LARC,35,34,1,MIRAD,
368 LARC,36,35,1,MIRAD,

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369 LARC,37,36,1,MIRAD,
370 LARC,38,37,1,MIRAD,
371 LARC,39,38,1,MIRAD,
372 LARC,40,39,1,MIRAD,
373 LARC,41,40,1,MIRAD,
374 LARC,42,41,1,MIRAD,
375 LARC,43,42,1,MIRAD,
376 LARC,44,43,1,MIRAD,
377 L,18,44,
378 LSEL,S,LINE,,21,45,
379 LSEL,A,LINE,,17,18,
380 AL,ALL,
381 LSEL,ALL,
382 /COM, *****
383 /COM, Define tube guides
384 /COM, (K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
385 /COM, ( 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
386 /COM, ( 79,80,81,82)
387 /COM, (L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
388 /COM, ( 63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
389 /COM, ( 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
390 /COM, ( 97,98,99,100,101,102,103,104,105,106,107,108,109,110)
391 /COM, ( 111,112,113,114,115)
392 /COM, (A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
393 /COM, ( 25,26,27,28,29,30,31,32,33,34,35,36,37,38)
394 /COM,
395 /COM, Set 1: top plate
396 K,45, GX11, (GY11-GWALL),0.0,
397 K,46, 0.0, GY11,0.0,
398 K,47, 0.0, (GY11-GWALL),0.0,
399 /COM,
400 /COM, Set 2: top side guide
401 K,48, GX24, (GY24-SGCD1),0.0,
402 K,49, GX23,(GY24-SGCD1+GWALL),0.0,
403 K,50, GX22,(GY24-SGCD1+GWALL),0.0,
404 K,51, GX21,(GY24-SGCD1+GWALL),0.0,
405 K,52,(GX32-GWALL),(GY24-SGCD1+GWALL),0.0,
406 K,53,(GX32-GWALL), (GY24-SGCD1),0.0,
407 K,54, GX32,(GY24-SGCD1+GWALL),0.0,
408 K,55, GX32, (GY24-SGCD1),0.0,
409 /COM,
410 /COM, Set 3: top corner
411 K,56,(GX32-GWALL), GY32,0.0,
412 K,57,(GX32-GWALL), (GY32-GCORV),0.0,
413 K,58, GX32,(GY32-GCORV+GWALL),0.0,
414 K,59, GX31, (GY31-GWALL),0.0,
415 /COM,
416 /COM, Set 4: side guide
417 K,60,(GX44-GWALL), GY44,0.0,
418 K,61,(GX44-GWALL), (0.0-GY44),0.0,
419 K,62, GX44, GY43,0.0,
420 K,63, GX44, GY42,0.0,
421 K,64, GX44, GY41,0.0,
422 K,65, GX44, (0.0-GY41),0.0,
423 K,66, GX44, (0.0-GY42),0.0,
424 K,67, GX44, (0.0-GY43),0.0,
425 /COM,
426 /COM, Set 3: bottom corner
427 K,68,(GX32-GWALL), (0.0-GY32),0.0,
428 K,69,(GX32-GWALL), (0.0-GY32+GCORV),0.0,
429 K,70, GX32,(0.0-GY32+GCORV-GWALL),0.0,
430 K,71, GX31, (0.0-GY31+GWALL),0.0,
431 /COM,
432 /COM, Set 2: bottom side guide
433 K,72, GX24, (0.0-GY24+SGCD1),0.0,
434 K,73, GX23,(0.0-GY24+SGCD1-GWALL),0.0,
435 K,74, GX22,(0.0-GY24+SGCD1-GWALL),0.0,
436 K,75, GX21,(0.0-GY24+SGCD1-GWALL),0.0,
437 K,76,(GX32-GWALL),(0.0-GY24+SGCD1-GWALL),0.0,
438 K,77,(GX32-GWALL), (0.0-GY24+SGCD1),0.0,

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439 K,78,          GX32,(0.0-GY24+SGCD1-GWALL),0.0,
440 K,79,          GX32,      (0.0-GY24+SGCD1),0.0,
441 /COM,
442 /COM,          Set 1: bottom plate
443 K,80,          GX11,      (0.0-GY11+GWALL),0.0,
444 K,81,          0.0,      (0.0-GY11),0.0,
445 K,82,          0.0,      (0.0-GY11+GWALL),0.0,
446 /COM,
447 /COM,          Now Fill in the required lines:
448 /COM,          Set 1: bottom plate
449 L,21,46,
450 L,46,47,
451 L,46,22,
452 L,22,45,
453 L,45,47,
454 /COM,
455 /COM,          Set 2: top side guide
456 L,48,23,
457 L,48,49,
458 L,24,49,
459 L,49,50,
460 L,53,48,
461 L,50,25,
462 L,26,51,
463 L,50,51,
464 L,51,52,
465 L,52,53,
466 /COM,
467 /COM,          Set 3: top corner
468 L,56,27,
469 L,52,56,
470 L,27,54,
471 L,54,55,
472 L,52,54,
473 L,53,55,
474 L,55,58,
475 L,57,53,
476 L,57,58,
477 L,58,28,
478 L,59,57,
479 L,28,59,
480 /COM,
481 /COM,          Set 4: side guide
482 L,60,29,
483 L,61,60,
484 L,29,62,
485 L,62,63,
486 L,62,30,
487 L,31,63,
488 L,63,64,
489 L,64,65,
490 L,64,32,
491 L,33,65,
492 L,65,66,
493 L,66,67,
494 L,66,34,
495 L,35,67,
496 L,67,36,
497 L,36,61,
498 /COM,
499 /COM,          Set 3: bottom corner
500 L,37,71,
501 L,69,71,
502 L,69,70,
503 L,37,70,
504 L,70,79,
505 L,79,78,
506 L,78,38,
507 L,38,68,
508 L,68,76,

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509 L,76,77,
 510 L,77,69,
 511 L,76,78,
 512 L,77,79,
 513 /COM,
 514 /COM, Set 2: bottom side guide
 515 L,72,77,
 516 L,72,73,
 517 L,76,75,
 518 L,75,74,
 519 L,74,73,
 520 L,73,41,
 521 L,42,72,
 522 L,40,74,
 523 L,75,39,
 524 /COM,
 525 /COM, Set 1: bottom plate
 526 L,80,43,
 527 L,82,80,
 528 L,82,81,
 529 L,43,81,
 530 L,81,44,
 531 /COM, Radiation/Back Fill Gas Gaps:
 532 /COM, Set 1: TOP
 533 AL,46,48,22,
 534 /COM, Set 2: TOP
 535 AL,25,53,54,56,
 536 AL,27,57,59,62,61,
 537 /COM, Set 3: TOP
 538 AL,28,63,64,67,70,
 539 /COM, Set 4: SIDE
 540 AL,30,75,77,
 541 AL,32,78,79,81,
 542 AL,34,82,83,85,
 543 AL,36,86,87,
 544 /COM, Set 3: BOTTOM
 545 AL,38,92,93,94,95,
 546 /COM, Set 2: BOTTOM
 547 AL,39,96,97,104,110,
 548 AL,41,109,106,107,
 549 /COM, Set 1: BOTTOM
 550 AL,44,114,115,
 551 /COM, SOLID GUIDES:
 552 /COM, Set 1: TOP
 553 AL,47,48,49,50,
 554 /COM, Set 2: TOP
 555 AL,24,51,52,53,
 556 AL,52,55,60,59,58,54,
 557 AL,26,56,58,57,
 558 /COM, Set 3: TOP
 559 AL,61,62,65,63,
 560 AL,65,60,66,64,
 561 AL,66,68,69,67,
 562 AL,70,69,71,72,
 563 /COM, Set 4: SIDE
 564 AL,73,74,88,87,84,83,80,79,76,75,
 565 AL,31,77,76,78,
 566 AL,33,81,80,82,
 567 AL,35,85,84,86,
 568 /COM, Set 3: BOTTOM
 569 AL,89,90,91,92,
 570 AL,91,93,101,99,
 571 AL,101,94,100,98,
 572 AL,100,95,96,97,
 573 /COM, Set 2: BOTTOM
 574 AL,102,98,104,105,106,103,
 575 AL,40,110,105,109,
 576 AL,42,107,103,108,
 577 /COM, Set 1: BOTTOM
 578 AL,111,112,113,114,

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579 /COM, *****
580 /COM, Define center edge half-tube
581 /COM, (K's 83,84,85,86,87,88,89,90,91,92,93,94)
582 /COM, (L's 116,117,118,119,120,121,122,123,124,125,126,127,128)
583 /COM, ( 129,130,131,132,133)
584 /COM, (A's 39,40,41,42,43,44,45)
585 K,83, 0.0, TWALL,0.0,
586 K,84, 0.0, (AWALL+TWALL),0.0,
587 K,85, 0.0, (AWALL+SWALL+TWALL),0.0,
588 K,86, 0.0, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
589 K,87, 0.0, (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
590 K,88, 0.0, (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
591 K,89, (AWALL+SWALL+HCELL), TWALL,0.0,
592 K,90, (SWALL+HCELL), (AWALL+TWALL),0.0,
593 K,91, HCELL, (SWALL+AWALL+TWALL),0.0,
594 K,92, (AWALL+SWALL+HCELL), (2.0*(AWALL+SWALL+HCELL)+TWALL),0.0,
595 K,93, (SWALL+HCELL), (AWALL+TWALL+(2.0*(SWALL+HCELL))),0.0,
596 K,94, HCELL, (AWALL+SWALL+TWALL+(2.0*HCELL)),0.0,
597 L,83,84,
598 L,84,85,
599 L,86,87,
600 L,87,88,
601 L,89,83,
602 L,84,90,
603 L,85,91,
604 L,86,94,
605 L,87,93,
606 L,88,92,
607 L,90,89,
608 L,91,90,
609 L,94,93,
610 L,93,92,
611 L,85,86,
612 L,91,94,
613 L,90,93,
614 L,89,92,
615 AL,130,123,131,122,
616 AL,116,121,126,120,
617 AL,117,122,127,121,
618 AL,118,124,128,123,
619 AL,119,125,129,124,
620 AL,131,128,132,127,
621 AL,132,129,133,126,
622 /COM, *****
623 /COM, Define center full-tube
624 /COM, (K's 95,96,97,98,99,100,101,102,103,104,105,106)
625 /COM, (L's 134,135,136,137,138,139,140,141,142,143,144,145)
626 /COM, ( 146,147,148,149,150,151,152,153)
627 /COM, (A's 46,47,48,49,50,51,52,53,54)
628 K,95, (PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
629 K,96, (PITCH-HCELL+SWALL-AWALL), TWALL,0.0,
630 K,97, (PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,
631 K,98, (PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
632 K,99, (PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
633 K,100, (PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
634 K,101, (PITCH-HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
635 K,102, (PITCH+HCELL), ((2.0*HCELL)+AWALL+SWALL+TWALL),0.0,
636 K,103, (PITCH-HCELL-SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
637 K,104, (PITCH+HCELL+SWALL), (2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
638 K,105, (PITCH-HCELL-SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
639 K,106, (PITCH+HCELL+SWALL-AWALL), (2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
640 L,95,97,
641 L,97,99,
642 L,101,103,
643 L,103,105,
644 L,96,98,
645 L,98,100,
646 L,102,104,
647 L,104,106,
648 L,96,95,

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649 L,97,98,
650 L,99,100,
651 L,101,102,
652 L,103,104,
653 L,105,106,
654 L,95,105,
655 L,97,103,
656 L,99,101,
657 L,100,102,
658 L,98,104,
659 L,106,96,
660 AL,144,151,145,150,
661 AL,142,138,143,134,
662 AL,143,139,144,135,
663 AL,145,140,146,136,
664 AL,146,141,147,137,
665 AL,148,134,149,137,
666 AL,149,135,150,136,
667 AL,151,139,152,140,
668 AL,152,138,153,141,
669 /COM, *****
670 /COM, Define edge half-tube
671 /COM, (K's 107,108,109,110,111,112,113,114,115,116,117)
672 /COM, (L's 154,155,156,157,158,159,160,161,162,163,164,165)
673 /COM, ( 166,167,168,169)
674 /COM, (A's 55,56,57,58,59,60)
675 K,107, 0.0, (3.5*PITCH+HCELL),0.0,
676 K,108, HCELL, (3.5*PITCH+HCELL),0.0,
677 K,109, 0.0, (3.5*PITCH-HCELL),0.0,
678 K,110, HCELL, (3.5*PITCH-HCELL),0.0,
679 K,111, 0.0, (3.5*PITCH+HCELL+SWALL),0.0,
680 K,112, (HCELL+SWALL), (3.5*PITCH+HCELL+SWALL),0.0,
681 K,113, 0.0, (3.5*PITCH-HCELL-SWALL),0.0,
682 K,114, (HCELL+SWALL), (3.5*PITCH-HCELL-SWALL),0.0,
683 K,115, (HCELL+SWALL+AWALL), (3.5*PITCH+HCELL+SWALL),0.0,
684 K,116, 0.0, (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
685 K,117, (HCELL+SWALL+AWALL), (3.5*PITCH-HCELL-SWALL-AWALL),0.0,
686 L,116,113,
687 L,113,109,
688 L,107,111,
689 L,114,117,
690 L,110,114,
691 L,112,115,
692 L,108,112,
693 L,116,117,
694 L,113,114,
695 L,109,110,
696 L,108,107,
697 L,111,112,
698 L,109,107,
699 L,110,108,
700 L,114,112,
701 L,115,117,
702 AL,166,163,167,164,
703 AL,161,157,162,154,
704 AL,162,158,163,155,
705 AL,164,160,165,156,
706 AL,167,158,168,160,
707 AL,168,157,169,159,
708 /COM, *****
709 /COM, Define edge full-tube
710 /COM, (K's 118,119,120,121,122,123,124,125,126,127,128,129)
711 /COM, (L's 170,171,172,173,174,175,176,177,178,179,180,181)
712 /COM, ( 182,183,184,185,186,187,188)
713 /COM, (A's 61,62,63,64,65,66,67,68)
714 K,118, (3.0*PITCH-HCELL), (AWALL+SWALL+TWALL),0.0,
715 K,119, (3.0*PITCH+HCELL), (AWALL+SWALL+TWALL),0.0,
716 K,120, (3.0*PITCH-HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
717 K,121, (3.0*PITCH+HCELL), (2.0*(HCELL)+AWALL+SWALL+TWALL),0.0,
718 K,122, (3.0*PITCH-HCELL-SWALL), (AWALL+TWALL),0.0,

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719 K,123, (3.0*PITCH+HCELL+SWALL), (AWALL+TWALL),0.0,
720 K,124, (3.0*PITCH-HCELL-SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
721 K,125, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL)+AWALL+TWALL),0.0,
722 K,126,(3.0*PITCH-HCELL-SWALL-AWALL), TWALL,0.0,
723 K,127, (3.0*PITCH+HCELL+SWALL), TWALL,0.0,
724 K,128,(3.0*PITCH-HCELL-SWALL-AWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
725 K,129, (3.0*PITCH+HCELL+SWALL),(2.0*(HCELL+SWALL+AWALL)+TWALL),0.0,
726 L,122,126,
727 L,118,122,
728 L,120,124,
729 L,124,128,
730 L,123,127,
731 L,119,123,
732 L,121,125,
733 L,129,125,
734 L,127,126,
735 L,122,123,
736 L,118,119,
737 L,120,121,
738 L,124,125,
739 L,128,129,
740 L,126,128,
741 L,122,124,
742 L,118,120,
743 L,119,121,
744 L,125,123,
745 AL,180,187,181,186,
746 AL,178,174,179,170,
747 AL,179,175,180,171,
748 AL,181,176,182,172,
749 AL,182,177,183,173,
750 AL,184,170,185,173,
751 AL,185,171,186,172,
752 AL,187,175,188,176,
753 NUMMRG,KP,
754 /COM, *****
755 /COM, Set element shapes and sizes for tubes
756 /COM, 8x8 mesh in fuel with 2
757 /COM, divisions per tube layer
758 ESHAPE,2,
759 ESIZE,,1,
760 LSEL,S,LINE,,130,133,1,
761 LSEL,A,LINE,,142,153,1,
762 LSEL,A,LINE,,166,169,1,
763 LSEL,A,LINE,,178,188,1,
764 LESIZE,ALL,,, 8,
765 LSEL,S,LINE,,120,125,1,
766 LSEL,A,LINE,,161,165,1,
767 LESIZE,ALL,,, 4,
768 LSEL,S,LINE,,116,119,1,
769 LSEL,A,LINE,,126,129,1,
770 LSEL,A,LINE,,134,141,1,
771 LSEL,A,LINE,,154,160,1,
772 LSEL,A,LINE,,170,177,1,
773 LESIZE,ALL,,, 2,
774 LSEL,ALL,
775 /COM,
776 /COM, Mesh areas
777 /COM, first fuel, then stainless, then aluminum
778 MAT,14,
779 TYPE,1,
780 AMESH,39,
781 AMESH,46,
782 AMESH,55,
783 AMESH,61,
784 MAT, 1,
785 TYPE,1,
786 AMESH,41,42,1,
787 AMESH,44,
788 AMESH,48,49,1,

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789 AMESH,52,53,1,
790 AMESH,57,59,1,
791 AMESH,63,64,1,
792 AMESH,67,68,1,
793 MAT,13,
794 TYPE,1,
795 AMESH,40,43,3,
796 AMESH,45,
797 AMESH,47,50,3,
798 AMESH,51,54,3,
799 AMESH,56,60,4,
800 AMESH,62,65,3,
801 AMESH,66,
802 /COM, *****
803 /COM, Copy tube mesh
804 /COM,
805 /COM, center half tube above and below
806 /COM, (A's 69-75,76-82)
807 AGEN,3,39,45,1,0.0,PITCH,0.0,0,0,
808 /COM, (A's 83-89,90-96,97-103)
809 AGEN,4,39,45,1,0.0,(0.0-PITCH),0.0,0,0,
810 /COM,
811 /COM, center fuel tube above and below
812 /COM, (A's 104-112,113-121)
813 AGEN,3,46,54,1,0.0,PITCH,0.0,0,0,
814 /COM, (A's 122-130,131-139,140-148)
815 AGEN,4,46,54,1,0.0,(0.0-PITCH),0.0,0,0,
816 /COM, (A's 149-157)
817 AGEN,2,46,54,1,PITCH,0.0,0.0,0,0,
818 /COM, (A's 158-166,167-175)
819 AGEN,3,149,157,1,0.0,PITCH,0.0,0,0,
820 /COM, (A's 176-184,185-193,194-202)
821 AGEN,4,149,157,1,0.0,(0.0-PITCH),0.0,0,0,
822 /COM,
823 /COM, side edge fuel tube above and below
824 /COM, (A's 203-210)
825 AGEN,2,61,68,1,0.0,PITCH,0.0,0,0,
826 /COM, (A's 211-218,219-226)
827 AGEN,3,61,68,1,0.0,(0.0-PITCH),0.0,0,0,
828 /COM,
829 /COM, edge half tube bottom (13)
830 /COM, (A's 227-232)
831 ARSYM,Y,55,60,1,0,0,0,
832 /COM, *****
833 /COM, Define thin stainless layers
834 /COM, (K's 380,381,382,383,384,385,286,387,388,389, through 397)
835 /COM, (A's 233 - 301)
836 K,380, (0.5*PITCH), (3.5*PITCH+HCELL+SWALL),0.0,
837 K,381, (0.5*PITCH), (3.0*PITCH),0.0,
838 K,382, (0.5*PITCH), (3.0*PITCH+TWALL),0.0,
839 K,383, (0.5*PITCH+TWALL), (3.0*PITCH),0.0,
840 K,384, (1.5*PITCH-TWALL), (3.0*PITCH),0.0,
841 K,385, (1.5*PITCH+TWALL), (3.0*PITCH),0.0,
842 K,386, (2.5*PITCH), (3.0*PITCH),0.0,
843 K,387, (2.5*PITCH), (2.0*PITCH),0.0,
844 K,388, (2.5*PITCH), (2.0*PITCH+TWALL),0.0,
845 K,389, (2.5*PITCH+TWALL), (2.0*PITCH),0.0,
846 K,390,(3.0*PITCH+HCELL+SWALL), (2.0*PITCH),0.0,
847 /COM,
848 K,391,(3.0*PITCH+HCELL+SWALL), (-2.0*PITCH),0.0,
849 K,392, (2.5*PITCH+TWALL), (-2.0*PITCH),0.0,
850 K,393, (2.5*PITCH), (-2.0*PITCH-TWALL),0.0,
851 K,394, (2.5*PITCH), (-2.0*PITCH),0.0,
852 K,395, (2.5*PITCH), (-3.0*PITCH),0.0,
853 K,396, (1.5*PITCH+TWALL), (-3.0*PITCH),0.0,
854 K,397, (1.5*PITCH-TWALL), (-3.0*PITCH),0.0,
855 K,398, (0.5*PITCH+TWALL), (-3.0*PITCH),0.0,
856 K,399, (0.5*PITCH), (-3.0*PITCH-TWALL),0.0,
857 K,400, (0.5*PITCH), (-3.0*PITCH),0.0,
858 K,401, (0.5*PITCH), (-3.5*PITCH-HCELL-SWALL),0.0,

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859 /COM,
860 A,152,116,117,153,
861 A,117,382,381,153,
862 A,381,383,213,153,
863 A,117,115,380,382,
864 A,153,213,207,149,
865 A,213,383,384,212,
866 A,212,384,385,285,
867 A,285,385,386,284,
868 A,212,285,279,206,
869 A,284,386,388,278,
870 A,278,388,387,272,
871 A,272,387,389,333,
872 A,272,333,327,266,
873 A,333,389,390,332,
874 A,278,272,273,279,
875 A,206,279,273,200,
876 A,200,273,267,194,
877 A,200,206,207,201,
878 A,141,149,207,201,
879 A,141,201,195,137,
880 A,141,149,146,140,
881 A, 88,134,137, 92,
882 A, 92,137,195,105,
883 A, 92,105, 95, 89,
884 A,105,195,194,106,
885 A,106,194,267,261,
886 A,106,261,255, 96,
887 A,261,267,266,260,
888 A,260,266,327,128,
889 A,260,128,126,254,
890 A,128,327,326,129,
891 A,296,254,126,345,
892 A,296,345,339,290,
893 A,345,126,127,344,
894 A,296,254,255,297,
895 A,224, 96,255,297,
896 A,224,297,291,218,
897 A,224, 96, 95,225,
898 A,165, 89, 95,225,
899 A,165, 89, 83,164,
900 A,165,225,219,161,
901 A,177,161,219,237,
902 A,177,161,158,176,
903 A,177,237,231,173,
904 A,237,219,218,236,
905 A,236,218,291,309,
906 A,236,309,303,230,
907 A,309,291,290,308,
908 A,308,290,339,357,
909 A,308,357,351,302,
910 A,357,339,338,356,
911 A,350,391,392,351,
912 A,351,392,394,302,
913 A,302,394,393,320,
914 A,320,393,395,314,
915 A,320,302,303,321,
916 A,248,230,303,321,
917 A,248,321,315,242,
918 A,248,230,231,249,
919 A,189,173,231,249,
920 A,189,173,170,188,
921 A,189,249,243,185,
922 A,243,398,400,185,
923 A,185,400,399,363,
924 A,363,185,182,362,
925 A,363,399,401,368,
926 A,398,243,242,397,
927 A,242,315,396,397,
928 A,315,314,395,396,

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929 MAT,1,
930 TYPE,1,
931 ESHAPE,2,
932 AMESH,233,301,1,
933 NUMMRG,NODE,
934 NUMMRG,KP,
935 /COM, *****
936 /COM,          Create mesh in tube guides
937 /COM,          (L's 686,687,688)
938 ESIZE,,2,
939 LESIZE,47,,, 2,
940 LESIZE,48,,, 4,
941 LESIZE,49,,, 2,
942 LESIZE,50,,, 4,
943 LESIZE,51,,, 13,
944 LESIZE,52,,, 2,
945 LESIZE,53,,, 13,
946 LESIZE,54,,, 8,
947 LESIZE,55,,, 18,
948 LESIZE,56,,, 13,
949 LESIZE,57,,, 13,
950 LESIZE,58,,, 2,
951 LESIZE,59,,, 8,
952 LESIZE,60,,, 2,
953 LESIZE,61,,, 2,
954 LESIZE,62,,, 1,
955 LESIZE,63,,, 1,
956 LESIZE,64,,, 2,
957 LESIZE,65,,, 2,
958 LESIZE,66,,, 2,
959 LESIZE,67,,, 9,
960 LESIZE,68,,, 9,
961 LESIZE,69,,, 2,
962 LESIZE,70,,, 13,
963 LESIZE,71,,, 13,
964 LESIZE,72,,, 2,
965 LESIZE,73,,, 2,
966 LESIZE,74,,, 38,
967 LESIZE,75,,, 8,
968 LESIZE,76,,, 2,
969 LESIZE,77,,, 4,
970 LESIZE,78,,, 4,
971 LESIZE,79,,, 8,
972 LESIZE,80,,, 2,
973 LESIZE,81,,, 4,
974 LESIZE,82,,, 4,
975 LESIZE,83,,, 8,
976 LESIZE,84,,, 2,
977 LESIZE,85,,, 4,
978 LESIZE,86,,, 4,
979 LESIZE,87,,, 8,
980 LESIZE,88,,, 2,
981 LESIZE,89,,, 2,
982 LESIZE,90,,, 13,
983 LESIZE,91,,, 2,
984 LESIZE,92,,, 13,
985 LESIZE,93,,, 9,
986 LESIZE,94,,, 2,
987 LESIZE,95,,, 1,
988 LESIZE,96,,, 2,
989 LESIZE,97,,, 1,
990 LESIZE,98,,, 2,
991 LESIZE,99,,, 9,
992 LESIZE,100,,, 2,
993 LESIZE,101,,, 2,
994 LESIZE,102,,, 18,
995 LESIZE,103,,, 2,
996 LESIZE,104,,, 8,
997 LESIZE,105,,, 2,
998 LESIZE,106,,, 8,

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999 LESIZE,107,,, 13,
1000 LESIZE,108,,, 13,
1001 LESIZE,109,,, 13,
1002 LESIZE,110,,, 13,
1003 LESIZE,111,,, 2,
1004 LESIZE,112,,, 4,
1005 LESIZE,113,,, 2,
1006 LESIZE,114,,, 4,
1007 LSEL,S,LINE,,58,59,1,
1008 LSEL,A,LINE,,54,
1009 LCCAT,ALL,
1010 LSEL,S,LINE,,75,76,1,
1011 LSEL,A,LINE,,79,80,1,
1012 LSEL,A,LINE,,83,84,1,
1013 LSEL,A,LINE,,87,
1014 LCCAT,ALL,
1015 LSEL,S,LINE,,104,106,1,
1016 LCCAT,ALL,
1017 LSEL,ALL,
1018 MAT,1,
1019 TYPE,1,
1020 AMESH,19,38,1,
1021 /COM, *****
1022 /COM,          Create mesh in MPC shell
1023 /COM,          (L's 689,690,691)
1024 LESIZE,22,,, 4,
1025 LESIZE,23,,, 3,
1026 LESIZE,25,,, 8,
1027 LESIZE,27,,,15,
1028 LESIZE,28,,,12,
1029 LESIZE,29,,, 5,
1030 LESIZE,30,,,11,
1031 LESIZE,32,,, 8,
1032 LESIZE,34,,, 8,
1033 LESIZE,36,,,11,
1034 LESIZE,37,,, 5,
1035 LESIZE,38,,,12,
1036 LESIZE,39,,,15,
1037 LESIZE,41,,, 8,
1038 LESIZE,43,,, 3,
1039 LESIZE,44,,, 4,
1040 LSEL,S,LINE,,22,44,1,
1041 LCCAT,ALL,
1042 LSEL,ALL,
1043 LESIZE,17,,,73,
1044 LESIZE,18,,,73,
1045 LESIZE,21,,, 3,
1046 LESIZE,45,,, 3,
1047 LCCAT,17,18,
1048 ESHAPE,2,
1049 MAT,1,
1050 TYPE,1,
1051 AMESH,6,
1052 /COM,          Assume vacuum between shell and inner barrier
1053 LESIZE,14,,,73,
1054 LESIZE,13,,,73,
1055 LESIZE,19,,, 2,
1056 LESIZE,20,,, 2,
1057 LCCAT,14,13,
1058 ESHAPE,2,
1059 /COM,          No MAT,7,
1060 /COM,          No TYPE,1,
1061 /COM,          No AMESH,5,
1062 /COM,          Delete concatenated lines
1063 /COM,          (L's freed up 686,687,688,689,690,691)
1064 LDELE,686,691,1,
1065 /COM, *****
1066 /COM,          Create mesh in inner and outer barrier
1067 LSEL,S,LINE,,7,10,1,
1068 LESIZE,ALL,,,73,

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1069 LSEL,ALL,
1070 LESIZE,6,,,3,
1071 LESIZE,15,,,3,
1072 LESIZE,16,,,3,
1073 LESIZE,5,,,3,
1074 LESIZE,11,,,3,
1075 LESIZE,12,,,3,
1076 MAT,2,
1077 TYPE,1,
1078 AMESH,3,4,1,
1079 MAT,15,
1080 TYPE,1,
1081 AMESH,1,2,1,
1082 /COM, *****
1083 /COM, Create mesh in empty basket spaces
1084 ESIZE,0.1,
1085 LESIZE,46,,,1,
1086 LESIZE,115,,,1,
1087 ESHAPE,0,
1088 MAT,7,
1089 TYPE,1,
1090 AMESH,7,
1091 ESHAPE,0,
1092 MAT,7,
1093 TYPE,1,
1094 AMESH,8,11,1,
1095 ESHAPE,2,
1096 MAT,7,
1097 TYPE,1,
1098 AMESH,12,13,1,
1099 ESHAPE,0,
1100 MAT,7,
1101 TYPE,1,
1102 AMESH,14,16,1,
1103 ESHAPE,2,
1104 MAT,7,
1105 TYPE,1,
1106 AMESH,17,
1107 ESHAPE,0,
1108 MAT,7,
1109 TYPE,1,
1110 AMESH,18,
1111 /COM, *****
1112 /COM, Define mesh and radiation surface elements for
1113 /COM, tube/guides gap
1114 /COM, (L's 686,687)
1115 /COM, (A's 302)
1116 L,47,111,
1117 L,366,82,
1118 /COM, Select lines around tubes
1119 LSEL,S,LINE,,686,
1120 LSEL,A,LINE,,165,
1121 LSEL,A,LINE,,159,
1122 LSEL,A,LINE,,580,
1123 LSEL,A,LINE,,581,
1124 LSEL,A,LINE,,575,
1125 LSEL,A,LINE,,577,
1126 LSEL,A,LINE,,583,
1127 LSEL,A,LINE,,585,
1128 LSEL,A,LINE,,588,
1129 LSEL,A,LINE,,591,
1130 LSEL,A,LINE,,593,
1131 LSEL,A,LINE,,596,
1132 LSEL,A,LINE,,600,
1133 LSEL,A,LINE,,601,
1134 LSEL,A,LINE,,512,
1135 LSEL,A,LINE,,517,
1136 LSEL,A,LINE,,506,
1137 LSEL,A,LINE,,624,
1138 LSEL,A,LINE,,177,

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1139 LSEL,A,LINE,,188,
1140 LSEL,A,LINE,,174,
1141 LSEL,A,LINE,,629,
1142 LSEL,A,LINE,,531,
1143 LSEL,A,LINE,,536,
1144 LSEL,A,LINE,,525,
1145 LSEL,A,LINE,,652,
1146 LSEL,A,LINE,,550,
1147 LSEL,A,LINE,,555,
1148 LSEL,A,LINE,,544,
1149 LSEL,A,LINE,,653,
1150 LSEL,A,LINE,,654,
1151 LSEL,A,LINE,,656,
1152 LSEL,A,LINE,,658,
1153 LSEL,A,LINE,,661,
1154 LSEL,A,LINE,,685,
1155 LSEL,A,LINE,,684,
1156 LSEL,A,LINE,,682,
1157 LSEL,A,LINE,,673,
1158 LSEL,A,LINE,,675,
1159 LSEL,A,LINE,,679,
1160 LSEL,A,LINE,,680,
1161 LSEL,A,LINE,,570,
1162 LSEL,A,LINE,,567,
1163 LSEL,A,LINE,,687,
1164 /COM,          Select lines around tube guides
1165 LSEL,A,LINE,,112,
1166 LSEL,A,LINE,,111,
1167 LSEL,A,LINE,, 43,
1168 LSEL,A,LINE,,108,
1169 LSEL,A,LINE,,102,
1170 LSEL,A,LINE,, 99,
1171 LSEL,A,LINE,, 90,
1172 LSEL,A,LINE,, 89,
1173 LSEL,A,LINE,, 37,
1174 LSEL,A,LINE,, 88,
1175 LSEL,A,LINE,, 74,
1176 LSEL,A,LINE,, 73,
1177 LSEL,A,LINE,, 29,
1178 LSEL,A,LINE,, 72,
1179 LSEL,A,LINE,, 71,
1180 LSEL,A,LINE,, 68,
1181 LSEL,A,LINE,, 55,
1182 LSEL,A,LINE,, 51,
1183 LSEL,A,LINE,, 23,
1184 LSEL,A,LINE,, 49,
1185 LSEL,A,LINE,, 50,
1186 /COM,          Define area
1187 AL,ALL,
1188 /COM,          Create radiation surface elements
1189 NSLL,S,1,
1190 MAT,1,
1191 TYPE,7,
1192 ESURF,
1193 LSEL,ALL,
1194 NSEL,ALL,
1195 /COM,          Mesh gap
1196 ESHAPE,0,
1197 LESIZE,686,,,1,
1198 LESIZE,687,,,1,
1199 MAT,7,
1200 TYPE,1,
1201 AMESH,302,
1202 ESHAPE,2,
1203 /COM,          *****
1204 /COM,          Create other radiation surface elements
1205 /COM,          Basket spaces
1206 MAT,1,
1207 TYPE,17,
1208 LMESH,22,

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1209 LMESS,25,27,2,
1210 LMESS,28,38,2,
1211 LMESS,39,41,2,
1212 LMESS,44,
1213 LMESS,46,48,2,
1214 LMESS,53,54,1,
1215 LMESS,56,57,1,
1216 LMESS,59,
1217 LMESS,61,64,1,
1218 LMESS,67,70,3,
1219 LMESS,75,
1220 LMESS,77,79,1,
1221 LMESS,81,83,1,
1222 LMESS,85,87,1,
1223 LMESS,92,97,1,
1224 LMESS,104,
1225 LMESS,106,107,1,
1226 LMESS,109,110,1,
1227 LMESS,114,115,1,
1228 /COM, MPC shell/inner barrier gap
1229 MAT,1,
1230 TYPE,27,
1231 LMESS,17,18,1,
1232 MAT,2,
1233 TYPE,27,
1234 LMESS,13,14,1,
1235 FINISH
1236 /COM, *****
1237 /COM, Create element mesh plots to illustrate model
1238 /COM, View mesh for entire model
1239 /RESET
1240 /TRIAD,OFF,
1241 /NUM,1,
1242 /PNUM,MAT,1,
1243 /TYPE,HIDP,
1244 /GLINE,,0,
1245 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1246 /TITLE, 40 BWR MPC/Waste Package - 1/2 FEM Model
1247 /SHOW,meshfull,grph,1,8,
1248 EPlot
1249 ESEL,U,MAT,,7,
1250 /SHOW,meshgap,grph,1,8,
1251 EPlot
1252 /COM, View mesh for radiation substructure
1253 /PNUM,MAT,0,
1254 /PNUM,TYPE,1,
1255 ESEL,S,TYPE,,7,
1256 ESEL,A,TYPE,,17,
1257 ESEL,A,TYPE,,27,
1258 /TITLE, 40 BWR MPC/Waste Package - Radiation Matrix
1259 /SHOW,meshrad,grph,1,8,
1260 EPlot
1261 ESEL,ALL,
1262 /TITLE, 40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF
1263 /COM, *****
1264 /COM, Generate super-elements
1265 /AUX12,
1266 ESEL,S,TYPE,,7,
1267 NSLE,S,
1268 STEF,5.67E-8,
1269 GEOM,1,0,
1270 VTYPE,0,800,
1271 WRITE,tubegap,
1272 ESEL,S,TYPE,,17,
1273 NSLE,S,
1274 STEF,5.67E-8,
1275 GEOM,1,0,
1276 VTYPE,0,800,
1277 WRITE,spaces,
1278 ESEL,S,TYPE,,27,

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1279 NSLE,S,
1280 STEF,5.67E-8,
1281 GEOM,1,0,
1282 VTYPE,0,800,
1283 WRITE,shellgap,
1284 ESEL,ALL,
1285 NSEL,ALL,
1286 FINISH
1287 /PREP7,
1288 TYPE,18,
1289 SE,tubegap,
1290 SE,spaces,
1291 SE,shellgap,
1292 /COM,          Delete radiation edge elements
1293 ESEL,S,TYPE,,7,
1294 EDELE,ALL,
1295 ESEL,ALL,
1296 LSEL,S,TYPE,,17,
1297 LSEL,A,TYPE,,27,
1298 LCLEAR,ALL,
1299 LSEL,ALL,
1300 FINISH
1301 /COM,          *****
1302 /COM,          Set solution parameters and apply B.C.'s
1303 /COM,
1304 /COM,          Solve steady-state for initial conditions
1305 /COM,          with WP surface equal to drift ambient
1306 /COM,          temperature from repository model.
1307 /SOLU
1308 ANTYPE,TRAN,NEW,
1309 NROPT,AUTO,
1310 TRNOPT,FULL,
1311 TOFFST,273.15,
1312 LSEL,S,LINE,,7,
1313 LSEL,A,LINE,,8,
1314 NSLL,S,1,
1315 D,ALL,TEMP,DFAMBT,
1316 LSEL,ALL,
1317 NSEL,ALL,
1318 ASEL,S,MAT,,14,
1319 ESLA,S,
1320 BFE,ALL,HGEN,,(FUEL(TM_START)),
1321 ASEL,ALL,
1322 ESEL,ALL,
1323 TIMINT,OFF,
1324 TIME,1e-6,
1325 AUTOTS,ON,
1326 KBC,0,
1327 SOLVE
1328 /COM,          Solve steady-state for initial conditions
1329 /COM,          with WP surface temperatures from repository
1330 /COM,          steady-state solution.
1331 LSEL,S,LINE,,7,
1332 LSEL,A,LINE,,8,
1333 NSLL,S,1,
1334 DDELE,ALL,TEMP,
1335 LSEL,ALL,
1336 NSEL,ALL,
1337 DK,11,TEMP,(WPTOP(TM_START)),,1,
1338 DK,10,TEMP,(WPSID(TM_START)),,1,
1339 DK,9,TEMP,(WPBOT(TM_START)),,1,
1340 ASEL,S,MAT,,14,
1341 ESLA,S,
1342 BFE,ALL,HGEN,,(FUEL(TM_START)),
1343 ASEL,ALL,
1344 ESEL,ALL,
1345 TIMINT,OFF,
1346 TIME,2e-6,
1347 AUTOTS,ON,
1348 KBC,0,

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1349 SOLVE
1350 /COM, *****
1351 /COM, Set time integration parameters
1352 TIMINT,ON,
1353 AUTOTS,ON,
1354 /COM, Time substep ranges from 10 sec to 1/4 loadstep
1355 NSUBST,10,40,4,ON
1356 /COM, Begin Transient
1357 /COM, Apply loads and solve for 0 to .9 years
1358 *DO,TM,TM_START,TME0,TM10
1359 TIME,TM,
1360 ASEL,S,MAT,,14,
1361 ESLA,S,
1362 BFE,ALL,HGEN,,(FUEL(TM)),
1363 ASEL,ALL
1364 ESEL,ALL
1365 DK,11,TEMP,(WPTOP(TM)),,1,
1366 DK,10,TEMP,(WPSID(TM)),,1,
1367 DK, 9,TEMP,(WPBOT(TM)),,1,
1368 SOLVE
1369 *ENDDO
1370 /COM, Apply loads and solve for 1 to 9 years
1371 *DO,TM,TME1,TME9,TM11
1372 TIME,TM,
1373 ASEL,S,MAT,,14,
1374 ESLA,S,
1375 BFE,ALL,HGEN,,(FUEL(TM)),
1376 ASEL,ALL
1377 ESEL,ALL
1378 DK,11,TEMP,(WPTOP(TM)),,1,
1379 DK,10,TEMP,(WPSID(TM)),,1,
1380 DK, 9,TEMP,(WPBOT(TM)),,1,
1381 SOLVE
1382 *ENDDO
1383 /COM, Apply loads and solve for 10 to 90 years
1384 *DO,TM,TME10,TME90,TM110
1385 TIME,TM,
1386 ASEL,S,MAT,,14,
1387 ESLA,S,
1388 BFE,ALL,HGEN,,(FUEL(TM)),
1389 ASEL,ALL
1390 ESEL,ALL
1391 DK,11,TEMP,(WPTOP(TM)),,1,
1392 DK,10,TEMP,(WPSID(TM)),,1,
1393 DK, 9,TEMP,(WPBOT(TM)),,1,
1394 SOLVE
1395 *ENDDO
1396 /COM, Apply loads and solve for 100 to 1000 years
1397 *DO,TM,TME100,TME1000,TM1100
1398 TIME,TM,
1399 ASEL,S,MAT,,14,
1400 ESLA,S,
1401 BFE,ALL,HGEN,,(FUEL(TM)),
1402 ASEL,ALL
1403 ESEL,ALL
1404 DK,11,TEMP,(WPTOP(TM)),,1,
1405 DK,10,TEMP,(WPSID(TM)),,1,
1406 DK, 9,TEMP,(WPBOT(TM)),,1,
1407 SOLVE
1408 *ENDDO
1409 FINISH
1410 SAVE,
1411 /COM, *****
1412 /COM, Create element contour plots of solution results
1413 /COM,
1414 /COM, Sort through solution results for time of max temp.
1415 /POST26,
1416 NSOL,2,(NODE(0.0,(-0.5*PITCH),0.0)),TEMP,,peakclad,
1417 STORE,NEW,
1418 *GET,TMTMAX,VARI,2,EXTREM,TMAX,

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1419 FINISH
1420 /POST1,
1421 /COM,          Create temperature contour plots of WP at peak
1422 /RESET
1423 /TRIAD,OFF,
1424 /NUM, 1,
1425 /PNUM,MAT, 1,
1426 /TYPE,HIDP,
1427 /GLINE,, -1,
1428 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
1429 ESEL,U,MAT,,7,
1430 SET,NEAR,,,,TMTMAX,
1431 /TITLE, 40 BWR MPC/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
1432 /SHOW,solupk,grph,0,8,
1433 /CONTOUR,1,128,AUTO,
1434 PLNSOL,TEMP,
1435 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
1436 SET,NEAR,,,,TME10,
1437 /TITLE, 40 BWR MPC/WP at 10 years
1438 /SHOW,solu10,grph,0,8,
1439 /CONTOUR,1,128,USER,
1440 PLNSOL,TEMP,
1441 SET,NEAR,,,,TME50,
1442 /TITLE, 40 BWR MPC/WP at 50 years
1443 /SHOW,solu50,grph,0,8,
1444 /CONTOUR,1,128,USER,
1445 PLNSOL,TEMP,
1446 SET,NEAR,,,,TME100,
1447 /TITLE, 40 BWR MPC/WP at 100 years
1448 /SHOW,solu100,grph,0,8,
1449 /CONTOUR,1,128,USER,
1450 PLNSOL,TEMP,
1451 ESEL,ALL,
1452 FINISH
1453 /COM, *****
1454 /COM,          Print time/temperature output at specific locations
1455 /COM,          Save profile from center to edge
1456 /COM,
1457 /COM,          Variable Legend: A01i000
1458 /COM,          c = center of assembly
1459 /COM,          h = halfway between center and tube
1460 /COM,          s = inside structural stainless tube layer
1461 /COM,          a = aluminum-born tube layer
1462 /COM,          t = stainless tube cladding
1463 /COM,          g = tube guide
1464 /COM,          m = mpc shell
1465 /COM,          i = inner barrier of DC
1466 /COM,          o = outer barrier of DC
1467 /COM,          ## = ID number of assembly (01 is center)
1468 /COM,          i = side of assembly toward center of WP
1469 /COM,          o = side of assembly toward edge of WP
1470 /COM,          000 = profile center down
1471 /COM,          045 = profile 45 deg down
1472 /COM,          090 = profile center side
1473 /COM,          135 = profile 45 deg up
1474 /COM,          180 = profile center up
1475 /POST26,
1476 NUMVAR,41,
1477 /COM,
1478 /COM, *****
1479 /COM, * Temperature Profile from center to bottom of WP (0 deg.) *
1480 /COM, *****
1481 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,t02i000,
1482 NSOL, 3,(NODE(0.0, (0.0-ATWCL),0.0)),TEMP,,a02i000,
1483 NSOL, 4,(NODE(0.0, (0.0-STWCL),0.0)),TEMP,,s02i000,
1484 NSOL, 5,(NODE(0.0, (0.0-STWCL-QCELL),0.0)),TEMP,,h02i000,
1485 NSOL, 6,(NODE(0.0, (-0.5*PITCH),0.0)),TEMP,,c02i000,
1486 NSOL, 7,(NODE(0.0, (-0.5*PITCH-QCELL),0.0)),TEMP,,h02o000,
1487 NSOL, 8,(NODE(0.0, (-0.5*PITCH-HCELL),0.0)),TEMP,,s02o000,
1488 NSOL, 9,(NODE(0.0, (-0.5*PITCH-SCCELL),0.0)),TEMP,,a02o000,

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1489 NSOL,10,(NODE(0.0,      (-1.0*PITCH),0.0)),TEMP,,t08i000,
1490 NSOL,11,(NODE(0.0,      (-1.0*PITCH-ATWCL),0.0)),TEMP,,a08i000,
1491 NSOL,12,(NODE(0.0,      (-1.0*PITCH-STWCL),0.0)),TEMP,,s08i000,
1492 NSOL,13,(NODE(0.0,      (-1.0*PITCH-TQPCL),0.0)),TEMP,,h08i000,
1493 NSOL,14,(NODE(0.0,      (-1.5*PITCH),0.0)),TEMP,,c08i000,
1494 NSOL,15,(NODE(0.0,      (-1.5*PITCH-QCELL),0.0)),TEMP,,h08o000,
1495 NSOL,16,(NODE(0.0,      (-1.5*PITCH-HCELL),0.0)),TEMP,,s08o000,
1496 NSOL,17,(NODE(0.0,      (-1.5*PITCH-SCCELL),0.0)),TEMP,,a08o000,
1497 NSOL,18,(NODE(0.0,      (-2.0*PITCH),0.0)),TEMP,,t18i000,
1498 NSOL,19,(NODE(0.0,      (-2.0*PITCH-ATWCL),0.0)),TEMP,,a18i000,
1499 NSOL,20,(NODE(0.0,      (-2.0*PITCH-STWCL),0.0)),TEMP,,s18i000,
1500 NSOL,21,(NODE(0.0,      (-2.0*PITCH-TQPCL),0.0)),TEMP,,h18i000,
1501 NSOL,22,(NODE(0.0,      (-2.5*PITCH),0.0)),TEMP,,c18i000,
1502 NSOL,23,(NODE(0.0,      (-2.5*PITCH-QCELL),0.0)),TEMP,,h18o000,
1503 NSOL,24,(NODE(0.0,      (-2.5*PITCH-HCELL),0.0)),TEMP,,s18o000,
1504 NSOL,25,(NODE(0.0,      (-2.5*PITCH-SCCELL),0.0)),TEMP,,a18o000,
1505 NSOL,26,(NODE(0.0,      (-3.0*PITCH),0.0)),TEMP,,t24i000,
1506 NSOL,27,(NODE(0.0,      (-3.0*PITCH-ATWCL),0.0)),TEMP,,a24i000,
1507 NSOL,28,(NODE(0.0,      (-3.0*PITCH-STWCL),0.0)),TEMP,,s24i000,
1508 NSOL,29,(NODE(0.0,      (-3.0*PITCH-TQPCL),0.0)),TEMP,,h24i000,
1509 NSOL,30,(NODE(0.0,      (-3.5*PITCH),0.0)),TEMP,,c24i000,
1510 NSOL,31,(NODE(0.0,      (-3.5*PITCH-QCELL),0.0)),TEMP,,h24o000,
1511 NSOL,32,(NODE(0.0,      (-3.5*PITCH-HCELL),0.0)),TEMP,,s24o000,
1512 NSOL,33,(NODE(0.0,      (-3.5*PITCH-SCCELL),0.0)),TEMP,,t24o000,
1513 NSOL,34,(NODE(0.0,      (0.0-GY11+TPGPT),0.0)),TEMP,,g24i000,
1514 NSOL,35,(NODE(0.0,      (0.0-GY11),0.0)),TEMP,,g24o000,
1515 NSOL,36,(NODE(0.0,      (0.0-MIRAD),0.0)),TEMP,,m24i000,
1516 NSOL,37,(NODE(0.0,      (0.0-MIRAD-MWALL),0.0)),TEMP,,m24o000,
1517 NSOL,38,(NODE(0.0,      (OWALL+IWALL-DCRAD),0.0)),TEMP,,i24i000,
1518 NSOL,39,(NODE(0.0,      (OWALL-DCRAD),0.0)),TEMP,,i24o000,
1519 NSOL,40,(NODE(0.0,      (0.0-DCRAD),0.0)),TEMP,,o24o000,
1520 PRVAR, 2, 3, 4, 5, 6, 7,
1521 PRVAR, 8, 9,10,11,12,13,
1522 PRVAR,14,15,16,17,18,19,
1523 PRVAR,20,21,22,23,24,25,
1524 PRVAR,26,27,28,29,30,31,
1525 PRVAR,32,33,34,35,36,37,
1526 PRVAR,38,39,40,
1527 /COM,
1528 /COM, *****
1529 /COM, * Temperature Profile from center to lower right (45 deg.) *
1530 /COM, *****
1531 NSOL, 2,(NODE( 0.0,      -OFFS,0.0)),TEMP,,c02i045,
1532 NSOL, 3,(NODE(      QCELL,      (-OFFS-QCELL),0.0)),TEMP,,h02o045,
1533 NSOL, 4,(NODE(      HCELL,      (-OFFS-HCELL),0.0)),TEMP,,s02o045,
1534 NSOL, 5,(NODE(      SCELL,      (-OFFS-SCCELL),0.0)),TEMP,,a02o045,
1535 NSOL, 6,(NODE(      ACELL,      (-OFFS-ACELL),0.0)),TEMP,,t02o045,
1536 NSOL, 7,(NODE( (PITCH-ACELL), (ACELL-1.5*PITCH),0.0)),TEMP,,t07i045,
1537 NSOL, 8,(NODE( (PITCH-SCCELL), (SCCELL-1.5*PITCH),0.0)),TEMP,,a07i045,
1538 NSOL, 9,(NODE( (PITCH-HCELL), (HCELL-1.5*PITCH),0.0)),TEMP,,s07i045,
1539 NSOL,10,(NODE( (PITCH-QCELL), (QCELL-1.5*PITCH),0.0)),TEMP,,h07i045,
1540 NSOL,11,(NODE(      PITCH,      (-1.5*PITCH),0.0)),TEMP,,c07i045,
1541 NSOL,12,(NODE( (PITCH+QCELL), (-1.5*PITCH-QCELL),0.0)),TEMP,,h07o045,
1542 NSOL,13,(NODE( (PITCH+HCELL), (-1.5*PITCH-HCELL),0.0)),TEMP,,s07o045,
1543 NSOL,14,(NODE( (PITCH+SCCELL), (-1.5*PITCH-SCCELL),0.0)),TEMP,,a07o045,
1544 NSOL,15,(NODE( (PITCH+ACELL), (-1.5*PITCH-ACELL),0.0)),TEMP,,t07o045,
1545 NSOL,16,(NODE( (2.0*PITCH-ACELL), (ACELL-2.5*PITCH),0.0)),TEMP,,t16i045,
1546 NSOL,17,(NODE( (2.0*PITCH-SCCELL), (SCCELL-2.5*PITCH),0.0)),TEMP,,a16i045,
1547 NSOL,18,(NODE( (2.0*PITCH-HCELL), (HCELL-2.5*PITCH),0.0)),TEMP,,s16i045,
1548 NSOL,19,(NODE( (2.0*PITCH-QCELL), (QCELL-2.5*PITCH),0.0)),TEMP,,h16i045,
1549 NSOL,20,(NODE(      (2.0*PITCH),      (-2.5*PITCH),0.0)),TEMP,,c16i045,
1550 NSOL,21,(NODE( (2.0*PITCH+QCELL), (-2.5*PITCH-QCELL),0.0)),TEMP,,h16o045,
1551 NSOL,22,(NODE( (2.0*PITCH+HCELL), (-2.5*PITCH-HCELL),0.0)),TEMP,,s16o045,
1552 NSOL,23,(NODE( (2.0*PITCH+SCCELL), (-2.5*PITCH-SCCELL),0.0)),TEMP,,a16o045,
1553 NSOL,24,(NODE( (2.0*PITCH+ACELL), (-2.5*PITCH-ACELL),0.0)),TEMP,,t16o045,
1554 NSOL,25,(NODE(      (GX32-GWALL),      (0.0-GY24+SGCD1),0.0)),TEMP,,g16i045,
1555 NSOL,26,(NODE(      MI45,      (-1.0*MI45),0.0)),TEMP,,m16i045,
1556 NSOL,27,(NODE(      MO45,      (-1.0*MO45),0.0)),TEMP,,m16o045,
1557 NSOL,28,(NODE(      DI45,      (-1.0*DI45),0.0)),TEMP,,i16i045,
1558 NSOL,29,(NODE(      DM45,      (-1.0*DM45),0.0)),TEMP,,i16o045,

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1559 NSOL,30,(NODE(          DO45,          (-1.0*DO45),0.0)),TEMP,,o16o045,
1560 /COM,      Add centers of assemblies 6, 14, 15, 17, 22, 23
1561 NSOL,31,(NODE(          (1.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c06i045,
1562 NSOL,32,(NODE(          (2.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c14i045,
1563 NSOL,33,(NODE(          (2.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c15i045,
1564 NSOL,34,(NODE(          (1.0*PITCH),      (-2.5*PITCH),0.0)),TEMP,,c17i045,
1565 NSOL,35,(NODE(          (3.0*PITCH),      (-0.5*PITCH),0.0)),TEMP,,c22i045,
1566 NSOL,36,(NODE(          (3.0*PITCH),      (-1.5*PITCH),0.0)),TEMP,,c23i045,
1567 PRVAR, 2, 3, 4, 5, 6, 7,
1568 PRVAR, 8, 9,10,11,12,13,
1569 PRVAR,14,15,16,17,18,19,
1570 PRVAR,20,21,22,23,24,25,
1571 PRVAR,26,27,28,29,30,31,
1572 PRVAR,32,33,34,35,36,
1573 /COM,
1574 /COM,      *****
1575 /COM,      *   Temperature Profile from center to side of WP (90 deg.)   *
1576 /COM,      *****
1577 NSOL, 2,(NODE(          0.0,0.0,0.0)),TEMP,,c01i090,
1578 NSOL, 3,(NODE(          QCELL,0.0,0.0)),TEMP,,h01o090,
1579 NSOL, 4,(NODE(          HCELL,0.0,0.0)),TEMP,,s01o090,
1580 NSOL, 5,(NODE(          SCELL,0.0,0.0)),TEMP,,a01o090,
1581 NSOL, 6,(NODE(          ACELL,0.0,0.0)),TEMP,,t01o090,
1582 NSOL, 7,(NODE(          (PITCH-ACELL),0.0,0.0)),TEMP,,t05i090,
1583 NSOL, 8,(NODE(          (PITCH-SCELL),0.0,0.0)),TEMP,,a05i090,
1584 NSOL, 9,(NODE(          (PITCH-HCELL),0.0,0.0)),TEMP,,s05i090,
1585 NSOL,10,(NODE(          (PITCH-QCELL),0.0,0.0)),TEMP,,h05i090,
1586 NSOL,11,(NODE(          PITCH,0.0,0.0)),TEMP,,c05i090,
1587 NSOL,12,(NODE(          (PITCH+QCELL),0.0,0.0)),TEMP,,h05o090,
1588 NSOL,13,(NODE(          (PITCH+HCELL),0.0,0.0)),TEMP,,s05o090,
1589 NSOL,14,(NODE(          (PITCH+SCELL),0.0,0.0)),TEMP,,a05o090,
1590 NSOL,15,(NODE(          (PITCH+ACELL),0.0,0.0)),TEMP,,t05i090,
1591 NSOL,16,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1592 NSOL,17,(NODE(          (2.0*PITCH-SCELL),0.0,0.0)),TEMP,,a13i090,
1593 NSOL,18,(NODE(          (2.0*PITCH-HCELL),0.0,0.0)),TEMP,,s13i090,
1594 NSOL,19,(NODE(          (2.0*PITCH-QCELL),0.0,0.0)),TEMP,,h13i090,
1595 NSOL,20,(NODE(          (2.0*PITCH),0.0,0.0)),TEMP,,c13i090,
1596 NSOL,21,(NODE(          (2.0*PITCH+QCELL),0.0,0.0)),TEMP,,h13o090,
1597 NSOL,22,(NODE(          (2.0*PITCH+HCELL),0.0,0.0)),TEMP,,s13o090,
1598 NSOL,23,(NODE(          (2.0*PITCH+SCELL),0.0,0.0)),TEMP,,a13o090,
1599 NSOL,26,(NODE(          (2.0*PITCH-ACELL),0.0,0.0)),TEMP,,t13i090,
1600 NSOL,27,(NODE(          (3.0*PITCH-ACELL),0.0,0.0)),TEMP,,t21i090,
1601 NSOL,28,(NODE(          (3.0*PITCH-SCELL),0.0,0.0)),TEMP,,a21i090,
1602 NSOL,29,(NODE(          (3.0*PITCH-HCELL),0.0,0.0)),TEMP,,s21i090,
1603 NSOL,30,(NODE(          (3.0*PITCH-QCELL),0.0,0.0)),TEMP,,h21i090,
1604 NSOL,31,(NODE(          (3.0*PITCH),0.0,0.0)),TEMP,,c21i090,
1605 NSOL,32,(NODE(          (3.0*PITCH+QCELL),0.0,0.0)),TEMP,,h21o090,
1606 NSOL,33,(NODE(          (3.0*PITCH+HCELL),0.0,0.0)),TEMP,,s21o090,
1607 NSOL,34,(NODE(          (3.0*PITCH+SCELL),0.0,0.0)),TEMP,,a21o090,
1608 NSOL,35,(NODE(          (GX44-GWALL),0.0,0.0)),TEMP,,g04i090,
1609 NSOL,36,(NODE(          GX44,0.0,0.0)),TEMP,,g04o090,
1610 NSOL,37,(NODE(          MIRAD,0.0,0.0)),TEMP,,m04i090,
1611 NSOL,38,(NODE(          (MIRAD+MWALL),0.0,0.0)),TEMP,,m04o090,
1612 NSOL,39,(NODE(          (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
1613 NSOL,40,(NODE(          (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
1614 NSOL,41,(NODE(          DCRAD,0.0,0.0)),TEMP,,o04o090,
1615 PRVAR, 2, 3, 4, 5, 6, 7,
1616 PRVAR, 8, 9,10,11,12,13,
1617 PRVAR,14,15,16,17,18,19,
1618 PRVAR,20,21,22,23,24,25,
1619 PRVAR,26,27,28,29,30,31,
1620 PRVAR,32,33,34,35,36,37,
1621 PRVAR,38,39,40,41,
1622 /COM,
1623 /COM,      *****
1624 /COM,      *   Temperature Profile from center to upper right (135 deg.) *
1625 /COM,      *****
1626 NSOL, 2,(NODE(          0.0,          OFFS,0.0)),TEMP,,c01i135,
1627 NSOL, 3,(NODE(          QCELL,          (OFFS+QCELL),0.0)),TEMP,,h01o135,
1628 NSOL, 4,(NODE(          HCELL,          (OFFS+HCELL),0.0)),TEMP,,s01o135,

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1629 NSOL, 5, (NODE(          SCCELL,          (OFFS+SCCELL),0.0)),TEMP,,a01o135,
1630 NSOL, 6, (NODE(          ACELL,          (OFFS+ACELL),0.0)),TEMP,,t01o135,
1631 NSOL, 7, (NODE(          (PITCH-ACELL), (1.5*PITCH-ACELL),0.0)),TEMP,,t04i135,
1632 NSOL, 8, (NODE(          (PITCH-SCCELL), (1.5*PITCH-SCCELL),0.0)),TEMP,,a04i135,
1633 NSOL, 9, (NODE(          (PITCH-HCELL), (1.5*PITCH-HCELL),0.0)),TEMP,,s04i135,
1634 NSOL,10, (NODE(          (PITCH-QCELL), (1.5*PITCH-QCELL),0.0)),TEMP,,h04i135,
1635 NSOL,11, (NODE(          PITCH,          (1.5*PITCH),0.0)),TEMP,,c04i135,
1636 NSOL,12, (NODE(          (PITCH+QCELL), (1.5*PITCH+QCELL),0.0)),TEMP,,h04o135,
1637 NSOL,13, (NODE(          (PITCH+HCELL), (1.5*PITCH+HCELL),0.0)),TEMP,,s04o135,
1638 NSOL,14, (NODE(          (PITCH+SCCELL), (1.5*PITCH+SCCELL),0.0)),TEMP,,a04o135,
1639 NSOL,15, (NODE(          (PITCH+ACELL), (1.5*PITCH+ACELL),0.0)),TEMP,,t04o135,
1640 NSOL,16, (NODE((2.0*PITCH-ACELL), (2.5*PITCH-ACELL),0.0)),TEMP,,t11i135,
1641 NSOL,17, (NODE((2.0*PITCH-SCCELL), (2.5*PITCH-SCCELL),0.0)),TEMP,,a11i135,
1642 NSOL,18, (NODE((2.0*PITCH-HCELL), (2.5*PITCH-HCELL),0.0)),TEMP,,s11i135,
1643 NSOL,19, (NODE((2.0*PITCH-QCELL), (2.5*PITCH-QCELL),0.0)),TEMP,,h11i135,
1644 NSOL,20, (NODE(          (2.0*PITCH),          (2.5*PITCH),0.0)),TEMP,,c11i135,
1645 NSOL,21, (NODE((2.0*PITCH+QCELL), (2.5*PITCH+QCELL),0.0)),TEMP,,h11o135,
1646 NSOL,22, (NODE((2.0*PITCH+HCELL), (2.5*PITCH+HCELL),0.0)),TEMP,,s11o135,
1647 NSOL,23, (NODE((2.0*PITCH+SCCELL), (2.5*PITCH+SCCELL),0.0)),TEMP,,a11o135,
1648 NSOL,24, (NODE((2.0*PITCH+ACELL), (2.5*PITCH+ACELL),0.0)),TEMP,,t11o135,
1649 NSOL,25, (NODE(          (GX32-GWALL),          (GY24-SGCD1),0.0)),TEMP,,g11i135,
1650 NSOL,26, (NODE(          MI45,          (1.0*MI45),0.0)),TEMP,,m11i135,
1651 NSOL,27, (NODE(          MO45,          (1.0*MO45),0.0)),TEMP,,m11o135,
1652 NSOL,28, (NODE(          DI45,          (1.0*DI45),0.0)),TEMP,,i11i135,
1653 NSOL,29, (NODE(          DM45,          (1.0*DM45),0.0)),TEMP,,i11o135,
1654 NSOL,30, (NODE(          DO45,          (1.0*DO45),0.0)),TEMP,,o11o135,
1655 /COM,      Add centers of assemblies 5, 10, 12, 13, 20, 21
1656 NSOL,31, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c06i135,
1657 NSOL,32, (NODE(          (1.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c14i135,
1658 NSOL,33, (NODE(          (2.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c15i135,
1659 NSOL,34, (NODE(          (2.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c17i135,
1660 NSOL,35, (NODE(          (3.0*PITCH),          (0.5*PITCH),0.0)),TEMP,,c22i135,
1661 NSOL,36, (NODE(          (3.0*PITCH),          (1.5*PITCH),0.0)),TEMP,,c23i135,
1662 PRVAR, 2, 3, 4, 5, 6, 7,
1663 PRVAR, 8, 9,10,11,12,13,
1664 PRVAR,14,15,16,17,18,19,
1665 PRVAR,20,21,22,23,24,25,
1666 PRVAR,26,27,28,29,30,31,
1667 PRVAR,32,33,34,35,36,
1668 /COM,
1669 /COM,      *****
1670 /COM,      * Temperature Profile from center to top of WP (180 deg.) *
1671 /COM,      *****
1672 NSOL, 2, (NODE(0.0,          0.0,0.0)),TEMP,,t02i000,
1673 NSOL, 3, (NODE(0.0,          (ATWCL),0.0)),TEMP,,a02i000,
1674 NSOL, 4, (NODE(0.0,          (STWCL),0.0)),TEMP,,s02i000,
1675 NSOL, 5, (NODE(0.0,          (STWCL+QCELL),0.0)),TEMP,,h02i000,
1676 NSOL, 6, (NODE(0.0,          (0.5*PITCH),0.0)),TEMP,,c02i000,
1677 NSOL, 7, (NODE(0.0,          (0.5*PITCH+QCELL),0.0)),TEMP,,h02o000,
1678 NSOL, 8, (NODE(0.0,          (0.5*PITCH+HCELL),0.0)),TEMP,,s02o000,
1679 NSOL, 9, (NODE(0.0,          (0.5*PITCH+SCCELL),0.0)),TEMP,,a02o000,
1680 NSOL,10, (NODE(0.0,          (1.0*PITCH),0.0)),TEMP,,t08i000,
1681 NSOL,11, (NODE(0.0,          (1.0*PITCH+ATWCL),0.0)),TEMP,,a08i000,
1682 NSOL,12, (NODE(0.0,          (1.0*PITCH+STWCL),0.0)),TEMP,,s08i000,
1683 NSOL,13, (NODE(0.0,          (1.0*PITCH+TQPCL),0.0)),TEMP,,h08i000,
1684 NSOL,14, (NODE(0.0,          (1.5*PITCH),0.0)),TEMP,,c08i000,
1685 NSOL,15, (NODE(0.0,          (1.5*PITCH+QCELL),0.0)),TEMP,,h08o000,
1686 NSOL,16, (NODE(0.0,          (1.5*PITCH+HCELL),0.0)),TEMP,,s08o000,
1687 NSOL,17, (NODE(0.0,          (1.5*PITCH+SCCELL),0.0)),TEMP,,a08o000,
1688 NSOL,18, (NODE(0.0,          (2.0*PITCH),0.0)),TEMP,,t18i000,
1689 NSOL,19, (NODE(0.0,          (2.0*PITCH+ATWCL),0.0)),TEMP,,a18i000,
1690 NSOL,20, (NODE(0.0,          (2.0*PITCH+STWCL),0.0)),TEMP,,s18i000,
1691 NSOL,21, (NODE(0.0,          (2.0*PITCH+TQPCL),0.0)),TEMP,,h18i000,
1692 NSOL,22, (NODE(0.0,          (2.5*PITCH),0.0)),TEMP,,c18i000,
1693 NSOL,23, (NODE(0.0,          (2.5*PITCH+QCELL),0.0)),TEMP,,h18o000,
1694 NSOL,24, (NODE(0.0,          (2.5*PITCH+HCELL),0.0)),TEMP,,s18o000,
1695 NSOL,25, (NODE(0.0,          (2.5*PITCH+SCCELL),0.0)),TEMP,,a18o000,
1696 NSOL,26, (NODE(0.0,          (3.0*PITCH),0.0)),TEMP,,t24i000,
1697 NSOL,27, (NODE(0.0,          (3.0*PITCH+ATWCL),0.0)),TEMP,,a24i000,
1698 NSOL,28, (NODE(0.0,          (3.0*PITCH+STWCL),0.0)),TEMP,,s24i000,

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1699 NSOL,29,(NODE(0.0, (3.0*PITCH+TPCL),0.0)),TEMP,,h24i000,
1700 NSOL,30,(NODE(0.0, (3.5*PITCH),0.0)),TEMP,,c24i000,
1701 NSOL,31,(NODE(0.0, (3.5*PITCH+QCELL),0.0)),TEMP,,h24o000,
1702 NSOL,32,(NODE(0.0, (3.5*PITCH+HCELL),0.0)),TEMP,,s24o000,
1703 NSOL,33,(NODE(0.0, (3.5*PITCH+SCELL),0.0)),TEMP,,t24o000,
1704 NSOL,34,(NODE(0.0, (GY11-TPGPT),0.0)),TEMP,,g24i000,
1705 NSOL,35,(NODE(0.0, (GY11),0.0)),TEMP,,g24o000,
1706 NSOL,36,(NODE(0.0, (MIRAD),0.0)),TEMP,,m24i000,
1707 NSOL,37,(NODE(0.0, (MIRAD+MWALL),0.0)),TEMP,,m24o000,
1708 NSOL,38,(NODE(0.0, (DCRAD-OWALL-IWALL),0.0)),TEMP,,i24i000,
1709 NSOL,39,(NODE(0.0, (DCRAD-OWALL),0.0)),TEMP,,i24o000,
1710 NSOL,40,(NODE(0.0, (DCRAD),0.0)),TEMP,,o24o000,
1711 PRVAR, 2, 3, 4, 5, 6, 7,
1712 PRVAR, 8, 9,10,11,12,13,
1713 PRVAR,14,15,16,17,18,19,
1714 PRVAR,20,21,22,23,24,25,
1715 PRVAR,26,27,28,29,30,31,
1716 PRVAR,32,33,34,35,36,37,
1717 PRVAR,38,39,40,
1718 FINISH
1719 /COM, *****
1720 /COM, End of batch input file
1721 /COM, *****
1722 /EXIT,
1723 /EOF

```

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

```

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

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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= CO /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 03/07/1995
2-D Model of 125 ton burnup credit MPC-DC Thomas L Lotz

* *
* File name: ma40h1.inp *
* 40 BWR MPC with Low T.L. Disposal Container *
* Helium Fill Gas *
* *
* Material Property file: props01.dat *
* *
* SNF Conductivity file: pwr15e.parm (check for Changes) *
* GE-7 8x8 SNF Assembly *
* *
* SNF Heat Loads file: bwr1049.dat *
* SNF Type: 10 years old, 49 GWd/MTU *
* *
* Surface Temp. file: c21h5a.parm *
* 25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
* 5.0 m Diameter Drift with Concrete Invert *
* Drift spacing = 90.0 m *
* WP c/c spacing = 16.165 m *
* *

Increase the number of database pages from 16 (256) to 32 Mb

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512

Work space must also be increased (-m 64)

TITLE=

40 BWR MPC/Waste Package with 10 yr old, 49 GWd/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
 MASS = KILOGRAMS(KG)
 TIME = SECONDS(SEC)
 TEMPERATURE = CENTIGRADE
 CURRENT = AMPS

Define Transient time parameters

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

Read in average effective conductivities from SNF model

*** NOTE *** CP= .810 TIME= 15:15:14
 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= 1.030 TIME= 15:15:14
 Restore ANSYS parameters from file= c21h5a.parm.

/INPUT FILE= c21h5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define MPC/waste package parameters
 (MPC dimensions converted from inches to meters)

Required Constants:

PARAMETER PI = 3.141593

Required container wall parameters:

MIRAD = inner radius of MPC shell (m)
 MWALL = MPC shell thickness (m)
 DCRAD = disposal container outer radius (m)

OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)

PARAMETER MIRAD = .7404100
PARAMETER MWALL = .2540000E-01
PARAMETER DCRAD = .8508000
PARAMETER OWALL = .5000000E-01
PARAMETER IWALL = .2000000E-01

Required outer guide hardware parameters:

Set 1: TPGPL = top/bottom guide plate length (m)
TPGPT = top/bottom guide plate thickness (m)

PARAMETER TPGPL = .1606296
PARAMETER TPGPT = .6350000E-02

Set 2: SGCCW = Width; corner guide to far corner side guide (m)
SGCMW = Width; Side guide corner to Middle side guide (m)
SGCD1 = Vert. Dist. Down to Corner of Guide (m)

PARAMETER SGCCW = .5367528
PARAMETER SGCMW = .1722374
PARAMETER SGCD1 = .1772666

SET 3: GCORV = corner guide Vertical width (m)
GCORH = corner guide Horizontal width (m)
GX32 = X coord. of upper contact from drawing. (m)
GY32 = Y coord. of upper contact from drawing. (m)

PARAMETER GCORV = .1971040
PARAMETER GCORH = .1705864
PARAMETER GX32 = .4739989
PARAMETER GY32 = .5687987

SET 4: GLEN1 = side guide Low width (m)
GLEN2 = side guide High width (m)
GLENT = side guide total width (m)
GWALL = guide thickness (m)

PARAMETER GLEN1 = .1709166
PARAMETER GLEN2 = .3539998
PARAMETER GLENT = .7331964
PARAMETER GWALL = .9525000E-02

Required Tube/Fuel parameters:

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
AWALL = Al/boron tube thickness (m)
TWALL = stainless tube cladding thickness (m)
ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

PARAMETER HCELL = .7620000E-01
PARAMETER SWALL = .6350000E-02
PARAMETER AWALL = .6350000E-02

PARAMETER TWALL = .2387600E-02
 PARAMETER ACTVL = 3.810000
 PARAMETER PEAKF = 1.400000

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)
 ATWCL = Dist. to edge of B-AL plate (m)
 STWCL = Dist. to edge of Steel Bask. Plate (m)
 TOPCL = Top quarter of cell dist. (m)

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 = .8849015E-01
 PARAMETER PITCH = .1825752
 PARAMETER QCELL = .3810000E-01
 PARAMETER SCELL = .8255000E-01
 PARAMETER ACELL = .8890000E-01
 PARAMETER ATWCL = .8737600E-02
 PARAMETER STWCL = .1508760E-01
 PARAMETER TOPCL = .5318760E-01

Determine the required contact points for the outer guide hardware

GX## = x coord. of guide/shell contact
 GY## = y coord. of guide/shell contact

Set 1:

PARAMETER GX11 = .8031480E-01
 PARAMETER GY11 = .7360411

Set 3:

PARAMETER GX31 = .6350603
 PARAMETER GY31 = .3812197

Set 2:

PARAMETER GX24 = .9830753E-01
 PARAMETER GY24 = .7338546
 PARAMETER GX23 = .1078325
 PARAMETER GY23 = .7325156

PARAMETER GX22 = .2705449
PARAMETER GY22 = .6892114
PARAMETER GX21 = .2800699
PARAMETER GY21 = .6853961

Set 4:

PARAMETER GY41 = .4762500E-02
PARAMETER GX41 = .7403947
PARAMETER GY44 = .3587623
PARAMETER GX44 = .6476856
PARAMETER GY43 = .1878457
PARAMETER GX43 = .7161850
PARAMETER GY42 = .1783207
PARAMETER GX42 = .7186158

Define 45 degree point of reference:

MI45 = x coord. MIRAD at 45 deg.
MO45 = x coord. MIRAD+MWALL at 45 deg.
DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
DM45 = x coord. DCRAD-OWALL at 45 deg.
DO45 = x coord. DCRAD at 45 deg.
OFFS = 45 degree Y off set to go through centers

PARAMETER MI45 = .5235489
PARAMETER MO45 = .5415094
PARAMETER DI45 = .5521090
PARAMETER DM45 = .5662511
PARAMETER DO45 = .6016064
PARAMETER OFFS = .9128760E-01

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:15:15 APR 07, 1995 CP= 2.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 .000000E+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
	16.64000	16.76000	16.52000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 42	
SLOC= 37	16.88000	16.99000	17.11000
	17.35000	17.46000	17.23000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 48	
SLOC= 43	17.58000	17.70000	17.82000
	18.06000	18.18000	17.94000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 50	
SLOC= 48	18.30000	18.42000	18.54000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 6	
SLOC= 1	1.940000	1.940000	1.940000
	1.940000	1.940000	1.940000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 12	
SLOC= 7	1.940000	1.950000	1.950000
	1.950000	1.950000	1.950000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 18	
SLOC= 13	1.950000	1.950000	1.960000
	1.960000	1.960000	1.960000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 24	
SLOC= 19	1.960000	1.970000	1.970000
	1.970000	1.980000	1.970000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 30	
SLOC= 25	1.980000	1.980000	1.980000
	1.990000	1.990000	1.990000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 36	
SLOC= 31	2.000000	2.000000	2.000000
	2.010000	2.010000	2.010000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 42	
SLOC= 37	2.020000	2.020000	2.020000
	2.030000	2.030000	2.030000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 48	
SLOC= 43	2.040000	2.040000	2.040000
	2.050000	2.060000	2.050000
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= bwr1049.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: bwr1049.dat
** Execution Date: 03/07/95
** Start Age (years): 10.0
** Decay Period (years): 10000
** Enrichment (percent): 3.74
** Burnup (MWd/MTU): 49000
** Assembly Type: BWR
** SNF U Mass (MTU/assy): 0.200
**
** ASSY(#,1) is the SNF assembly heat in Watts.
** ASSY(#,0) is the time post emplacement in years.
*****

```

PARAMETER ASSY(1,1) =	409.4200 408.7300	409.2500 408.5500	409.0700	408.9000
PARAMETER ASSY(7,1) =	408.3800 407.6800	408.2000 406.8200	408.0300	407.8600
PARAMETER ASSY(13,1) =	405.9700 402.6100	405.1200 401.7900	404.2800	403.4400
PARAMETER ASSY(19,1) =	400.9700 397.7400	400.1500 396.9500	399.3400	398.5400
PARAMETER ASSY(25,1) =	396.1600 393.0600	395.3800 386.0700	394.6000	393.8300
PARAMETER ASSY(31,1) =	379.4900 357.2900	373.4300 352.6900	367.7000	362.3600
PARAMETER ASSY(37,1) =	348.3000 331.0000	343.5600 327.1800	339.0300	334.9300
PARAMETER ASSY(43,1) =	323.5200 310.5600	319.9200 280.3200	316.4600	313.4600
PARAMETER ASSY(49,1) =	255.6100 183.3200	233.4000 169.5700	214.5200	197.6200
PARAMETER ASSY(55,1) =	157.9000 122.2500	147.4800 115.4800	138.1500	129.7800
PARAMETER ASSY(61,1) =	109.3700 90.35000	103.8500 64.29000	99.33000	94.47000
PARAMETER ASSY(67,1) =	51.61000 31.79000	43.92000 29.32000	38.89000	34.91000
PARAMETER ASSY(73,1) =	27.23000 21.02000	25.32000 19.82000	23.69000	22.28000
PARAMETER ASSY(79,1) =	18.76000 15.49000	17.81000 10.52000	16.96000	16.20000
PARAMETER ASSY(85,1) =	8.210000 5.640000	7.000000 5.430000	6.340000	5.950000
PARAMETER ASSY(91,1) =	5.250000 4.510000	5.030000 4.350000	4.830000	4.660000
PARAMETER ASSY(97,1) =	4.210000 3.750000	4.080000	3.960000	3.850000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01	.7000000E-01	.8000000E-01	.9000000E-01

	.1000000	.1500000		
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= 15.821
 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= 15.821 INPUT= 1.0000
 VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

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

SLOC= 1 .000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1

SLOC= 1 3882.420

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1

SLOC= 1 284.0100

Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

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

SLOC= 1 25.00000

PARAMETER IINC = 2.000000

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

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

SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1

SLOC= 1 .4617156

PARAMETER IINC = 2.000000

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

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2

SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading
outer barrier of 70/30 Copper Nickel (C71500)

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

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

SLOC= 1 .000000E+00

Density (lb/in³ converted to kg/m³)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1

SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1
SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 1 20.0000 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 and MPC outer radius
 (K's 9,10,11,12,13,14,15,16,17,18,19,20)
 (L's 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20)
 (A's 1,2,3,4,5)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.850800	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.850800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.850800	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.800800	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.800800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.800800	.000000E+00	IN CSYS= 0
KEYPOINT	15	X,Y,Z=	.000000E+00	-.780800	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.780800	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.000000E+00	.780800	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.000000E+00	-.765810	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.765810	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.000000E+00	.765810	.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

LINE CONNECTS KEYPOINTS 13 16
 LINE NO.= 6 KP1= 13 TAN1= 1.0000 .0000 .0000
 KP2= 16 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .85080
 LINE NO.= 7 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .85080
 LINE NO.= 8 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 9 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .80080
 LINE NO.= 10 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

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

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

ARC BETWEEN KEYPOINTS 15 AND 16 ORIENTATION KEYPOINT= 1
 RADIUS= .78080
 LINE NO.= 13 KP1= 15 TAN1= -1.0000 .0000 .0000
 KP2= 16 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 16 AND 17 ORIENTATION KEYPOINT= 1
 RADIUS= .78080
 LINE NO.= 14 KP1= 16 TAN1= .0000 -1.0000 .0000
 KP2= 17 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 14 17
 LINE NO.= 15 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 17 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 12 15
 LINE NO.= 16 KP1= 12 TAN1= .0000 -1.0000 .0000
 KP2= 15 TAN2= .0000 1.0000 .0000

ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 17 KP1= 19 TAN1= .0000 1.0000 .0000
 KP2= 18 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1
 RADIUS= .76581
 LINE NO.= 18 KP1= 20 TAN1= -1.0000 .0000 .0000
 KP2= 19 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 17 20
 LINE NO.= 19 KP1= 17 TAN1= .0000 1.0000 .0000
 KP2= 20 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 15 18
 LINE NO.= 20 KP1= 15 TAN1= .0000 -1.0000 .0000
 KP2= 18 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 7 12 9
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 11 8 5 10
 (TRAVERSED IN SAME DIRECTION AS LINE 11)

AREA NUMBER = 2

DEFINE AREA BY LIST OF LINES
 LINE LIST = 6 9 16 13
 (TRAVERSED IN SAME DIRECTION AS LINE 6)

AREA NUMBER = 3

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 10 6 14
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 4

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 14 13 20 17 18
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 5

 Define MPC shell inner edge and area
 (K's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38, 39, 40, 41, 42, 43, 44)
 (L's 21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37)
 (38,39, 40, 41, 42, 43, 44, 45)
 (A's 6)

KEYPOINT 21 X,Y,Z= .000000E+00 .740410 .000000E+00 IN CSYS= 0

KEYPOINT	22	X,Y,Z=	.803148E-01	.736041	.000000E+00	IN CSYS=	0
KEYPOINT	23	X,Y,Z=	.983075E-01	.733855	.000000E+00	IN CSYS=	0
KEYPOINT	24	X,Y,Z=	.107833	.732516	.000000E+00	IN CSYS=	0
KEYPOINT	25	X,Y,Z=	.270545	.689211	.000000E+00	IN CSYS=	0
KEYPOINT	26	X,Y,Z=	.280070	.685396	.000000E+00	IN CSYS=	0
KEYPOINT	27	X,Y,Z=	.473999	.568799	.000000E+00	IN CSYS=	0
KEYPOINT	28	X,Y,Z=	.635060	.381220	.000000E+00	IN CSYS=	0
KEYPOINT	29	X,Y,Z=	.647686	.358762	.000000E+00	IN CSYS=	0
KEYPOINT	30	X,Y,Z=	.716185	.187846	.000000E+00	IN CSYS=	0
KEYPOINT	31	X,Y,Z=	.718616	.178321	.000000E+00	IN CSYS=	0
KEYPOINT	32	X,Y,Z=	.740395	.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	33	X,Y,Z=	.740395	-.476250E-02	.000000E+00	IN CSYS=	0
KEYPOINT	34	X,Y,Z=	.718616	-.178321	.000000E+00	IN CSYS=	0
KEYPOINT	35	X,Y,Z=	.716185	-.187846	.000000E+00	IN CSYS=	0
KEYPOINT	36	X,Y,Z=	.647686	-.358762	.000000E+00	IN CSYS=	0
KEYPOINT	37	X,Y,Z=	.635060	-.381220	.000000E+00	IN CSYS=	0
KEYPOINT	38	X,Y,Z=	.473999	-.568799	.000000E+00	IN CSYS=	0
KEYPOINT	39	X,Y,Z=	.280070	-.685396	.000000E+00	IN CSYS=	0
KEYPOINT	40	X,Y,Z=	.270545	-.689211	.000000E+00	IN CSYS=	0
KEYPOINT	41	X,Y,Z=	.107833	-.732516	.000000E+00	IN CSYS=	0
KEYPOINT	42	X,Y,Z=	.983075E-01	-.733855	.000000E+00	IN CSYS=	0
KEYPOINT	43	X,Y,Z=	.803148E-01	-.736041	.000000E+00	IN CSYS=	0
KEYPOINT	44	X,Y,Z=	.000000E+00	-.740410	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS		20	21			
LINE NO.=	21	KP1=	20	TAN1=	.0000	1.0000
		KP2=	21	TAN2=	.0000	-1.0000

ARC BETWEEN KEYPOINTS		22 AND	21	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	22	KP1=	22	TAN1=	.9941	-.1085
		KP2=	21	TAN2=	-1.0000	.0000

ARC BETWEEN KEYPOINTS		23 AND	22	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	23	KP1=	23	TAN1=	.9911	-.1328
		KP2=	22	TAN2=	-.9941	.1085

ARC BETWEEN KEYPOINTS		24 AND	23	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	24	KP1=	24	TAN1=	.9893	-.1456
		KP2=	23	TAN2=	-.9911	.1328

ARC BETWEEN KEYPOINTS		25 AND	24	ORIENTATION KEYPOINT=		
RADIUS=		.74041				
LINE NO.=	25	KP1=	25	TAN1=	.9309	-.3654
		KP2=	24	TAN2=	-.9893	.1456

ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	26	KP1=	26 TAN1=	.9257 -.3783 .0000
		KP2=	25 TAN2=	-.9309 .3654 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	27	KP1=	27 TAN1=	.7682 -.6402 .0000
		KP2=	26 TAN2=	-.9257 .3783 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	28	KP1=	28 TAN1=	.5156 -.8568 .0000
		KP2=	27 TAN2=	-.7690 .6393 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	29	KP1=	29 TAN1=	.4748 -.8801 .0000
		KP2=	28 TAN2=	-.5051 .8630 .0000
ARC BETWEEN KEYPOINTS	30 AND	29	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	30	KP1=	30 TAN1=	.2537 -.9673 .0000
		KP2=	29 TAN2=	-.4845 .8748 .0000
ARC BETWEEN KEYPOINTS	31 AND	30	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	31	KP1=	31 TAN1=	.2408 -.9706 .0000
		KP2=	30 TAN2=	-.2537 .9673 .0000
ARC BETWEEN KEYPOINTS	32 AND	31	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	32	KP1=	32 TAN1=	.0064 -1.0000 .0000
		KP2=	31 TAN2=	-.2408 .9706 .0000
ARC BETWEEN KEYPOINTS	33 AND	32	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	33	KP1=	33 TAN1=	-.0064 -1.0000 .0000
		KP2=	32 TAN2=	-.0064 1.0000 .0000
ARC BETWEEN KEYPOINTS	34 AND	33	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	34	KP1=	34 TAN1=	-.2408 -.9706 .0000
		KP2=	33 TAN2=	.0064 1.0000 .0000
ARC BETWEEN KEYPOINTS	35 AND	34	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	35	KP1=	35 TAN1=	-.2537 -.9673 .0000
		KP2=	34 TAN2=	.2408 .9706 .0000
ARC BETWEEN KEYPOINTS	36 AND	35	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	36	KP1=	36 TAN1=	-.4845 -.8748 .0000
		KP2=	35 TAN2=	.2537 .9673 .0000
ARC BETWEEN KEYPOINTS	37 AND	36	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	37	KP1=	37 TAN1=	-.5051 -.8630 .0000
		KP2=	36 TAN2=	.4748 .8801 .0000
ARC BETWEEN KEYPOINTS	38 AND	37	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	38	KP1=	38 TAN1=	-.7690 -.6393 .0000
		KP2=	37 TAN2=	.5156 .8568 .0000
ARC BETWEEN KEYPOINTS	39 AND	38	ORIENTATION KEYPOINT=	1
RADIUS=	.74041			
LINE NO.=	39	KP1=	39 TAN1=	-.9257 -.3783 .0000
		KP2=	38 TAN2=	.7682 .6402 .0000

ARC BETWEEN KEYPOINTS 40 AND 39 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 40 KP1= 40 TAN1= -.9309 -.3654 .0000
KP2= 39 TAN2= .9257 .3783 .0000

ARC BETWEEN KEYPOINTS 41 AND 40 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 41 KP1= 41 TAN1= -.9893 -.1456 .0000
KP2= 40 TAN2= .9309 .3654 .0000

ARC BETWEEN KEYPOINTS 42 AND 41 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 42 KP1= 42 TAN1= -.9911 -.1328 .0000
KP2= 41 TAN2= .9893 .1456 .0000

ARC BETWEEN KEYPOINTS 43 AND 42 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 43 KP1= 43 TAN1= -.9941 -.1085 .0000
KP2= 42 TAN2= .9911 .1328 .0000

ARC BETWEEN KEYPOINTS 44 AND 43 ORIENTATION KEYPOINT= 1
RADIUS= .74041
LINE NO.= 44 KP1= 44 TAN1= -1.0000 .0000 .0000
KP2= 43 TAN2= .9941 .1085 .0000

LINE CONNECTS KEYPOINTS 18 44
LINE NO.= 45 KP1= 18 TAN1= .0000 -1.0000 .0000
KP2= 44 TAN2= .0000 1.0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 45 STEP 1

25 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 17 TO 18 STEP 1

27 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 6

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 45 STEP 1

45 LINES (OF 45 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides
(K's 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61)
(62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78)
(79,80,81,82)
(L's 46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62)
(63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79)
(80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96)
(97,98,99,100,101,102,103,104,105,106,107,108,109,110)
(111,112,113,114,115)
(A's 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)
(25,26,27,28,29,30,31,32,33,34,35,36,37,38)

Set 1: top plate

KEYPOINT 45 X,Y,Z= .803148E-01 .726516 .000000E+00 IN CSYS= 0
KEYPOINT 46 X,Y,Z= .000000E+00 .736041 .000000E+00 IN CSYS= 0
KEYPOINT 47 X,Y,Z= .000000E+00 .726516 .000000E+00 IN CSYS= 0

Set 2: top side guide

KEYPOINT	48	X,Y,Z=	.983075E-01	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.107833	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.270545	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.280070	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.464474	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.464474	.556588	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.473999	.566113	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.473999	.556588	.000000E+00	IN CSYS= 0

Set 3: top corner

KEYPOINT	56	X,Y,Z=	.464474	.568799	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.464474	.371695	.000000E+00	IN CSYS= 0
KEYPOINT	58	X,Y,Z=	.473999	.381220	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.635060	.371695	.000000E+00	IN CSYS= 0

Set 4: side guide

KEYPOINT	60	X,Y,Z=	.638161	.358762	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.638161	-.358762	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.647686	.187846	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.647686	.178321	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.647686	.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.647686	-.476250E-02	.000000E+00	IN CSYS= 0
KEYPOINT	66	X,Y,Z=	.647686	-.178321	.000000E+00	IN CSYS= 0
KEYPOINT	67	X,Y,Z=	.647686	-.187846	.000000E+00	IN CSYS= 0

Set 3: bottom corner

KEYPOINT	68	X,Y,Z=	.464474	-.568799	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.464474	-.371695	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.473999	-.381220	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.635060	-.371695	.000000E+00	IN CSYS= 0

Set 2: bottom side guide

KEYPOINT	72	X,Y,Z=	.983075E-01	-.556588	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.107833	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.270545	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.280070	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	76	X,Y,Z=	.464474	-.566113	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.464474	-.556588	.000000E+00	IN CSYS= 0

KEYPOINT 78 X,Y,Z= .473999 -.566113 .000000E+00 IN CSYS= 0
 KEYPOINT 79 X,Y,Z= .473999 -.556588 .000000E+00 IN CSYS= 0

Set 1: bottom plate

KEYPOINT 80 X,Y,Z= .803148E-01 -.726516 .000000E+00 IN CSYS= 0
 KEYPOINT 81 X,Y,Z= .000000E+00 -.736041 .000000E+00 IN CSYS= 0
 KEYPOINT 82 X,Y,Z= .000000E+00 -.726516 .000000E+00 IN CSYS= 0

Now Fill in the required lines:
 Set 1: bottom plate

LINE CONNECTS KEYPOINTS 21 46
 LINE NO.= 46 KP1= 21 TAN1= .0000 1.0000 .0000
 KP2= 46 TAN2= .0000 -1.0000 .0000

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

LINE CONNECTS KEYPOINTS 46 22
 LINE NO.= 48 KP1= 46 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 22 45
 LINE NO.= 49 KP1= 22 TAN1= .0000 1.0000 .0000
 KP2= 45 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 45 47
 LINE NO.= 50 KP1= 45 TAN1= 1.0000 .0000 .0000
 KP2= 47 TAN2= -1.0000 .0000 .0000

Set 2: top side guide

LINE CONNECTS KEYPOINTS 48 23
 LINE NO.= 51 KP1= 48 TAN1= .0000 -1.0000 .0000
 KP2= 23 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 52 KP1= 48 TAN1= -.7071 -.7071 .0000
 KP2= 49 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 24 49
 LINE NO.= 53 KP1= 24 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 49 50
 LINE NO.= 54 KP1= 49 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 53 48
 LINE NO.= 55 KP1= 53 TAN1= 1.0000 .0000 .0000
 KP2= 48 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 25
 LINE NO.= 56 KP1= 50 TAN1= .0000 -1.0000 .0000
 KP2= 25 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 26 51
 LINE NO.= 57 KP1= 26 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 58 KP1= 50 TAN1= -1.0000 .0000 .0000
 KP2= 51 TAN2= 1.0000 .0000 .0000

LINE CONNECTS	KEYPOINTS	51	52			
LINE NO.=	59 KP1=	51	TAN1=	-1.0000	.0000	.0000
	KP2=	52	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	52	53			
LINE NO.=	60 KP1=	52	TAN1=	.0000	1.0000	.0000
	KP2=	53	TAN2=	.0000	-1.0000	.0000

Set 3: top corner

LINE CONNECTS	KEYPOINTS	56	27			
LINE NO.=	61 KP1=	56	TAN1=	-1.0000	.0000	.0000
	KP2=	27	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	52	56			
LINE NO.=	62 KP1=	52	TAN1=	.0000	-1.0000	.0000
	KP2=	56	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	27	54			
LINE NO.=	63 KP1=	27	TAN1=	.0000	1.0000	.0000
	KP2=	54	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	54	55			
LINE NO.=	64 KP1=	54	TAN1=	.0000	1.0000	.0000
	KP2=	55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	52	54			
LINE NO.=	65 KP1=	52	TAN1=	-1.0000	.0000	.0000
	KP2=	54	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	53	55			
LINE NO.=	66 KP1=	53	TAN1=	-1.0000	.0000	.0000
	KP2=	55	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	55	58			
LINE NO.=	67 KP1=	55	TAN1=	.0000	1.0000	.0000
	KP2=	58	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS	KEYPOINTS	57	53			
LINE NO.=	68 KP1=	57	TAN1=	.0000	-1.0000	.0000
	KP2=	53	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	57	58			
LINE NO.=	69 KP1=	57	TAN1=	-.7071	-.7071	.0000
	KP2=	58	TAN2=	.7071	.7071	.0000

LINE CONNECTS	KEYPOINTS	58	28			
LINE NO.=	70 KP1=	58	TAN1=	-1.0000	.0000	.0000
	KP2=	28	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	59	57			
LINE NO.=	71 KP1=	59	TAN1=	1.0000	.0000	.0000
	KP2=	57	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	28	59			
LINE NO.=	72 KP1=	28	TAN1=	.0000	1.0000	.0000
	KP2=	59	TAN2=	.0000	-1.0000	.0000

Set 4: side guide

LINE CONNECTS	KEYPOINTS	60	29			
LINE NO.=	73 KP1=	60	TAN1=	-1.0000	.0000	.0000
	KP2=	29	TAN2=	1.0000	.0000	.0000

LINE CONNECTS	KEYPOINTS	61	60			
LINE NO.=	74 KP1=	61	TAN1=	.0000	-1.0000	.0000
	KP2=	60	TAN2=	.0000	1.0000	.0000

LINE CONNECTS	KEYPOINTS	29	62			
LINE NO.=	75 KP1=	29	TAN1=	.0000	1.0000	.0000

	KP2=	62	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		62	63			
LINE NO.= 76	KP1=	62	TAN1=	.0000	1.0000	.0000
	KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		62	30			
LINE NO.= 77	KP1=	62	TAN1=	-1.0000	.0000	.0000
	KP2=	30	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		31	63			
LINE NO.= 78	KP1=	31	TAN1=	1.0000	.0000	.0000
	KP2=	63	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		63	64			
LINE NO.= 79	KP1=	63	TAN1=	.0000	1.0000	.0000
	KP2=	64	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	65			
LINE NO.= 80	KP1=	64	TAN1=	.0000	1.0000	.0000
	KP2=	65	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	32			
LINE NO.= 81	KP1=	64	TAN1=	-1.0000	.0000	.0000
	KP2=	32	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		33	65			
LINE NO.= 82	KP1=	33	TAN1=	1.0000	.0000	.0000
	KP2=	65	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		65	66			
LINE NO.= 83	KP1=	65	TAN1=	.0000	1.0000	.0000
	KP2=	66	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		66	67			
LINE NO.= 84	KP1=	66	TAN1=	.0000	1.0000	.0000
	KP2=	67	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		66	34			
LINE NO.= 85	KP1=	66	TAN1=	-1.0000	.0000	.0000
	KP2=	34	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		35	67			
LINE NO.= 86	KP1=	35	TAN1=	1.0000	.0000	.0000
	KP2=	67	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		67	36			
LINE NO.= 87	KP1=	67	TAN1=	.0000	1.0000	.0000
	KP2=	36	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		36	61			
LINE NO.= 88	KP1=	36	TAN1=	1.0000	.0000	.0000
	KP2=	61	TAN2=	-1.0000	.0000	.0000

Set 3: bottom corner

LINE CONNECTS KEYPOINTS		37	71			
LINE NO.= 89	KP1=	37	TAN1=	.0000	-1.0000	.0000
	KP2=	71	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		69	71			
LINE NO.= 90	KP1=	69	TAN1=	-1.0000	.0000	.0000
	KP2=	71	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		69	70			
LINE NO.= 91	KP1=	69	TAN1=	-.7071	.7071	.0000
	KP2=	70	TAN2=	.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS		37	70			
LINE NO.= 92	KP1=	37	TAN1=	1.0000	.0000	.0000

	KP2=	70	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 70 79						
LINE NO.=	93	KP1=	70	TAN1=	.0000	1.0000
		KP2=	79	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 79 78						
LINE NO.=	94	KP1=	79	TAN1=	.0000	1.0000
		KP2=	78	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 78 38						
LINE NO.=	95	KP1=	78	TAN1=	.0000	1.0000
		KP2=	38	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 38 68						
LINE NO.=	96	KP1=	38	TAN1=	1.0000	.0000
		KP2=	68	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 68 76						
LINE NO.=	97	KP1=	68	TAN1=	.0000	-1.0000
		KP2=	76	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 76 77						
LINE NO.=	98	KP1=	76	TAN1=	.0000	-1.0000
		KP2=	77	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 77 69						
LINE NO.=	99	KP1=	77	TAN1=	.0000	-1.0000
		KP2=	69	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 76 78						
LINE NO.=	100	KP1=	76	TAN1=	-1.0000	.0000
		KP2=	78	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS 77 79						
LINE NO.=	101	KP1=	77	TAN1=	-1.0000	.0000
		KP2=	79	TAN2=	1.0000	.0000

Set 2: bottom side guide

LINE CONNECTS KEYPOINTS 72 77						
LINE NO.=	102	KP1=	72	TAN1=	-1.0000	.0000
		KP2=	77	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS 72 73						
LINE NO.=	103	KP1=	72	TAN1=	-.7071	.7071
		KP2=	73	TAN2=	.7071	-.7071
LINE CONNECTS KEYPOINTS 76 75						
LINE NO.=	104	KP1=	76	TAN1=	1.0000	.0000
		KP2=	75	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 75 74						
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000
		KP2=	74	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 74 73						
LINE NO.=	106	KP1=	74	TAN1=	1.0000	.0000
		KP2=	73	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 73 41						
LINE NO.=	107	KP1=	73	TAN1=	.0000	1.0000
		KP2=	41	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 42 72						
LINE NO.=	108	KP1=	42	TAN1=	.0000	-1.0000
		KP2=	72	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS 40 74						
LINE NO.=	109	KP1=	40	TAN1=	.0000	-1.0000

KP2= 74 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 75 39
 LINE NO.= 110 KP1= 75 TAN1= .0000 1.0000 .0000
 KP2= 39 TAN2= .0000 -1.0000 .0000

Set 1: bottom plate

LINE CONNECTS KEYPOINTS 80 43
 LINE NO.= 111 KP1= 80 TAN1= .0000 1.0000 .0000
 KP2= 43 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 82 80
 LINE NO.= 112 KP1= 82 TAN1= -1.0000 .0000 .0000
 KP2= 80 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 81
 LINE NO.= 113 KP1= 82 TAN1= .0000 1.0000 .0000
 KP2= 81 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 43 81
 LINE NO.= 114 KP1= 43 TAN1= 1.0000 .0000 .0000
 KP2= 81 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 81 44
 LINE NO.= 115 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 44 TAN2= .0000 -1.0000 .0000

Radiation/Back Fill Gas Gaps:
 Set 1: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 48 22
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 7
 Set 2: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 25 53 54 56
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 27 57 59 62 61
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 9
 Set 3: TOP

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 63 64 67 70
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 10
 Set 4: SIDE

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 75 77
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 32 78 79 81
 (TRAVERSED IN SAME DIRECTION AS LINE 32)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 34 82 83 85
(TRAVERSED IN SAME DIRECTION AS LINE 34)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 36 86 87
(TRAVERSED IN SAME DIRECTION AS LINE 36)

AREA NUMBER = 14
Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 38 92 93 94 95
(TRAVERSED IN SAME DIRECTION AS LINE 38)

AREA NUMBER = 15
Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 39 96 97 104 110
(TRAVERSED IN SAME DIRECTION AS LINE 39)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 41 109 106 107
(TRAVERSED IN SAME DIRECTION AS LINE 41)

AREA NUMBER = 17
Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 114 115
(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 18
SOLID GUIDES:
Set 1: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 48 49 50
(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 19
Set 2: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 51 52 53
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 55 60 59 58 54
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 56 58 57
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 22
Set 3: TOP

DEFINE AREA BY LIST OF LINES

LINE LIST = 61 62 65 63
(TRAVERSED IN SAME DIRECTION AS LINE 61)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 65 60 66 64
(TRAVERSED IN SAME DIRECTION AS LINE 65)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 66 68 69 67
(TRAVERSED IN SAME DIRECTION AS LINE 66)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 70 69 71 72
(TRAVERSED IN SAME DIRECTION AS LINE 70)

AREA NUMBER = 26

Set 4: SIDE

DEFINE AREA BY LIST OF LINES

LINE LIST = 73 74 88 87 84 83 80 79 76 75
(TRAVERSED IN SAME DIRECTION AS LINE 73)

AREA NUMBER = 27

DEFINE AREA BY LIST OF LINES

LINE LIST = 31 77 76 78
(TRAVERSED IN SAME DIRECTION AS LINE 31)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 33 81 80 82
(TRAVERSED IN SAME DIRECTION AS LINE 33)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 35 85 84 86
(TRAVERSED IN SAME DIRECTION AS LINE 35)

AREA NUMBER = 30

Set 3: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 89 90 91 92
(TRAVERSED IN SAME DIRECTION AS LINE 89)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES

LINE LIST = 91 93 101 99
(TRAVERSED IN SAME DIRECTION AS LINE 91)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 94 100 98
(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 95 96 97
(TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 34

Set 2: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 98 104 105 106 103
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 40 110 105 109
(TRAVERSED IN SAME DIRECTION AS LINE 40)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 42 107 103 108
(TRAVERSED IN SAME DIRECTION AS LINE 42)

AREA NUMBER = 37

Set 1: BOTTOM

DEFINE AREA BY LIST OF LINES

LINE LIST = 111 112 113 114
(TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 38

Define center edge half-tube

(K's 83,84,85,86,87,88,89,90,91,92,93,94)

(L's 116,117,118,119,120,121,122,123,124,125,126,127,128)

(129,130,131,132,133)

(A's 39,40,41,42,43,44,45)

KEYPOINT	83	X,Y,Z=	.000000E+00	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	84	X,Y,Z=	.000000E+00	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	85	X,Y,Z=	.000000E+00	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	86	X,Y,Z=	.000000E+00	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	87	X,Y,Z=	.000000E+00	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	88	X,Y,Z=	.000000E+00	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	89	X,Y,Z=	.889000E-01	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	90	X,Y,Z=	.825500E-01	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	91	X,Y,Z=	.762000E-01	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	92	X,Y,Z=	.889000E-01	.180188	.000000E+00	IN CSYS= 0
KEYPOINT	93	X,Y,Z=	.825500E-01	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	94	X,Y,Z=	.762000E-01	.167488	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	83	84
LINE NO.= 116	KP1= 83	TAN1= .0000 -1.0000 .0000
	KP2= 84	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	84	85
LINE NO.= 117	KP1= 84	TAN1= .0000 -1.0000 .0000
	KP2= 85	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	86	87
LINE NO.= 118	KP1= 86	TAN1= .0000 -1.0000 .0000
	KP2= 87	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS	87	88
LINE NO.= 119	KP1= 87	TAN1= .0000 -1.0000 .0000

KP2=	88	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	120	KP1=	89	TAN1=	83
		KP2=	83	TAN2=	
			1.0000	.0000	.0000
			-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	121	KP1=	84	TAN1=	90
		KP2=	90	TAN2=	
			-1.0000	.0000	.0000
			1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	122	KP1=	85	TAN1=	91
		KP2=	91	TAN2=	
			-1.0000	.0000	.0000
			1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	123	KP1=	86	TAN1=	94
		KP2=	94	TAN2=	
			-1.0000	.0000	.0000
			1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	124	KP1=	87	TAN1=	93
		KP2=	93	TAN2=	
			-1.0000	.0000	.0000
			1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	125	KP1=	88	TAN1=	92
		KP2=	92	TAN2=	
			-1.0000	.0000	.0000
			1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	126	KP1=	90	TAN1=	89
		KP2=	89	TAN2=	
			-.7071	.7071	.0000
			.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	127	KP1=	91	TAN1=	90
		KP2=	90	TAN2=	
			-.7071	.7071	.0000
			.7071	-.7071	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	128	KP1=	94	TAN1=	93
		KP2=	93	TAN2=	
			-.7071	-.7071	.0000
			.7071	.7071	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	129	KP1=	93	TAN1=	92
		KP2=	92	TAN2=	
			-.7071	-.7071	.0000
			.7071	.7071	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	130	KP1=	85	TAN1=	86
		KP2=	86	TAN2=	
			.0000	-1.0000	.0000
			.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	131	KP1=	91	TAN1=	94
		KP2=	94	TAN2=	
			.0000	-1.0000	.0000
			.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	132	KP1=	90	TAN1=	93
		KP2=	93	TAN2=	
			.0000	-1.0000	.0000
			.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS					
LINE NO.=	133	KP1=	89	TAN1=	92
		KP2=	92	TAN2=	
			.0000	-1.0000	.0000
			.0000	1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 130 123 131 122
(TRAVERSED IN SAME DIRECTION AS LINE 130)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES

LINE LIST = 116 121 126 120
(TRAVERSED IN SAME DIRECTION AS LINE 116)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES

LINE LIST = 117 122 127 121
(TRAVERSED IN SAME DIRECTION AS LINE 117)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES

LINE LIST = 118 124 128 123
(TRAVERSED IN SAME DIRECTION AS LINE 118)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES

LINE LIST = 119 125 129 124
(TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 43

DEFINE AREA BY LIST OF LINES

LINE LIST = 131 128 132 127
(TRAVERSED IN SAME DIRECTION AS LINE 131)

AREA NUMBER = 44

DEFINE AREA BY LIST OF LINES

LINE LIST = 132 129 133 126
(TRAVERSED IN SAME DIRECTION AS LINE 132)

AREA NUMBER = 45

Define center full-tube

(K's 95,96,97,98,99,100,101,102,103,104,105,106)

(L's 134,135,136,137,138,139,140,141,142,143,144,145)

(146,147,148,149,150,151,152,153)

(A's 46,47,48,49,50,51,52,53,54)

KEYPOINT	95	X,Y,Z=	.936752E-01	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	96	X,Y,Z=	.271475	.238760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	97	X,Y,Z=	.100025	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	98	X,Y,Z=	.265125	.873760E-02	.000000E+00	IN CSYS=	0
KEYPOINT	99	X,Y,Z=	.106375	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	100	X,Y,Z=	.258775	.150876E-01	.000000E+00	IN CSYS=	0
KEYPOINT	101	X,Y,Z=	.106375	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	102	X,Y,Z=	.258775	.167488	.000000E+00	IN CSYS=	0
KEYPOINT	103	X,Y,Z=	.100025	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	104	X,Y,Z=	.265125	.173838	.000000E+00	IN CSYS=	0
KEYPOINT	105	X,Y,Z=	.936752E-01	.180188	.000000E+00	IN CSYS=	0
KEYPOINT	106	X,Y,Z=	.271475	.180188	.000000E+00	IN CSYS=	0

LINE CONNECTS KEYPOINTS 95 97

LINE NO.=	134	KP1=	95	TAN1=	-.7071	-.7071	.0000
		KP2=	97	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS 97 99

LINE NO.=	135	KP1=	97	TAN1=	-.7071	-.7071	.0000
		KP2=	99	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS 101 103

LINE NO.=	136	KP1=	101	TAN1=	.7071	-.7071	.0000
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	KP2=	103	TAN2=	-.7071	.7071	.0000
LINE CONNECTS KEYPOINTS						
		103	105			
LINE NO.=	137	KP1=	103	TAN1=	-.7071	.0000
		KP2=	105	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS						
		96	98			
LINE NO.=	138	KP1=	96	TAN1=	-.7071	.0000
		KP2=	98	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS						
		98	100			
LINE NO.=	139	KP1=	98	TAN1=	-.7071	.0000
		KP2=	100	TAN2=	-.7071	.0000
LINE CONNECTS KEYPOINTS						
		102	104			
LINE NO.=	140	KP1=	102	TAN1=	-.7071	.0000
		KP2=	104	TAN2=	.7071	.0000
LINE CONNECTS KEYPOINTS						
		104	106			
LINE NO.=	141	KP1=	104	TAN1=	-.7071	.0000
		KP2=	106	TAN2=	.7071	.0000
LINE CONNECTS KEYPOINTS						
		96	95			
LINE NO.=	142	KP1=	96	TAN1=	1.0000	.0000
		KP2=	95	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS						
		97	98			
LINE NO.=	143	KP1=	97	TAN1=	-1.0000	.0000
		KP2=	98	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS						
		99	100			
LINE NO.=	144	KP1=	99	TAN1=	-1.0000	.0000
		KP2=	100	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS						
		101	102			
LINE NO.=	145	KP1=	101	TAN1=	-1.0000	.0000
		KP2=	102	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS						
		103	104			
LINE NO.=	146	KP1=	103	TAN1=	-1.0000	.0000
		KP2=	104	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS						
		105	106			
LINE NO.=	147	KP1=	105	TAN1=	-1.0000	.0000
		KP2=	106	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS						
		95	105			
LINE NO.=	148	KP1=	95	TAN1=	.0000	-1.0000
		KP2=	105	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS						
		97	103			
LINE NO.=	149	KP1=	97	TAN1=	.0000	-1.0000
		KP2=	103	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS						
		99	101			
LINE NO.=	150	KP1=	99	TAN1=	.0000	-1.0000
		KP2=	101	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS						
		100	102			
LINE NO.=	151	KP1=	100	TAN1=	.0000	-1.0000
		KP2=	102	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS						
		98	104			
LINE NO.=	152	KP1=	98	TAN1=	.0000	-1.0000
		KP2=	104	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS						
		106	96			
LINE NO.=	153	KP1=	106	TAN1=	.0000	1.0000
		KP2=	96	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 144 151 145 150
(TRAVERSED IN SAME DIRECTION AS LINE 144)

AREA NUMBER = 46

DEFINE AREA BY LIST OF LINES

LINE LIST = 142 138 143 134
(TRAVERSED IN SAME DIRECTION AS LINE 142)

AREA NUMBER = 47

DEFINE AREA BY LIST OF LINES

LINE LIST = 143 139 144 135
(TRAVERSED IN SAME DIRECTION AS LINE 143)

AREA NUMBER = 48

DEFINE AREA BY LIST OF LINES

LINE LIST = 145 140 146 136
(TRAVERSED IN SAME DIRECTION AS LINE 145)

AREA NUMBER = 49

DEFINE AREA BY LIST OF LINES

LINE LIST = 146 141 147 137
(TRAVERSED IN SAME DIRECTION AS LINE 146)

AREA NUMBER = 50

DEFINE AREA BY LIST OF LINES

LINE LIST = 148 134 149 137
(TRAVERSED IN SAME DIRECTION AS LINE 148)

AREA NUMBER = 51

DEFINE AREA BY LIST OF LINES

LINE LIST = 149 135 150 136
(TRAVERSED IN SAME DIRECTION AS LINE 149)

AREA NUMBER = 52

DEFINE AREA BY LIST OF LINES

LINE LIST = 151 139 152 140
(TRAVERSED IN SAME DIRECTION AS LINE 151)

AREA NUMBER = 53

DEFINE AREA BY LIST OF LINES

LINE LIST = 152 138 153 141
(TRAVERSED IN SAME DIRECTION AS LINE 152)

AREA NUMBER = 54

Define edge half-tube

(K's 107,108,109,110,111,112,113,114,115,116,117)

(L's 154,155,156,157,158,159,160,161,162,163,164,165)

(166,167,168,169)

(A's 55,56,57,58,59,60)

KEYPOINT	107	X,Y,Z=	.000000E+00	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	108	X,Y,Z=	.762000E-01	.715213	.000000E+00	IN CSYS= 0
KEYPOINT	109	X,Y,Z=	.000000E+00	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	110	X,Y,Z=	.762000E-01	.562813	.000000E+00	IN CSYS= 0
KEYPOINT	111	X,Y,Z=	.000000E+00	.721563	.000000E+00	IN CSYS= 0

KEYPOINT 112 X,Y,Z= .825500E-01 .721563 .000000E+00 IN CSYS= 0
 KEYPOINT 113 X,Y,Z= .000000E+00 .556463 .000000E+00 IN CSYS= 0
 KEYPOINT 114 X,Y,Z= .825500E-01 .556463 .000000E+00 IN CSYS= 0
 KEYPOINT 115 X,Y,Z= .889000E-01 .721563 .000000E+00 IN CSYS= 0
 KEYPOINT 116 X,Y,Z= .000000E+00 .550113 .000000E+00 IN CSYS= 0
 KEYPOINT 117 X,Y,Z= .889000E-01 .550113 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 116 113
 LINE NO.= 154 KP1= 116 TAN1= .0000 -1.0000 .0000
 KP2= 113 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 113 109
 LINE NO.= 155 KP1= 113 TAN1= .0000 -1.0000 .0000
 KP2= 109 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 107 111
 LINE NO.= 156 KP1= 107 TAN1= .0000 -1.0000 .0000
 KP2= 111 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 114 117
 LINE NO.= 157 KP1= 114 TAN1= -.7071 .7071 .0000
 KP2= 117 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 110 114
 LINE NO.= 158 KP1= 110 TAN1= -.7071 .7071 .0000
 KP2= 114 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 112 115
 LINE NO.= 159 KP1= 112 TAN1= -1.0000 .0000 .0000
 KP2= 115 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 108 112
 LINE NO.= 160 KP1= 108 TAN1= -.7071 -.7071 .0000
 KP2= 112 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 116 117
 LINE NO.= 161 KP1= 116 TAN1= -1.0000 .0000 .0000
 KP2= 117 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 113 114
 LINE NO.= 162 KP1= 113 TAN1= -1.0000 .0000 .0000
 KP2= 114 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 109 110
 LINE NO.= 163 KP1= 109 TAN1= -1.0000 .0000 .0000
 KP2= 110 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 108 107
 LINE NO.= 164 KP1= 108 TAN1= 1.0000 .0000 .0000
 KP2= 107 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 111 112
 LINE NO.= 165 KP1= 111 TAN1= -1.0000 .0000 .0000
 KP2= 112 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 109 107
 LINE NO.= 166 KP1= 109 TAN1= .0000 -1.0000 .0000
 KP2= 107 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 110 108
 LINE NO.= 167 KP1= 110 TAN1= .0000 -1.0000 .0000
 KP2= 108 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 114 112
 LINE NO.= 168 KP1= 114 TAN1= .0000 -1.0000 .0000

KP2= 112 TAN2= .0000 1.0000 .0000
 LINE CONNECTS KEYPOINTS 115 117
 LINE NO.= 169 KP1= 115 TAN1= .0000 1.0000 .0000
 KP2= 117 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 166 163 167 164
 (TRAVERSED IN SAME DIRECTION AS LINE 166)

AREA NUMBER = 55

DEFINE AREA BY LIST OF LINES
 LINE LIST = 161 157 162 154
 (TRAVERSED IN SAME DIRECTION AS LINE 161)

AREA NUMBER = 56

DEFINE AREA BY LIST OF LINES
 LINE LIST = 162 158 163 155
 (TRAVERSED IN SAME DIRECTION AS LINE 162)

AREA NUMBER = 57

DEFINE AREA BY LIST OF LINES
 LINE LIST = 164 160 165 156
 (TRAVERSED IN SAME DIRECTION AS LINE 164)

AREA NUMBER = 58

DEFINE AREA BY LIST OF LINES
 LINE LIST = 167 158 168 160
 (TRAVERSED IN SAME DIRECTION AS LINE 167)

AREA NUMBER = 59

DEFINE AREA BY LIST OF LINES
 LINE LIST = 168 157 169 159
 (TRAVERSED IN SAME DIRECTION AS LINE 168)

AREA NUMBER = 60

Define edge full-tube
 (K's 118,119,120,121,122,123,124,125,126,127,128,129)
 (L's 170,171,172,173,174,175,176,177,178,179,180,181)
 (182,183,184,185,186,187,188)
 (A's 61,62,63,64,65,66,67,68)

KEYPOINT	118	X,Y,Z=	.471526	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	119	X,Y,Z=	.623926	.150876E-01	.000000E+00	IN CSYS= 0
KEYPOINT	120	X,Y,Z=	.471526	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	121	X,Y,Z=	.623926	.167488	.000000E+00	IN CSYS= 0
KEYPOINT	122	X,Y,Z=	.465176	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	123	X,Y,Z=	.630276	.873760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	124	X,Y,Z=	.465176	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	125	X,Y,Z=	.630276	.173838	.000000E+00	IN CSYS= 0
KEYPOINT	126	X,Y,Z=	.458826	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	127	X,Y,Z=	.630276	.238760E-02	.000000E+00	IN CSYS= 0
KEYPOINT	128	X,Y,Z=	.458826	.180188	.000000E+00	IN CSYS= 0

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KEYPOINT   129   X,Y,Z=   .630276   .180188   .000000E+00   IN CSYS=   0

LINE CONNECTS KEYPOINTS      122   126
LINE NO.=   170  KP1=   122  TAN1=   .7071   .7071   .0000
                  KP2=   126  TAN2=  -.7071  -.7071   .0000

LINE CONNECTS KEYPOINTS      118   122
LINE NO.=   171  KP1=   118  TAN1=   .7071   .7071   .0000
                  KP2=   122  TAN2=  -.7071  -.7071   .0000

LINE CONNECTS KEYPOINTS      120   124
LINE NO.=   172  KP1=   120  TAN1=   .7071  -.7071   .0000
                  KP2=   124  TAN2=  -.7071   .7071   .0000

LINE CONNECTS KEYPOINTS      124   128
LINE NO.=   173  KP1=   124  TAN1=   .7071  -.7071   .0000
                  KP2=   128  TAN2=  -.7071   .7071   .0000

LINE CONNECTS KEYPOINTS      123   127
LINE NO.=   174  KP1=   123  TAN1=   .0000   1.0000   .0000
                  KP2=   127  TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      119   123
LINE NO.=   175  KP1=   119  TAN1=  -.7071   .7071   .0000
                  KP2=   123  TAN2=   .7071  -.7071   .0000

LINE CONNECTS KEYPOINTS      121   125
LINE NO.=   176  KP1=   121  TAN1=  -.7071  -.7071   .0000
                  KP2=   125  TAN2=   .7071   .7071   .0000

LINE CONNECTS KEYPOINTS      129   125
LINE NO.=   177  KP1=   129  TAN1=   .0000   1.0000   .0000
                  KP2=   125  TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      127   126
LINE NO.=   178  KP1=   127  TAN1=   1.0000   .0000   .0000
                  KP2=   126  TAN2=  -1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      122   123
LINE NO.=   179  KP1=   122  TAN1=  -1.0000   .0000   .0000
                  KP2=   123  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      118   119
LINE NO.=   180  KP1=   118  TAN1=  -1.0000   .0000   .0000
                  KP2=   119  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      120   121
LINE NO.=   181  KP1=   120  TAN1=  -1.0000   .0000   .0000
                  KP2=   121  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      124   125
LINE NO.=   182  KP1=   124  TAN1=  -1.0000   .0000   .0000
                  KP2=   125  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      128   129
LINE NO.=   183  KP1=   128  TAN1=  -1.0000   .0000   .0000
                  KP2=   129  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      126   128
LINE NO.=   184  KP1=   126  TAN1=   .0000  -1.0000   .0000
                  KP2=   128  TAN2=   .0000   1.0000   .0000

LINE CONNECTS KEYPOINTS      122   124
LINE NO.=   185  KP1=   122  TAN1=   .0000  -1.0000   .0000
                  KP2=   124  TAN2=   .0000   1.0000   .0000

LINE CONNECTS KEYPOINTS      118   120
LINE NO.=   186  KP1=   118  TAN1=   .0000  -1.0000   .0000
                  KP2=   120  TAN2=   .0000   1.0000   .0000

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LINE CONNECTS KEYPOINTS 119 121
 LINE NO.= 187 KP1= 119 TAN1= .0000 -1.0000 .0000
 KP2= 121 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 125 123
 LINE NO.= 188 KP1= 125 TAN1= .0000 1.0000 .0000
 KP2= 123 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 180 187 181 186
 (TRAVERSED IN SAME DIRECTION AS LINE 180)

AREA NUMBER = 61

DEFINE AREA BY LIST OF LINES
 LINE LIST = 178 174 179 170
 (TRAVERSED IN SAME DIRECTION AS LINE 178)

AREA NUMBER = 62

DEFINE AREA BY LIST OF LINES
 LINE LIST = 179 175 180 171
 (TRAVERSED IN SAME DIRECTION AS LINE 179)

AREA NUMBER = 63

DEFINE AREA BY LIST OF LINES
 LINE LIST = 181 176 182 172
 (TRAVERSED IN SAME DIRECTION AS LINE 181)

AREA NUMBER = 64

DEFINE AREA BY LIST OF LINES
 LINE LIST = 182 177 183 173
 (TRAVERSED IN SAME DIRECTION AS LINE 182)

AREA NUMBER = 65

DEFINE AREA BY LIST OF LINES
 LINE LIST = 184 170 185 173
 (TRAVERSED IN SAME DIRECTION AS LINE 184)

AREA NUMBER = 66

DEFINE AREA BY LIST OF LINES
 LINE LIST = 185 171 186 172
 (TRAVERSED IN SAME DIRECTION AS LINE 185)

AREA NUMBER = 67

DEFINE AREA BY LIST OF LINES
 LINE LIST = 187 175 188 176
 (TRAVERSED IN SAME DIRECTION AS LINE 187)

AREA NUMBER = 68

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Set element shapes and sizes for tubes
 8x8 mesh in fuel with 2
 divisions per tube layer

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

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 130 TO 133 STEP 1

4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 142 TO 153 STEP 1

16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 166 TO 169 STEP 1

20 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 178 TO 188 STEP 1

31 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 8, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 120 TO 125 STEP 1
6 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 161 TO 165 STEP 1
11 LINES (OF 188 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 116 TO 119 STEP 1
4 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 126 TO 129 STEP 1
8 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 134 TO 141 STEP 1
16 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 154 TO 160 STEP 1
23 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 170 TO 177 STEP 1
31 LINES (OF 188 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 188 STEP 1
188 LINES (OF 188 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless, then aluminum

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 45
MAXIMUM ELEMENT NUMBER = 32

GENERATE NODES AND ELEMENTS
IN AREAS 46 TO 46 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 126
MAXIMUM ELEMENT NUMBER = 96

GENERATE NODES AND ELEMENTS
IN AREAS 55 TO 55 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 171
MAXIMUM ELEMENT NUMBER = 128

GENERATE NODES AND ELEMENTS
IN AREAS 61 TO 61 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 252
MAXIMUM ELEMENT NUMBER = 192

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 41 TO 42 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 272
MAXIMUM ELEMENT NUMBER = 208

GENERATE NODES AND ELEMENTS
IN AREAS 44 TO 44 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 286
MAXIMUM ELEMENT NUMBER = 224

GENERATE NODES AND ELEMENTS
IN AREAS 48 TO 49 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 322
MAXIMUM ELEMENT NUMBER = 256

GENERATE NODES AND ELEMENTS
IN AREAS 52 TO 53 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 350
MAXIMUM ELEMENT NUMBER = 288

GENERATE NODES AND ELEMENTS
IN AREAS 57 TO 59 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 384
MAXIMUM ELEMENT NUMBER = 320

GENERATE NODES AND ELEMENTS
IN AREAS 63 TO 64 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 420
MAXIMUM ELEMENT NUMBER = 352

GENERATE NODES AND ELEMENTS
IN AREAS 67 TO 68 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 448
MAXIMUM ELEMENT NUMBER = 384

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 468
MAXIMUM ELEMENT NUMBER = 400

GENERATE NODES AND ELEMENTS
IN AREAS 45 TO 45 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 482
MAXIMUM ELEMENT NUMBER = 416

GENERATE NODES AND ELEMENTS
IN AREAS 47 TO 50 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 518
MAXIMUM ELEMENT NUMBER = 448

GENERATE NODES AND ELEMENTS
IN AREAS 51 TO 54 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 546
MAXIMUM ELEMENT NUMBER = 480

GENERATE NODES AND ELEMENTS
IN AREAS 56 TO 60 IN STEPS OF 4

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 572
MAXIMUM ELEMENT NUMBER = 504

GENERATE NODES AND ELEMENTS
IN AREAS 62 TO 65 IN STEPS OF 3

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 608
MAXIMUM ELEMENT NUMBER = 536

GENERATE NODES AND ELEMENTS
IN AREAS 66 TO 66 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 622
MAXIMUM ELEMENT NUMBER = 552

Copy tube mesh

center half tube above and below

(A's 69-75,76-82)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 848
 MAXIMUM ELEMENT NUMBER = 744

(A's 83-89,90-96,97-103)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 45 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1187
 MAXIMUM ELEMENT NUMBER = 1032

center fuel tube above and below
 (A's 104-112,113-121)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1605
 MAXIMUM ELEMENT NUMBER = 1416

(A's 122-130,131-139,140-148)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2232
 MAXIMUM ELEMENT NUMBER = 1992

(A's 149-157)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 46 TO 54 IN STEPS OF 1
 DX,DY,DZ= .183 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2441
 MAXIMUM ELEMENT NUMBER = 2184

(A's 158-166,167-175)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2859
 MAXIMUM ELEMENT NUMBER = 2568

(A's 176-184,185-193,194-202)

GENERATE 4 TOTAL SETS OF AREAS
 SET IS FROM 149 TO 157 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3486
 MAXIMUM ELEMENT NUMBER = 3144

side edge fuel tube above and below
 (A's 203-210)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3681
 MAXIMUM ELEMENT NUMBER = 3320

(A's 211-218,219-226)

GENERATE 3 TOTAL SETS OF AREAS
 SET IS FROM 61 TO 68 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.183 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 4071
 MAXIMUM ELEMENT NUMBER = 3672

edge half tube bottom (13)
 (A's 227-232)

SYMMETRY TRANSFORMATION OF AREAS USING COMPONENT Y
 SET IS FROM 55 TO 60 IN STEPS OF 1

MAXIMUM NODE NUMBER = 4176
 MAXIMUM ELEMENT NUMBER = 3760

Define thin stainless layers
 (K's 380,381,382,383,384,385,286,387,388,389, through 397)
 (A's 233 - 301)

KEYPOINT	380	X,Y,Z=	.912876E-01	.721563	.000000E+00	IN CSYS= 0
KEYPOINT	381	X,Y,Z=	.912876E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	382	X,Y,Z=	.912876E-01	.550113	.000000E+00	IN CSYS= 0
KEYPOINT	383	X,Y,Z=	.936752E-01	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	384	X,Y,Z=	.271475	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	385	X,Y,Z=	.276250	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	386	X,Y,Z=	.456438	.547726	.000000E+00	IN CSYS= 0
KEYPOINT	387	X,Y,Z=	.456438	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	388	X,Y,Z=	.456438	.367538	.000000E+00	IN CSYS= 0
KEYPOINT	389	X,Y,Z=	.458826	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	390	X,Y,Z=	.630276	.365150	.000000E+00	IN CSYS= 0
KEYPOINT	391	X,Y,Z=	.630276	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	392	X,Y,Z=	.458826	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	393	X,Y,Z=	.456438	-.367538	.000000E+00	IN CSYS= 0
KEYPOINT	394	X,Y,Z=	.456438	-.365150	.000000E+00	IN CSYS= 0
KEYPOINT	395	X,Y,Z=	.456438	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	396	X,Y,Z=	.276250	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	397	X,Y,Z=	.271475	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	398	X,Y,Z=	.936752E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	399	X,Y,Z=	.912876E-01	-.550113	.000000E+00	IN CSYS= 0
KEYPOINT	400	X,Y,Z=	.912876E-01	-.547726	.000000E+00	IN CSYS= 0
KEYPOINT	401	X,Y,Z=	.912876E-01	-.721563	.000000E+00	IN CSYS= 0

DEFINE AREA BY LIST OF KEYPOINTS
 KEYPOINT LIST = 152 116 117 153

AREA NUMBER = 233

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 382 381 153

AREA NUMBER = 234

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 381 383 213 153

AREA NUMBER = 235

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 117 115 380 382

AREA NUMBER = 236

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 153 213 207 149

AREA NUMBER = 237

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 213 383 384 212

AREA NUMBER = 238

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 384 385 285

AREA NUMBER = 239

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 285 385 386 284

AREA NUMBER = 240

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 212 285 279 206

AREA NUMBER = 241

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 284 386 388 278

AREA NUMBER = 242

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 388 387 272

AREA NUMBER = 243

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 387 389 333

AREA NUMBER = 244

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 272 333 327 266

AREA NUMBER = 245

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 333 389 390 332

AREA NUMBER = 246

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 278 272 273 279

AREA NUMBER = 247

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 206 279 273 200

AREA NUMBER = 248

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 200 273 267 194

AREA NUMBER = 249

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 200 206 207 201

AREA NUMBER = 250

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 141 149 207 201

AREA NUMBER = 251

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 141 201 195 137

AREA NUMBER = 252

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 141 149 146 140

AREA NUMBER = 253

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 88 134 137 92

AREA NUMBER = 254

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 92 137 195 105

AREA NUMBER = 255

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 92 105 95 89

AREA NUMBER = 256

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 105 195 194 106

AREA NUMBER = 257

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 106 194 267 261

AREA NUMBER = 258

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 106 261 255 96

AREA NUMBER = 259

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 261 267 266 260

AREA NUMBER = 260

DEFINE AREA BY LIST OF KEYPOINTS

KEYPOINT LIST = 260 266 327 128

AREA NUMBER = 261

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 260 128 126 254

AREA NUMBER = 262

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 128 327 326 129

AREA NUMBER = 263

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 126 345

AREA NUMBER = 264

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 345 339 290

AREA NUMBER = 265

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 345 126 127 344

AREA NUMBER = 266

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 296 254 255 297

AREA NUMBER = 267

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 255 297

AREA NUMBER = 268

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 297 291 218

AREA NUMBER = 269

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 224 96 95 225

AREA NUMBER = 270

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 95 225

AREA NUMBER = 271

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 89 83 164

AREA NUMBER = 272

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 165 225 219 161

AREA NUMBER = 273

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 219 237

AREA NUMBER = 274

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 161 158 176

AREA NUMBER = 275

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 177 237 231 173

AREA NUMBER = 276

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 237 219 218 236

AREA NUMBER = 277

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 218 291 309

AREA NUMBER = 278

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 236 309 303 230

AREA NUMBER = 279

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 309 291 290 308

AREA NUMBER = 280

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 290 339 357

AREA NUMBER = 281

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 308 357 351 302

AREA NUMBER = 282

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 357 339 338 356

AREA NUMBER = 283

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 350 391 392 351

AREA NUMBER = 284

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 351 392 394 302

AREA NUMBER = 285

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 302 394 393 320

AREA NUMBER = 286

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 393 395 314

AREA NUMBER = 287

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 320 302 303 321

AREA NUMBER = 288

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 303 321

AREA NUMBER = 289

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 321 315 242

AREA NUMBER = 290

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 248 230 231 249

AREA NUMBER = 291

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 231 249

AREA NUMBER = 292

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 173 170 188

AREA NUMBER = 293

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 189 249 243 185

AREA NUMBER = 294

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 243 398 400 185

AREA NUMBER = 295

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 185 400 399 363

AREA NUMBER = 296

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 185 182 362

AREA NUMBER = 297

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 363 399 401 368

AREA NUMBER = 298

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 398 243 242 397

AREA NUMBER = 299

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 242 315 396 397

AREA NUMBER = 300

DEFINE AREA BY LIST OF KEYPOINTS
KEYPOINT LIST = 315 314 395 396

AREA NUMBER = 301

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

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

GENERATE NODES AND ELEMENTS
IN AREAS 233 TO 301 IN STEPS OF 1

NUMBER OF AREAS MESHD = 69
MAXIMUM NODE NUMBER = 4268
MAXIMUM ELEMENT NUMBER = 4123

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

*** NOTE *** CP= 21.050 TIME= 15:15:39
Zero nodes were merged.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

Create mesh in tube guides
(L's 686,687,688)

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SET DIVISIONS ON LINE 47 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 48 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 49 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 50 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 51 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 52 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 53 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

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

SET DIVISIONS ON LINE 55 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 56 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 57 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 58 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 59 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 60 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 61 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 62 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 63 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 64 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 65 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 66 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 67 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 68 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 69 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 70 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 71 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 72 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 73 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 74 (IF SELECTED AND UNMESHED)
TO NDIV = 38, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 75 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 76 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 77 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 78 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 79 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 80 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 81 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 82 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 83 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 84 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 85 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 86 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 87 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 88 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 89 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 90 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 91 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 92 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 93 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 94 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 95 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 96 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 97 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 98 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 99 (IF SELECTED AND UNMESHED)
TO NDIV = 9, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 100 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 101 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 102 (IF SELECTED AND UNMESHED)
TO NDIV = 18, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 103 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 104 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 105 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 106 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 107 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 108 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 109 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 110 (IF SELECTED AND UNMESHED)
TO NDIV = 13, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 111 (IF SELECTED AND UNMESHED)

```
TO NDIV = 2, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 112 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 113 (IF SELECTED AND UNMESHED)
TO NDIV = 2, SPACING RATIO = 1.000
SET DIVISIONS ON LINE 114 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 58 TO 59 STEP 1
2 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 54 TO 54 STEP 1
3 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 686 KP1= 49 KP2= 52
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1
2 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 80 STEP 1
4 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 83 TO 84 STEP 1
6 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 87 TO 87 STEP 1
7 LINES (OF 686 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 687 KP1= 29 KP2= 36
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 104 TO 106 STEP 1
3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
CONCATENATE LINES
LINE LIST = ALL SELECTED LINES
COMPOSITE LINE NO.= 688 KP1= 76 KP2= 73
ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 688 STEP 1
688 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.
MATERIAL NUMBER SET TO 1
ELEMENT TYPE SET TO 1
```

GENERATE NODES AND ELEMENTS
IN AREAS 19 TO 38 IN STEPS OF 1

*** WARNING *** CP= 22.310 TIME= 15:15:41
Meshing of area 21 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.310 TIME= 15:15:41
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4167 4168 4169 4170 4171 4185 4186 4187 4188 4189

*** WARNING *** CP= 22.670 TIME= 15:15:41
Meshing of area 27 produced 28 poorly shaped elements.

*** NOTE *** CP= 22.670 TIME= 15:15:41
Worst shape angle is 27 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4274 4275 4276 4277 4278 4286 4287 4290 4291 4299
4300 4301 4302 4303 4312 4313 4314 4315 4316 4324
4325 4328 4329 4337 4338 4339 4340 4341

*** WARNING *** CP= 22.970 TIME= 15:15:41
Meshing of area 35 produced 10 poorly shaped elements.

*** NOTE *** CP= 22.970 TIME= 15:15:41
Worst shape angle is 25 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
4438 4439 4440 4441 4442 4443 4444 4445 4446 4447

NUMBER OF AREAS MESHED = 20
MAXIMUM NODE NUMBER = 4871
MAXIMUM ELEMENT NUMBER = 4515

Create mesh in MPC shell
(L's 689,690,691)

SET DIVISIONS ON LINE 22 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 23 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 25 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 27 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 28 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 29 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 30 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 32 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 34 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 36 (IF SELECTED AND UNMESHED)
TO NDIV = 11, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 37 (IF SELECTED AND UNMESHED)
TO NDIV = 5, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 38 (IF SELECTED AND UNMESHED)
TO NDIV = 12, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 39 (IF SELECTED AND UNMESHED)
TO NDIV = 15, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 41 (IF SELECTED AND UNMESHED)
TO NDIV = 8, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 43 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 44 (IF SELECTED AND UNMESHED)
TO NDIV = 4, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 44 STEP 1

23 LINES (OF 688 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 689 KP1= 21 KP2= 44

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 689 STEP 1

689 LINES (OF 689 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 17 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 18 (IF SELECTED AND UNMESHED)
TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 21 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 45 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

CONCATENATE LINES
LINES = 17 18

COMPOSITE LINE NO.= 690 KP1= 18 KP2= 20

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

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 6 TO 6 IN STEPS OF 1

*** WARNING *** CP= 25.250 TIME= 15:15:44
Meshing of area 6 produced 54 poorly shaped elements.

*** NOTE *** CP= 25.250 TIME= 15:15:44
Worst shape angle is 36 degrees.

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

4540	4541	4542	4543	4544	4545	4546	4547	4548	4611
4613	4614	4615	4616	4617	4651	4652	4653	4705	4706
4707	4708	4709	4710	4711	4712	4713	4756	4757	4758
4759	4760	4761	4762	4763	4764	4816	4817	4818	4852
4853	4854	4856	4857	4860	4921	4922	4923	4924	4925
4926	4927	4928	4929						

NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 5430
 MAXIMUM ELEMENT NUMBER = 4953
 Assume vacuum between shell and inner barrier

SET DIVISIONS ON LINE 14 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 13 (IF SELECTED AND UNMESHED)
 TO NDIV = 73, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 19 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 20 (IF SELECTED AND UNMESHED)
 TO NDIV = 2, SPACING RATIO = 1.000

CONCATENATE LINES
 LINES = 14 13

COMPOSITE LINE NO.= 691 KP1= 17 KP2= 15

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.
 No MAT,7,
 No TYPE,1,
 No AMESH,5,
 Delete concatenated lines
 (L's freed up 686,687,688,689,690,691)

DELETE SELECTED LINES FROM 686 TO 691 BY 1

DELETED 6 LINES

 Create mesh in inner and outer barrier

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 10 STEP 1

4 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 73, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 691 STEP 1

685 LINES (OF 685 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 6 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 15 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 16 (IF SELECTED AND UNMESHED)
 TO NDIV = 3, SPACING RATIO = 1.000

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

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

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

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

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

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 6018
MAXIMUM ELEMENT NUMBER = 5391

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 = 6459
MAXIMUM ELEMENT NUMBER = 5829

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

SET DIVISIONS ON LINE 46 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 115 (IF SELECTED AND UNMESHED)
TO NDIV = 1, SPACING RATIO = 1.000

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 7 TO 7 IN STEPS OF 1
** AREA 7 MESHED WITH 3 QUADRILATERALS, 1 TRIANGLES **

*** WARNING *** CP= 29.090 TIME= 15:15:48
Meshing of area 7 produced 1 poorly shaped elements.

*** NOTE *** CP= 29.090 TIME= 15:15:48
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
5830

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6459
MAXIMUM ELEMENT NUMBER = 5833

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	8 TO	11 IN STEPS OF	1
** AREA	9 MESHED WITH	82 QUADRILATERALS,	21 TRIANGLES **
** AREA	10 MESHED WITH	78 QUADRILATERALS,	19 TRIANGLES **
** AREA	11 MESHED WITH	24 QUADRILATERALS,	7 TRIANGLES **

NUMBER OF AREAS MESHED = 4
 MAXIMUM NODE NUMBER = 6704
 MAXIMUM ELEMENT NUMBER = 6168

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	12 TO	13 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 6746
 MAXIMUM ELEMENT NUMBER = 6232

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	14 TO	16 IN STEPS OF	1
** AREA	14 MESHED WITH	25 QUADRILATERALS,	11 TRIANGLES **
** AREA	15 MESHED WITH	74 QUADRILATERALS,	23 TRIANGLES **
** AREA	16 MESHED WITH	75 QUADRILATERALS,	21 TRIANGLES **

NUMBER OF AREAS MESHED = 3
 MAXIMUM NODE NUMBER = 6901
 MAXIMUM ELEMENT NUMBER = 6461

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

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS	17 TO	17 IN STEPS OF	1
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NUMBER OF AREAS MESHED = 1
 MAXIMUM NODE NUMBER = 6985
 MAXIMUM ELEMENT NUMBER = 6565

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	18 TO	18 IN STEPS OF	1
** AREA	18 MESHED WITH	3 QUADRILATERALS,	1 TRIANGLES **

*** WARNING *** CP= 32.360 TIME= 15:15:51
Meshing of area 18 produced 1 poorly shaped elements.

*** NOTE *** CP= 32.360 TIME= 15:15:51
Worst aspect ratio is 21.0143598 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
6566

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 6985
MAXIMUM ELEMENT NUMBER = 6569

Define mesh and radiation surface elements for
tube/guides gap
(L's 686,687)
(A's 302)

LINE CONNECTS KEYPOINTS 47 111
LINE NO.= 686 KP1= 47 TAN1= .0000 1.0000 .0000
KP2= 111 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 366 82
LINE NO.= 687 KP1= 366 TAN1= .0000 1.0000 .0000
KP2= 82 TAN2= .0000 -1.0000 .0000

Select lines around tubes

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 686 TO 686 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 165 TO 165 STEP 1

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 159 TO 159 STEP 1

3 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 580 TO 580 STEP 1

4 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 581 TO 581 STEP 1

5 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 575 TO 575 STEP 1

6 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 577 TO 577 STEP 1

7 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 583 TO 583 STEP 1

8 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 585 TO 585 STEP 1

9 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 588 TO 588 STEP 1

10 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 591 TO 591 STEP 1

11 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 593 TO 593 STEP 1

12 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 596 TO 596 STEP 1

13 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 600 TO 600 STEP 1

14 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 601 TO 601 STEP 1

15 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 512 TO 512 STEP 1

16 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 517 TO 517 STEP 1

17 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 506 TO 506 STEP 1

18 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 624 TO 624 STEP 1

19 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 177 TO 177 STEP 1

20 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 188 TO 188 STEP 1

21 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 174 TO 174 STEP 1

22 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 629 TO 629 STEP 1

23 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 531 TO 531 STEP 1

24 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 536 TO 536 STEP 1

25 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 525 TO 525 STEP 1

26 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 652 TO 652 STEP 1

27 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 550 TO 550 STEP 1

28 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 555 TO 555 STEP 1

29 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 544 TO 544 STEP 1

30 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 653 TO 653 STEP 1

31 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 654 TO 654 STEP 1

32 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 656 TO 656 STEP 1

33 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 658 TO 658 STEP 1

34 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 661 TO 661 STEP 1

35 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 685 TO 685 STEP 1

36 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 684 TO 684 STEP 1

37 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 682 TO 682 STEP 1

38 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 673 TO 673 STEP 1

39 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 675 TO 675 STEP 1

40 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 679 TO 679 STEP 1

41 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 680 TO 680 STEP 1

42 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 570 TO 570 STEP 1

43 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 567 TO 567 STEP 1

44 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 687 TO 687 STEP 1

45 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.
Select lines around tube guides

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 112 TO 112 STEP 1

46 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

47 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 43 TO 43 STEP 1

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

49 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 102 TO 102 STEP 1

50 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 99 TO 99 STEP 1

51 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

53 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 37 TO 37 STEP 1

54 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

55 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

56 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

57 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

58 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 72 TO 72 STEP 1

59 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

60 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

61 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

62 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

63 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 23 STEP 1

64 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 49 TO 49 STEP 1

65 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 50 TO 50 STEP 1

66 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

Define area

DEFINE AREA BY LIST OF LINES

LINE LIST = ALL SELECTED LINES

(TRAVERSED IN SAME DIRECTION AS LINE 23)

AREA NUMBER = 302

Create radiation surface elements

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

339 NODES (OF 6985 DEFINED) SELECTED FROM
66 SELECTED LINES BY NSLL COMMAND.

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 7

GENERATE ELEMENTS ON SURFACE DEFINED BY SELECTED NODES

TYPE= 7 REAL= 1 MATERIAL= 1 ESYS= 0

NUMBER OF ELEMENTS GENERATED= 337

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=

IN RANGE 1 TO 6985 STEP 1

6985 NODES (OF 6985 DEFINED) SELECTED BY NSEL COMMAND.

Mesh gap

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:

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

SET DIVISIONS ON LINE 686 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 687 (IF SELECTED AND UNMESHED)

TO NDIV = 1, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS 302 TO 302 IN STEPS OF 1
** AREA 302 MESHED WITH 102 QUADRILATERALS, 190 TRIANGLES **

*** WARNING *** CP= 52.210 TIME= 15:16:11
Meshing of area 302 produced 7 poorly shaped elements.

*** NOTE *** CP= 52.210 TIME= 15:16:11
Worst aspect ratio is 92.192168 : 1.

*** NOTE *** CP= 52.210 TIME= 15:16:11
Worst shape angle is 2 degrees.

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

6914 6922 6978 6979 7110 7133 7159

NUMBER OF AREAS MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7198

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

Create other radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 22 TO 22 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7202

GENERATE NODES AND ELEMENTS
ON LINES 25 TO 27 IN STEPS OF 2

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7225

GENERATE NODES AND ELEMENTS
ON LINES 28 TO 38 IN STEPS OF 2

NUMBER OF LINES MESHD = 6
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7287

GENERATE NODES AND ELEMENTS
ON LINES 39 TO 41 IN STEPS OF 2

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7310

GENERATE NODES AND ELEMENTS
ON LINES 44 TO 44 IN STEPS OF 1

NUMBER OF LINES MESHD = 1
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7314

GENERATE NODES AND ELEMENTS
ON LINES 46 TO 48 IN STEPS OF 2

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7319

GENERATE NODES AND ELEMENTS
ON LINES 53 TO 54 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7340

GENERATE NODES AND ELEMENTS
ON LINES 56 TO 57 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7366

GENERATE NODES AND ELEMENTS
 ON LINES 59 TO 59 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7374

GENERATE NODES AND ELEMENTS
 ON LINES 61 TO 64 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7380

GENERATE NODES AND ELEMENTS
 ON LINES 67 TO 70 IN STEPS OF 3

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7402

GENERATE NODES AND ELEMENTS
 ON LINES 75 TO 75 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7410

GENERATE NODES AND ELEMENTS
 ON LINES 77 TO 79 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7426

GENERATE NODES AND ELEMENTS
 ON LINES 81 TO 83 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7442

GENERATE NODES AND ELEMENTS
 ON LINES 85 TO 87 IN STEPS OF 1

NUMBER OF LINES MESHED = 3
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7458

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 97 IN STEPS OF 1

NUMBER OF LINES MESHED = 6
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7486

GENERATE NODES AND ELEMENTS
 ON LINES 104 TO 104 IN STEPS OF 1

NUMBER OF LINES MESHED = 1
 MAXIMUM NODE NUMBER = 7016
 MAXIMUM ELEMENT NUMBER = 7494

GENERATE NODES AND ELEMENTS
 ON LINES 106 TO 107 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7515

GENERATE NODES AND ELEMENTS
ON LINES 109 TO 110 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7541

GENERATE NODES AND ELEMENTS
ON LINES 114 TO 115 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7546
MPC shell/inner barrier gap

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 17 TO 18 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7692

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 27

GENERATE NODES AND ELEMENTS
ON LINES 13 TO 14 IN STEPS OF 1

NUMBER OF LINES MESHD = 2
MAXIMUM NODE NUMBER = 7016
MAXIMUM ELEMENT NUMBER = 7838

***** ROUTINE COMPLETED ***** CP = 52.540

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

6806 ELEMENTS (OF 7838 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=
40 BWR MPC/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

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

685 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

977 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/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=
40 BWR MPC/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:16:20 APR 07, 1995 CP= 60.710
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

339 NODES (OF 7016 DEFINED) SELECTED FROM
337 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= tubegap.sub

*** WARNING *** CP= 61.050 TIME= 15:16:20
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= 337 NUMBER OF NODES= 339

800 ZONES CREATE 1600 RAYS

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

348 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

346 NODES (OF 7016 DEFINED) SELECTED FROM
348 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= 76.510 TIME= 15:16:36
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= 348 NUMBER OF NODES= 346

800 ZONES CREATE 1600 RAYS

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

292 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

294 NODES (OF 7016 DEFINED) SELECTED FROM
292 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= shellgap.sub

*** WARNING *** CP= 96.680 TIME= 15:16:56
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= 292 NUMBER OF NODES= 294

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7838 STEP 1

7838 ELEMENTS (OF 7838 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 109.770

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:17:10 APR 07, 1995 CP= 109.770
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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

ELEMENT TYPE SET TO 18

SUPERELEMENT 7839 tubegap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7839

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7839

SUPERELEMENT 7840 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7840

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7840

SUPERELEMENT 7841 shellgap NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 7841

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 7841
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 7 TO 7 STEP 1

337 ELEMENTS (OF 7841 DEFINED) SELECTED BY ESEL COMMAND.

DELETE ALL SELECTED ELEMENTS.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

7504 ELEMENTS (OF 7504 DEFINED) SELECTED BY ESEL COMMAND.

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

48 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 27 TO 27 STEP 1

52 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 110.340 TIME= 15:17:10
Nodes cannot be cleared from line 13 because area 3 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.360 TIME= 15:17:10
Nodes cannot be cleared from line 14 because area 4 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.380 TIME= 15:17:10
Nodes cannot be cleared from line 17 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.400 TIME= 15:17:10
Nodes cannot be cleared from line 18 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.420 TIME= 15:17:10
Nodes cannot be cleared from line 22 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.420 TIME= 15:17:10
Nodes cannot be cleared from line 25 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.420 TIME= 15:17:10
Nodes cannot be cleared from line 27 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.430 TIME= 15:17:10
Nodes cannot be cleared from line 28 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.440 TIME= 15:17:10
Nodes cannot be cleared from line 30 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.440 TIME= 15:17:10
Nodes cannot be cleared from line 32 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.450 TIME= 15:17:10
Nodes cannot be cleared from line 34 because area 13 is meshed. Only

elements are deleted.

*** NOTE *** CP= 110.450 TIME= 15:17:10
Nodes cannot be cleared from line 36 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.450 TIME= 15:17:10
Nodes cannot be cleared from line 38 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.460 TIME= 15:17:10
Nodes cannot be cleared from line 39 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.460 TIME= 15:17:10
Nodes cannot be cleared from line 41 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.470 TIME= 15:17:10
Nodes cannot be cleared from line 44 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.470 TIME= 15:17:10
Nodes cannot be cleared from line 46 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.470 TIME= 15:17:10
Nodes cannot be cleared from line 48 because area 7 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.480 TIME= 15:17:10
Nodes cannot be cleared from line 53 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.480 TIME= 15:17:10
Nodes cannot be cleared from line 54 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.490 TIME= 15:17:10
Nodes cannot be cleared from line 56 because area 8 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.490 TIME= 15:17:10
Nodes cannot be cleared from line 57 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.500 TIME= 15:17:10
Nodes cannot be cleared from line 59 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.500 TIME= 15:17:10
Nodes cannot be cleared from line 61 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.500 TIME= 15:17:10
Nodes cannot be cleared from line 62 because area 9 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.510 TIME= 15:17:10
Nodes cannot be cleared from line 63 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.510 TIME= 15:17:10
Nodes cannot be cleared from line 64 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.510 TIME= 15:17:10
Nodes cannot be cleared from line 67 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.520 TIME= 15:17:10
Nodes cannot be cleared from line 70 because area 10 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.520 TIME= 15:17:10
Nodes cannot be cleared from line 75 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.520 TIME= 15:17:10
Nodes cannot be cleared from line 77 because area 11 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.530 TIME= 15:17:10
Nodes cannot be cleared from line 78 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.530 TIME= 15:17:10
Nodes cannot be cleared from line 79 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.530 TIME= 15:17:10
Nodes cannot be cleared from line 81 because area 12 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.540 TIME= 15:17:10
Nodes cannot be cleared from line 82 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.540 TIME= 15:17:10
Nodes cannot be cleared from line 83 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.550 TIME= 15:17:10
Nodes cannot be cleared from line 85 because area 13 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.550 TIME= 15:17:10
Nodes cannot be cleared from line 86 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.550 TIME= 15:17:10
Nodes cannot be cleared from line 87 because area 14 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.560 TIME= 15:17:10
Nodes cannot be cleared from line 92 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.560 TIME= 15:17:10
Nodes cannot be cleared from line 93 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.570 TIME= 15:17:10
Nodes cannot be cleared from line 94 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.570 TIME= 15:17:10
Nodes cannot be cleared from line 95 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.570 TIME= 15:17:10
Nodes cannot be cleared from line 96 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.570 TIME= 15:17:10
Nodes cannot be cleared from line 97 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.580 TIME= 15:17:10
Nodes cannot be cleared from line 104 because area 16 is meshed. Only

elements are deleted.

*** NOTE *** CP= 110.580 TIME= 15:17:10
Nodes cannot be cleared from line 106 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.580 TIME= 15:17:10
Nodes cannot be cleared from line 107 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.590 TIME= 15:17:10
Nodes cannot be cleared from line 109 because area 17 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.590 TIME= 15:17:10
Nodes cannot be cleared from line 110 because area 16 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.600 TIME= 15:17:10
Nodes cannot be cleared from line 114 because area 18 is meshed. Only
elements are deleted.

*** NOTE *** CP= 110.600 TIME= 15:17:10
Nodes cannot be cleared from line 115 because area 18 is meshed. Only
elements are deleted.

CLEARED 52 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 110.610

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= 110.620 TIME= 15:17:11
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 7 TO 7 STEP 1

1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 7016 BY 1
REAL= 26.1414001 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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= 112.500 TIME= 15:17:12

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 15:17:12 APR 07, 1995 CP= 112.510
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP

ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 113.870 TIME= 15:17:14
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 114.440 TIME= 15:17:15
 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 = 5207.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .37700	IXX = 1018.	IXX = 1018.
YC = .46170E-08	IYY = 1033.	IYY = 293.3
ZC = .00000E+00	IZZ = 2052.	IZZ = 1312.
	IXY = -.2533E-05	IXY = .6532E-05
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
 1 5207.87

Range of element maximum matrix coefficients in global coordinates
 Maximum= 517.858581 at element 972.
 Minimum= 9.524656763E-10 at element 7841.

*** WARNING *** CP= 140.630 TIME= 15:17:43
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	17.100	.002
18	3	MATRIX50	.420	.140

Time at end of element matrix formulation CP= 140.63.
 HT FLOW CONVERGENCE VALUE= .1009E+05 CRITERION= 10.09

Estimated number of active DOF= 6869.
Maximum wavefront= 691.

Time at end of matrix triangularization CP= 230.41.
Equation solver maximum pivot= 1604.85465 at node 3170 TEMP.
Equation solver minimum pivot= 0.234557569 at node 6681 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 495.5
HT FLOW CONVERGENCE VALUE= 1906. CRITERION= .2606
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -177.1
HT FLOW CONVERGENCE VALUE= 301.5 CRITERION= .7077
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -67.31
HT FLOW CONVERGENCE VALUE= 94.01 CRITERION= .3638
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.21
HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .2720
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.251
HT FLOW CONVERGENCE VALUE= 1.746 CRITERION= .2598
EQUIL ITER 6 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3291
HT FLOW CONVERGENCE VALUE= .3681 CRITERION= .2606
EQUIL ITER 7 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5938E-01
HT FLOW CONVERGENCE VALUE= .4634E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 7

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	9.430	.001
18	3	MATRIX50	.530	.177

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	6861	PLANE55	1.500	.000
18	3	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 6869
R.M.S. WAVEFRONT SIZE = 269.8

*** ANSYS BINARY FILE STATISTICS
BUFFER SIZE USED= 4096
4.938 MB WRITTEN ON ELEMENT MATRIX FILE: ma40h1.emat
3.078 MB WRITTEN ON ELEMENT SAVED DATA FILE: ma40h1.esav
12.609 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ma40h1.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ma40h1.dsub
3.734 MB WRITTEN ON RESULTS FILE: ma40h1.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
1 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 8 TO 8 STEP 1
2 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

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

147 NODES (OF 7016 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 7016 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 147

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 691 STEP 1

687 LINES (OF 687 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 7016 STEP 1

7016 NODES (OF 7016 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 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 :: 147

*** WARNING *** CP= 943.400 TIME= 15:31:15
This load step will be a static (steady-state) step.

*** NOTE *** CP= 943.960 TIME= 15:31:15
The step data was checked and warning messages were found.
Please review output or errors file (ma40h1.err) for these warning messages.

*** NOTE *** CP= 943.960 TIME= 15:31:15
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:31:15 APR 07, 1995 CP= 943.960
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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= .1661E+05 CRITERION= 16.61
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.36
HT FLOW CONVERGENCE VALUE= 52.84 CRITERION= .2739
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -14.52
HT FLOW CONVERGENCE VALUE= 14.76 CRITERION= .2729
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.110
HT FLOW CONVERGENCE VALUE= 1.089 CRITERION= .2611
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2837
HT FLOW CONVERGENCE VALUE= .2776 CRITERION= .2607
EQUIL ITER 5 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2396E-01
HT FLOW CONVERGENCE VALUE= .2048E-01 CRITERION= .2609 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 5

*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 12

*** 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 4 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6477.42182 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 1220.060 TIME= 15:36:21
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 15:36:21 APR 07, 1995 CP= 1220.060
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .2048E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1391E-03
 HT FLOW CONVERGENCE VALUE= .4128E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 13
 *** TIME = .788942 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .7649 OSCILLATION LIMIT = .6035
 *** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .3739E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6078E-04
 HT FLOW CONVERGENCE VALUE= .4708E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 14
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .2024 OSCILLATION LIMIT = .1597
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .3373E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8308E-04
 HT FLOW CONVERGENCE VALUE= .1089E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 15
 *** TIME = 3.94470 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .9319E-01 OSCILLATION LIMIT = .2206
 *** AUTO TIME STEP: NEXT TIME INC = 5.3654 INCREASED (FACTOR = 2.2669)

HT FLOW CONVERGENCE VALUE= .2967E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5911E-04
 HT FLOW CONVERGENCE VALUE= .1698E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 16
 *** TIME = 9.31006 TIME INC = 5.36536
 *** RESPONSE EIGENVALUE = .3308E-01 OSCILLATION LIMIT = .1775
 *** AUTO TIME STEP: NEXT TIME INC = 7.8894 INCREASED (FACTOR = 1.4704)

HT FLOW CONVERGENCE VALUE= .2705E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1801E-04
 HT FLOW CONVERGENCE VALUE= .1687E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 17
 *** TIME = 17.1995 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .1165E-01 OSCILLATION LIMIT = .9190E-01
 *** AUTO STEP TIME: NEXT TIME INC = 7.8894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2371E-04
 HT FLOW CONVERGENCE VALUE= .1355E-04 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 18
 *** TIME = 25.0889 TIME INC = 7.88940
 *** RESPONSE EIGENVALUE = .6583E-02 OSCILLATION LIMIT = .5194E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.4687 DECREASED (FACTOR = .8199)

HT FLOW CONVERGENCE VALUE= .2419E-01 CRITERION= .2609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1533E-04
 HT FLOW CONVERGENCE VALUE= .9909E-05 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 19
 *** TIME = 31.5576 TIME INC = 6.46874
 *** RESPONSE EIGENVALUE = .4858E-02 OSCILLATION LIMIT = .3143E-01

*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 15:47:33 APR 07, 1995 CP= 1860.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 283.4 CRITERION= .3852
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7924
HT FLOW CONVERGENCE VALUE= .7321 CRITERION= .2597
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
HT FLOW CONVERGENCE VALUE= .1428 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 21
*** TIME = 78925.6 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1627E-05 OSCILLATION LIMIT = .1283
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 283.9 CRITERION= .3846
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7935
HT FLOW CONVERGENCE VALUE= .8157 CRITERION= .2603
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1202
HT FLOW CONVERGENCE VALUE= .1385 CRITERION= .2604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 23
*** TIME = 157820. TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8033E-06 OSCILLATION LIMIT = .6338E-01
*** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 850.2 CRITERION= .8892
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
HT FLOW CONVERGENCE VALUE= 2.540 CRITERION= .2596
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5276
HT FLOW CONVERGENCE VALUE= .5640 CRITERION= .2599
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4518E-01
HT FLOW CONVERGENCE VALUE= .3211E-01 CRITERION= .2594 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 26
*** TIME = 394502. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .3424E-06 OSCILLATION LIMIT = .8103E-01
*** AUTO STEP TIME: NEXT TIME INC = .23668E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 850.5 CRITERION= .8890
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
HT FLOW CONVERGENCE VALUE= 2.577 CRITERION= .2603
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5323
HT FLOW CONVERGENCE VALUE= .5632 CRITERION= .2606
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4486E-01
HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2601 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 29
*** TIME = 631184. TIME INC = 236682.
*** RESPONSE EIGENVALUE = .4277E-06 OSCILLATION LIMIT = .1012
*** AUTO TIME STEP: NEXT TIME INC = .71005E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 2550. CRITERION= 2.563
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.132
HT FLOW CONVERGENCE VALUE= 7.783 CRITERION= .2602
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.921
HT FLOW CONVERGENCE VALUE= 1.944 CRITERION= .2605
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1715
HT FLOW CONVERGENCE VALUE= .1151 CRITERION= .2591 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 32
*** TIME = .134123E+07 TIME INC = 710046.
*** RESPONSE EIGENVALUE = .3911E-06 OSCILLATION LIMIT = .2777
*** AUTO TIME STEP: NEXT TIME INC = .78894E+06 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 2832. CRITERION= 2.844
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 7.924
HT FLOW CONVERGENCE VALUE= 8.565 CRITERION= .2608

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.120
HT FLOW CONVERGENCE VALUE= 2.100 CRITERION= .2611
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1835
HT FLOW CONVERGENCE VALUE= .1230 CRITERION= .2595 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 35
*** TIME = .213017E+07 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4183E-06 OSCILLATION LIMIT = .3300
*** AUTO TIME STEP: NEXT TIME INC = .51281E+06 DECREASED (FACTOR = .6500)

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HT FLOW CONVERGENCE VALUE= 1840. CRITERION= 1.858
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.151
HT FLOW CONVERGENCE VALUE= 5.009 CRITERION= .2592
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.281
HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2595
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1092
HT FLOW CONVERGENCE VALUE= .7042E-01 CRITERION= .2586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 38
*** TIME = .264298E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .4076E-06 OSCILLATION LIMIT = .2090
*** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1839. CRITERION= 1.857
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.151
HT FLOW CONVERGENCE VALUE= 4.902 CRITERION= .2598
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.270
HT FLOW CONVERGENCE VALUE= 1.240 CRITERION= .2601
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1069
HT FLOW CONVERGENCE VALUE= .6825E-01 CRITERION= .2592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 41
*** TIME = .315579E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .4359E-06 OSCILLATION LIMIT = .2235

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 16:11:57 APR 07, 1995 CP= 3236.550
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 424.7 CRITERION= .4976
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.117
HT FLOW CONVERGENCE VALUE= 1.280 CRITERION= .2597
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3090
HT FLOW CONVERGENCE VALUE= .2837 CRITERION= .2598
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2333E-01
HT FLOW CONVERGENCE VALUE= .1587E-01 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 44
*** TIME = .366860E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .1765E-06 OSCILLATION LIMIT = .9052E-01
*** AUTO STEP TIME: NEXT TIME INC = .51281E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 425.1 CRITERION= .4980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.108
HT FLOW CONVERGENCE VALUE= 1.012 CRITERION= .2596
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2746
HT FLOW CONVERGENCE VALUE= .2904 CRITERION= .2593
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2760E-01
HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .2591 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 47
*** TIME = .418141E+07 TIME INC = 512811.
*** RESPONSE EIGENVALUE = .1741E-05 OSCILLATION LIMIT = .8926
*** AUTO TIME STEP: NEXT TIME INC = .28725E+06 DECREASED (FACTOR = .5602)

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HT FLOW CONVERGENCE VALUE= 238.3    CRITERION= .3520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6230
HT FLOW CONVERGENCE VALUE= .6574    CRITERION= .2594
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1493
HT FLOW CONVERGENCE VALUE= .1431    CRITERION= .2592    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 49
*** TIME = .446867E+07    TIME INC = 287252.
*** RESPONSE EIGENVALUE = .3392E-06    OSCILLATION LIMIT = .9745E-01
*** AUTO STEP TIME: NEXT TIME INC = .28725E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 238.6    CRITERION= .3523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6208
HT FLOW CONVERGENCE VALUE= .5658    CRITERION= .2594
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1376
HT FLOW CONVERGENCE VALUE= .1442    CRITERION= .2591    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 51
*** TIME = .475592E+07    TIME INC = 287252.
*** RESPONSE EIGENVALUE = .1059E-05    OSCILLATION LIMIT = .3041
*** AUTO STEP TIME: NEXT TIME INC = .28725E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 238.8    CRITERION= .3524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6208
HT FLOW CONVERGENCE VALUE= .6055    CRITERION= .2592
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1422
HT FLOW CONVERGENCE VALUE= .1426    CRITERION= .2590    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 53
*** TIME = .504317E+07    TIME INC = 287252.
*** RESPONSE EIGENVALUE = .5452E-06    OSCILLATION LIMIT = .1566
*** AUTO TIME STEP: NEXT TIME INC = .78894E+06    INCREASED (FACTOR = 2.7465)

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HT FLOW CONVERGENCE VALUE= 656.6    CRITERION= .7058
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.705
HT FLOW CONVERGENCE VALUE= 1.646    CRITERION= .2597
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4632
HT FLOW CONVERGENCE VALUE= .4558    CRITERION= .2590
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4246E-01
HT FLOW CONVERGENCE VALUE= .2477E-01    CRITERION= .2587    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 56
*** TIME = .583211E+07    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6096E-06    OSCILLATION LIMIT = .4810
*** AUTO TIME STEP: NEXT TIME INC = .47944E+06    DECREASED (FACTOR = .6077)

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HT FLOW CONVERGENCE VALUE= 400.1    CRITERION= .4764
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.036
HT FLOW CONVERGENCE VALUE= 1.005    CRITERION= .2590
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2636
HT FLOW CONVERGENCE VALUE= .2606    CRITERION= .2586
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2317E-01
HT FLOW CONVERGENCE VALUE= .1390E-01    CRITERION= .2584    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 59
*** TIME = .631155E+07    TIME INC = 479441.
*** RESPONSE EIGENVALUE = .6413E-06    OSCILLATION LIMIT = .3074

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    16:32:14 APR 07, 1995 CP= 4388.900
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 258.7 CRITERION= .3656

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6711
HT FLOW CONVERGENCE VALUE= .6453 CRITERION= .2589
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1696
HT FLOW CONVERGENCE VALUE= .1677 CRITERION= .2586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 61
*** TIME = .679099E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .8716E-06 OSCILLATION LIMIT = .4179
*** AUTO STEP TIME: NEXT TIME INC = .47944E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 258.8 CRITERION= .3659
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6698
HT FLOW CONVERGENCE VALUE= .6202 CRITERION= .2585
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1646
HT FLOW CONVERGENCE VALUE= .1656 CRITERION= .2582 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 63
*** TIME = .727043E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .1090E-05 OSCILLATION LIMIT = .5228
*** AUTO STEP TIME: NEXT TIME INC = .47944E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 259.2 CRITERION= .3659
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6699
HT FLOW CONVERGENCE VALUE= .6359 CRITERION= .2585
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1663
HT FLOW CONVERGENCE VALUE= .1645 CRITERION= .2583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 65
*** TIME = .774988E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .7241E-06 OSCILLATION LIMIT = .3471
*** AUTO STEP TIME: NEXT TIME INC = .47944E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 259.4 CRITERION= .3660
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6698
HT FLOW CONVERGENCE VALUE= .6250 CRITERION= .2582
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1646
HT FLOW CONVERGENCE VALUE= .1640 CRITERION= .2579 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 67
*** TIME = .822932E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .9780E-06 OSCILLATION LIMIT = .4689
*** AUTO STEP TIME: NEXT TIME INC = .47944E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 259.8 CRITERION= .3660
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6699
HT FLOW CONVERGENCE VALUE= .6312 CRITERION= .2582
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1650
HT FLOW CONVERGENCE VALUE= .1632 CRITERION= .2579 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 69
*** TIME = .870876E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .7780E-06 OSCILLATION LIMIT = .3730
*** AUTO STEP TIME: NEXT TIME INC = .47944E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 259.9 CRITERION= .3662
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6698
HT FLOW CONVERGENCE VALUE= .6264 CRITERION= .2578
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1641
HT FLOW CONVERGENCE VALUE= .1626 CRITERION= .2576 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 71
*** TIME = .918820E+07 TIME INC = 479441.
*** RESPONSE EIGENVALUE = .9317E-06 OSCILLATION LIMIT = .4467
*** AUTO TIME STEP: NEXT TIME INC = .27911E+06 DECREASED (FACTOR = .5822)

HT FLOW CONVERGENCE VALUE= 151.6 CRITERION= .2989
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3900
HT FLOW CONVERGENCE VALUE= .3618 CRITERION= .2578
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8431E-01
HT FLOW CONVERGENCE VALUE= .8519E-01 CRITERION= .2576 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 73
*** TIME = .946731E+07 TIME INC = 279112.
*** RESPONSE EIGENVALUE = .6255E-06 OSCILLATION LIMIT = .1746
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 16:49:16 APR 07, 1995 CP= 5357.460
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 115.5 CRITERION= .2823
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2973
HT FLOW CONVERGENCE VALUE= .2776 CRITERION= .2575
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6479E-01
HT FLOW CONVERGENCE VALUE= .6519E-01 CRITERION= .2574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 75
*** TIME = .974642E+07 TIME INC = 279112.
*** RESPONSE EIGENVALUE = .8576E-06 OSCILLATION LIMIT = .2394
*** AUTO STEP TIME: NEXT TIME INC = .27911E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 115.7 CRITERION= .2822
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2975
HT FLOW CONVERGENCE VALUE= .2683 CRITERION= .2576
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6377E-01
HT FLOW CONVERGENCE VALUE= .6575E-01 CRITERION= .2574 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 77
*** TIME = .100255E+08 TIME INC = 279112.
*** RESPONSE EIGENVALUE = .1090E-05 OSCILLATION LIMIT = .3042
*** AUTO STEP TIME: NEXT TIME INC = .27911E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 115.6 CRITERION= .2822
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2973
HT FLOW CONVERGENCE VALUE= .2721 CRITERION= .2573
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6422E-01
HT FLOW CONVERGENCE VALUE= .6541E-01 CRITERION= .2572 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 79
*** TIME = .103046E+08 TIME INC = 279112.
*** RESPONSE EIGENVALUE = .1133E-05 OSCILLATION LIMIT = .3163
*** AUTO STEP TIME: NEXT TIME INC = .27911E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 115.8 CRITERION= .2820
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2975
HT FLOW CONVERGENCE VALUE= .2703 CRITERION= .2574
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6386E-01
HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .2573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 81
*** TIME = .105838E+08 TIME INC = 279112.
*** RESPONSE EIGENVALUE = .9988E-06 OSCILLATION LIMIT = .2788
*** AUTO STEP TIME: NEXT TIME INC = .50061E+06 INCREASED (FACTOR = 1.7936)
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HT FLOW CONVERGENCE VALUE= 207.6 CRITERION= .3306
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5333
HT FLOW CONVERGENCE VALUE= .4925 CRITERION= .2572
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1305
HT FLOW CONVERGENCE VALUE= .1300 CRITERION= .2570 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 83
*** TIME = .110844E+08 TIME INC = 500615.
*** RESPONSE EIGENVALUE = .1233E-05 OSCILLATION LIMIT = .6173
*** AUTO STEP TIME: NEXT TIME INC = .50061E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 207.9    CRITERION= .3305
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5333
HT FLOW CONVERGENCE VALUE= .4912    CRITERION= .2572
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
HT FLOW CONVERGENCE VALUE= .1289    CRITERION= .2570    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 85
*** TIME = .115850E+08    TIME INC = 500615.
*** RESPONSE EIGENVALUE = .1028E-05    OSCILLATION LIMIT = .5146
*** AUTO STEP TIME: NEXT TIME INC = .50061E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 208.0    CRITERION= .3306
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5333
HT FLOW CONVERGENCE VALUE= .4920    CRITERION= .2568
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
HT FLOW CONVERGENCE VALUE= .1283    CRITERION= .2566    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 87
*** TIME = .120856E+08    TIME INC = 500615.
*** RESPONSE EIGENVALUE = .1102E-05    OSCILLATION LIMIT = .5518
*** AUTO TIME STEP: NEXT TIME INC = .26873E+06    DECREASED (FACTOR = .5368)

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HT FLOW CONVERGENCE VALUE= 111.8    CRITERION= .2799
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2863
HT FLOW CONVERGENCE VALUE= .2596    CRITERION= .2568
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6000E-01
HT FLOW CONVERGENCE VALUE= .6112E-01    CRITERION= .2567    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 89
*** TIME = .123543E+08    TIME INC = 268733.
*** RESPONSE EIGENVALUE = .7994E-06    OSCILLATION LIMIT = .2148
*** AUTO STEP TIME: NEXT TIME INC = .26873E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 111.8    CRITERION= .2799
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2863
HT FLOW CONVERGENCE VALUE= .2607    CRITERION= .2565
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6055E-01
HT FLOW CONVERGENCE VALUE= .6151E-01    CRITERION= .2564    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 91
*** TIME = .126231E+08    TIME INC = 268733.
*** RESPONSE EIGENVALUE = .1115E-05    OSCILLATION LIMIT = .2997

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    17:11:21 APR 07, 1995 CP= 6606.880
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 90.40    CRITERION= .2719
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2318
HT FLOW CONVERGENCE VALUE= .2104    CRITERION= .2566    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 92
*** TIME = .128918E+08    TIME INC = 268733.
*** RESPONSE EIGENVALUE = .5042E-06    OSCILLATION LIMIT = .1355
*** AUTO STEP TIME: NEXT TIME INC = .26873E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 90.31    CRITERION= .2720
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2314
HT FLOW CONVERGENCE VALUE= .1942    CRITERION= .2564    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 93
*** TIME = .131605E+08    TIME INC = 268733.
*** RESPONSE EIGENVALUE = .9323E-06    OSCILLATION LIMIT = .2505
*** AUTO TIME STEP: NEXT TIME INC = .53633E+06    INCREASED (FACTOR = 1.9958)

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HT FLOW CONVERGENCE VALUE= 180.5 CRITERION= .3135
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4619
HT FLOW CONVERGENCE VALUE= .3888 CRITERION= .2565
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1067
HT FLOW CONVERGENCE VALUE= .1124 CRITERION= .2563 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 95
*** TIME = .136969E+08 TIME INC = 536335.
*** RESPONSE EIGENVALUE = .2124E-05 OSCILLATION LIMIT = 1.139
*** AUTO TIME STEP: NEXT TIME INC = .23539E+06 DECREASED (FACTOR = .4389)

HT FLOW CONVERGENCE VALUE= 79.19 CRITERION= .2682
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2027
HT FLOW CONVERGENCE VALUE= .1767 CRITERION= .2560 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 96
*** TIME = .139323E+08 TIME INC = 235395.
*** RESPONSE EIGENVALUE = .9356E-06 OSCILLATION LIMIT = .2202
*** AUTO STEP TIME: NEXT TIME INC = .23539E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 79.34 CRITERION= .2680
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2031
HT FLOW CONVERGENCE VALUE= .1744 CRITERION= .2562 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 97
*** TIME = .141677E+08 TIME INC = 235395.
*** RESPONSE EIGENVALUE = .5974E-06 OSCILLATION LIMIT = .1406
*** AUTO TIME STEP: NEXT TIME INC = .70618E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 237.8 CRITERION= .3496
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6081
HT FLOW CONVERGENCE VALUE= .5223 CRITERION= .2560
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1480
HT FLOW CONVERGENCE VALUE= .1520 CRITERION= .2557 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 99
*** TIME = .148738E+08 TIME INC = 706184.
*** RESPONSE EIGENVALUE = .2122E-05 OSCILLATION LIMIT = 1.498
*** AUTO TIME STEP: NEXT TIME INC = .23567E+06 DECREASED (FACTOR = .3337)

HT FLOW CONVERGENCE VALUE= 79.53 CRITERION= .2678
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2030
HT FLOW CONVERGENCE VALUE= .1798 CRITERION= .2558 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 100
*** TIME = .151095E+08 TIME INC = 235669.
*** RESPONSE EIGENVALUE = .4982E-06 OSCILLATION LIMIT = .1174
*** AUTO STEP TIME: NEXT TIME INC = .23567E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 79.43 CRITERION= .2679
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2029
HT FLOW CONVERGENCE VALUE= .1726 CRITERION= .2557 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 101
*** TIME = .153452E+08 TIME INC = 235669.
*** RESPONSE EIGENVALUE = .6935E-06 OSCILLATION LIMIT = .1634
*** AUTO TIME STEP: NEXT TIME INC = .43365E+06 INCREASED (FACTOR = 1.8401)

HT FLOW CONVERGENCE VALUE= 146.4 CRITERION= .2946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3734
HT FLOW CONVERGENCE VALUE= .3107 CRITERION= .2558
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8239E-01
HT FLOW CONVERGENCE VALUE= .8744E-01 CRITERION= .2556 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 103
*** TIME = .157788E+08 TIME INC = 433648.
*** RESPONSE EIGENVALUE = .2190E-05 OSCILLATION LIMIT = .9499

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:31:38 APR 07, 1995 CP= 7565.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 123.6 CRITERION= .2839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3154
 HT FLOW CONVERGENCE VALUE= .2771 CRITERION= .2554
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7212E-01
 HT FLOW CONVERGENCE VALUE= .7297E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 105
 *** TIME = .162125E+08 TIME INC = 433648.
 *** RESPONSE EIGENVALUE = .1692E-05 OSCILLATION LIMIT = .7336
 *** AUTO TIME STEP: NEXT TIME INC = .29558E+06 DECREASED (FACTOR = .6816)

HT FLOW CONVERGENCE VALUE= 84.41 CRITERION= .2688
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2152
 HT FLOW CONVERGENCE VALUE= .1901 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 106
 *** TIME = .165081E+08 TIME INC = 295577.
 *** RESPONSE EIGENVALUE = .6549E-06 OSCILLATION LIMIT = .1936
 *** AUTO STEP TIME: NEXT TIME INC = .29558E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.32 CRITERION= .2690
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
 HT FLOW CONVERGENCE VALUE= .1768 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 107
 *** TIME = .168036E+08 TIME INC = 295577.
 *** RESPONSE EIGENVALUE = .1087E-05 OSCILLATION LIMIT = .3213
 *** AUTO STEP TIME: NEXT TIME INC = .29558E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.47 CRITERION= .2688
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
 HT FLOW CONVERGENCE VALUE= .1691 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 108
 *** TIME = .170992E+08 TIME INC = 295577.
 *** RESPONSE EIGENVALUE = .2050E-05 OSCILLATION LIMIT = .6061
 *** AUTO STEP TIME: NEXT TIME INC = .29558E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.38 CRITERION= .2689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
 HT FLOW CONVERGENCE VALUE= .1708 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 109
 *** TIME = .173948E+08 TIME INC = 295577.
 *** RESPONSE EIGENVALUE = .1461E-05 OSCILLATION LIMIT = .4319
 *** AUTO STEP TIME: NEXT TIME INC = .29558E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.53 CRITERION= .2686
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
 HT FLOW CONVERGENCE VALUE= .1703 CRITERION= .2551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 110
 *** TIME = .176904E+08 TIME INC = 295577.
 *** RESPONSE EIGENVALUE = .1541E-05 OSCILLATION LIMIT = .4554
 *** AUTO STEP TIME: NEXT TIME INC = .29558E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.44 CRITERION= .2687
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
 HT FLOW CONVERGENCE VALUE= .1694 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 111

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*** TIME = .179859E+08    TIME INC = 295577.
*** RESPONSE EIGENVALUE = .1649E-05    OSCILLATION LIMIT = .4875
*** AUTO STEP TIME: NEXT TIME INC = .29558E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 84.59    CRITERION= .2685
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
    HT FLOW CONVERGENCE VALUE= .1701    CRITERION= .2549    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 112
*** TIME = .182815E+08    TIME INC = 295577.
*** RESPONSE EIGENVALUE = .1457E-05    OSCILLATION LIMIT = .4307
*** AUTO STEP TIME: NEXT TIME INC = .29558E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 84.50    CRITERION= .2685
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2150
    HT FLOW CONVERGENCE VALUE= .1684    CRITERION= .2546    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 113
*** TIME = .185771E+08    TIME INC = 295577.
*** RESPONSE EIGENVALUE = .1685E-05    OSCILLATION LIMIT = .4979
*** AUTO TIME STEP: NEXT TIME INC = .17875E+06    DECREASED (FACTOR = .6047)

    HT FLOW CONVERGENCE VALUE= 51.22    CRITERION= .2597
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1300
    HT FLOW CONVERGENCE VALUE= .1006    CRITERION= .2547    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 114
*** TIME = .187558E+08    TIME INC = 178750.
*** RESPONSE EIGENVALUE = .1685E-05    OSCILLATION LIMIT = .3011
*** AUTO STEP TIME: NEXT TIME INC = .17875E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 51.11    CRITERION= .2598
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1300
    HT FLOW CONVERGENCE VALUE= .9922E-01    CRITERION= .2544    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 115
*** TIME = .189346E+08    TIME INC = 178750.
*** RESPONSE EIGENVALUE = .2540E-05    OSCILLATION LIMIT = .4540

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    17:53:49 APR 07, 1995 CP= 8608.290
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 44.03    CRITERION= .2582
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1121
    HT FLOW CONVERGENCE VALUE= .8817E-01    CRITERION= .2545    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 116
*** TIME = .191133E+08    TIME INC = 178750.
*** RESPONSE EIGENVALUE = .1257E-05    OSCILLATION LIMIT = .2246
*** AUTO STEP TIME: NEXT TIME INC = .17875E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.91    CRITERION= .2583
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1119
    HT FLOW CONVERGENCE VALUE= .8504E-01    CRITERION= .2543    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 117
*** TIME = .192921E+08    TIME INC = 178750.
*** RESPONSE EIGENVALUE = .2536E-05    OSCILLATION LIMIT = .4533
*** AUTO STEP TIME: NEXT TIME INC = .17875E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.04    CRITERION= .2581
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1121
    HT FLOW CONVERGENCE VALUE= .8725E-01    CRITERION= .2544    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 118
*** TIME = .194708E+08 TIME INC = 178750.
*** RESPONSE EIGENVALUE = .1663E-05 OSCILLATION LIMIT = .2972
*** AUTO TIME STEP: NEXT TIME INC = .30070E+06 INCREASED (FACTOR = 1.6822)

HT FLOW CONVERGENCE VALUE= 73.93 CRITERION= .2649
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1475 CRITERION= .2542 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 119
*** TIME = .197715E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1651E-05 OSCILLATION LIMIT = .4966
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.07 CRITERION= .2648
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1883
HT FLOW CONVERGENCE VALUE= .1466 CRITERION= .2543 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 120
*** TIME = .200722E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1509E-05 OSCILLATION LIMIT = .4536
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.98 CRITERION= .2648
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1424 CRITERION= .2540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 121
*** TIME = .203729E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .2213E-05 OSCILLATION LIMIT = .6656
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.12 CRITERION= .2646
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1449 CRITERION= .2541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 122
*** TIME = .206736E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1649E-05 OSCILLATION LIMIT = .4958
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.02 CRITERION= .2647
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1426 CRITERION= .2538 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 123
*** TIME = .209743E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1998E-05 OSCILLATION LIMIT = .6009
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.16 CRITERION= .2644
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1438 CRITERION= .2539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 124
*** TIME = .212750E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1736E-05 OSCILLATION LIMIT = .5221
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.06 CRITERION= .2645
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1415 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 125
*** TIME = .215757E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1959E-05 OSCILLATION LIMIT = .5890
*** AUTO STEP TIME: NEXT TIME INC = .30070E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.21 CRITERION= .2643

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1882
HT FLOW CONVERGENCE VALUE= .1427 CRITERION= .2537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 126
*** TIME = .218764E+08 TIME INC = 300700.
*** RESPONSE EIGENVALUE = .1753E-05 OSCILLATION LIMIT = .5271
*** AUTO TIME STEP: NEXT TIME INC = .21391E+06 DECREASED (FACTOR = .7114)

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HT FLOW CONVERGENCE VALUE= 52.71 CRITERION= .2591
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1339
HT FLOW CONVERGENCE VALUE= .9879E-01 CRITERION= .2534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 127
*** TIME = .220904E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2378E-05 OSCILLATION LIMIT = .5086

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 18:23:21 APR 07, 1995 CP= 9700.250
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 45.03 CRITERION= .2574
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1138
HT FLOW CONVERGENCE VALUE= .8496E-01 CRITERION= .2535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 128
*** TIME = .223043E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2402E-05 OSCILLATION LIMIT = .5138
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 44.92 CRITERION= .2575
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
HT FLOW CONVERGENCE VALUE= .8373E-01 CRITERION= .2533 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 129
*** TIME = .225182E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2604E-05 OSCILLATION LIMIT = .5571
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 45.05 CRITERION= .2572
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
HT FLOW CONVERGENCE VALUE= .8551E-01 CRITERION= .2534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 130
*** TIME = .227321E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2087E-05 OSCILLATION LIMIT = .4464
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 44.93 CRITERION= .2573
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
HT FLOW CONVERGENCE VALUE= .8377E-01 CRITERION= .2531 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 131
*** TIME = .229460E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2566E-05 OSCILLATION LIMIT = .5488
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 45.06 CRITERION= .2571
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
HT FLOW CONVERGENCE VALUE= .8536E-01 CRITERION= .2532 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 132
*** TIME = .231599E+08 TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2133E-05 OSCILLATION LIMIT = .4562
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 44.95 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
 HT FLOW CONVERGENCE VALUE= .8373E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 133
 *** TIME = .233738E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2547E-05 OSCILLATION LIMIT = .5449
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.08 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
 HT FLOW CONVERGENCE VALUE= .8528E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 134
 *** TIME = .235877E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2128E-05 OSCILLATION LIMIT = .4552
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.97 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
 HT FLOW CONVERGENCE VALUE= .8368E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 135
 *** TIME = .238017E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2545E-05 OSCILLATION LIMIT = .5443
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.09 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
 HT FLOW CONVERGENCE VALUE= .8521E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 136
 *** TIME = .240156E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2120E-05 OSCILLATION LIMIT = .4536
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.98 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
 HT FLOW CONVERGENCE VALUE= .8362E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 137
 *** TIME = .242295E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2543E-05 OSCILLATION LIMIT = .5439
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.11 CRITERION= .2567
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
 HT FLOW CONVERGENCE VALUE= .8513E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 138
 *** TIME = .244434E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2113E-05 OSCILLATION LIMIT = .4520
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.00 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
 HT FLOW CONVERGENCE VALUE= .8356E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 139
 *** TIME = .246573E+08 TIME INC = 213913.
 *** RESPONSE EIGENVALUE = .2540E-05 OSCILLATION LIMIT = .5434
 *** AUTO STEP TIME: NEXT TIME INC = .21391E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.13 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1139
 HT FLOW CONVERGENCE VALUE= .8505E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 140
 *** TIME = .248712E+08 TIME INC = 213913.

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*** RESPONSE EIGENVALUE = .2106E-05  OSCILLATION LIMIT = .4505
*** AUTO STEP TIME: NEXT TIME INC = .21391E+06  UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.01  CRITERION= .2567
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
HT FLOW CONVERGENCE VALUE= .8350E-01  CRITERION= .2525  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED.  CUM ITER = 141
*** TIME = .250851E+08  TIME INC = 213913.
*** RESPONSE EIGENVALUE = .2538E-05  OSCILLATION LIMIT = .5428
*** AUTO TIME STEP: NEXT TIME INC = .16098E+06  DECREASED (FACTOR = .7526)

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HT FLOW CONVERGENCE VALUE= 33.99  CRITERION= .2547
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8579E-01
HT FLOW CONVERGENCE VALUE= .6377E-01  CRITERION= .2526  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED.  CUM ITER = 142
*** TIME = .252461E+08  TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2232E-05  OSCILLATION LIMIT = .3593

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303  VERSION=HP 9000/7XX 18:46:11 APR 07, 1995 CP= 11051.720
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 29.98  CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5478E-01  CRITERION= .2523  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED.  CUM ITER = 143
*** TIME = .254071E+08  TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3508E-05  OSCILLATION LIMIT = .5648
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.10  CRITERION= .2541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7592E-01
HT FLOW CONVERGENCE VALUE= .5639E-01  CRITERION= .2524  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED.  CUM ITER = 144
*** TIME = .255681E+08  TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2530E-05  OSCILLATION LIMIT = .4073
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 29.98  CRITERION= .2542
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5506E-01  CRITERION= .2522  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED.  CUM ITER = 145
*** TIME = .257291E+08  TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3139E-05  OSCILLATION LIMIT = .5053
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.10  CRITERION= .2540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7593E-01
HT FLOW CONVERGENCE VALUE= .5644E-01  CRITERION= .2523  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED.  CUM ITER = 146
*** TIME = .258901E+08  TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2476E-05  OSCILLATION LIMIT = .3985
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 29.99  CRITERION= .2541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5501E-01  CRITERION= .2521  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 147
*** TIME = .260510E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3184E-05 OSCILLATION LIMIT = .5125
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.11 CRITERION= .2539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7592E-01
HT FLOW CONVERGENCE VALUE= .5640E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 148
*** TIME = .262120E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2458E-05 OSCILLATION LIMIT = .3957
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.00 CRITERION= .2540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5499E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 149
*** TIME = .263730E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3175E-05 OSCILLATION LIMIT = .5112
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .2538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7591E-01
HT FLOW CONVERGENCE VALUE= .5636E-01 CRITERION= .2521 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 150
*** TIME = .265340E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2450E-05 OSCILLATION LIMIT = .3944
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.01 CRITERION= .2539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5497E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 151
*** TIME = .266950E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3166E-05 OSCILLATION LIMIT = .5097
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.12 CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7590E-01
HT FLOW CONVERGENCE VALUE= .5631E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 152
*** TIME = .268560E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2443E-05 OSCILLATION LIMIT = .3934
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.01 CRITERION= .2538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
HT FLOW CONVERGENCE VALUE= .5494E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 153
*** TIME = .270169E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .3157E-05 OSCILLATION LIMIT = .5082
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.13 CRITERION= .2536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7589E-01
HT FLOW CONVERGENCE VALUE= .5627E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 154
*** TIME = .271779E+08 TIME INC = 160985.
*** RESPONSE EIGENVALUE = .2437E-05 OSCILLATION LIMIT = .3924
*** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01

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HT FLOW CONVERGENCE VALUE= .5492E-01 CRITERION= .2517 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 155
 *** TIME = .273389E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .3147E-05 OSCILLATION LIMIT = .5067
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7589E-01
 HT FLOW CONVERGENCE VALUE= .5623E-01 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 156
 *** TIME = .274999E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .2432E-05 OSCILLATION LIMIT = .3915
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
 HT FLOW CONVERGENCE VALUE= .5490E-01 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 157
 *** TIME = .276609E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .3138E-05 OSCILLATION LIMIT = .5051
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.14 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7588E-01
 HT FLOW CONVERGENCE VALUE= .5619E-01 CRITERION= .2517 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 158
 *** TIME = .278219E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .2427E-05 OSCILLATION LIMIT = .3907
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
 HT FLOW CONVERGENCE VALUE= .5488E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 159
 *** TIME = .279829E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .3128E-05 OSCILLATION LIMIT = .5035
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.15 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7587E-01
 HT FLOW CONVERGENCE VALUE= .5615E-01 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 160
 *** TIME = .281438E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .2422E-05 OSCILLATION LIMIT = .3899
 *** AUTO STEP TIME: NEXT TIME INC = .16098E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7563E-01
 HT FLOW CONVERGENCE VALUE= .5485E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 161
 *** TIME = .283048E+08 TIME INC = 160985.
 *** RESPONSE EIGENVALUE = .3118E-05 OSCILLATION LIMIT = .5020
 *** AUTO STEP TIME: NEXT TIME INC = 97046. DECREASED (FACTOR = .6028)

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4592E-01
 HT FLOW CONVERGENCE VALUE= .3404E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 162
 *** TIME = .284019E+08 TIME INC = 97045.5
 *** RESPONSE EIGENVALUE = .2538E-05 OSCILLATION LIMIT = .2463

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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
6218.59052 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 123.22 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 124.26 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 126.87 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 12847.400 TIME= 19:16:34
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 19:16:34 APR 07, 1995 CP= 12847.400
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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

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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= 16.48    CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4165E-01
HT FLOW CONVERGENCE VALUE= .2951E-01 CRITERION= .2514    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 163
*** TIME = .284989E+08 TIME INC = 97045.5
*** RESPONSE EIGENVALUE = .5232E-05 OSCILLATION LIMIT = .5077
*** AUTO STEP TIME: NEXT TIME INC = 97046. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.59    CRITERION= .2519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4202E-01
HT FLOW CONVERGENCE VALUE= .3089E-01 CRITERION= .2515    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 164
*** TIME = .285960E+08 TIME INC = 97045.5
*** RESPONSE EIGENVALUE = .2990E-05 OSCILLATION LIMIT = .2902
*** AUTO TIME STEP: NEXT TIME INC = .16722E+06 INCREASED (FACTOR = 1.7231)

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HT FLOW CONVERGENCE VALUE= 28.43    CRITERION= .2531
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7177E-01
HT FLOW CONVERGENCE VALUE= .5236E-01 CRITERION= .2513    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 165
*** TIME = .287632E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .3088E-05 OSCILLATION LIMIT = .5164
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 28.54    CRITERION= .2529
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7202E-01
HT FLOW CONVERGENCE VALUE= .5325E-01 CRITERION= .2514    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 166
*** TIME = .289304E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .2329E-05 OSCILLATION LIMIT = .3895
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 28.44    CRITERION= .2530
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7177E-01
HT FLOW CONVERGENCE VALUE= .5152E-01 CRITERION= .2512    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 167
*** TIME = .290976E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .3639E-05 OSCILLATION LIMIT = .6085
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 28.55    CRITERION= .2528
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7196E-01
HT FLOW CONVERGENCE VALUE= .5278E-01 CRITERION= .2513    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 168
*** TIME = .292648E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .2727E-05 OSCILLATION LIMIT = .4561
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 28.44    CRITERION= .2529
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7177E-01
HT FLOW CONVERGENCE VALUE= .5160E-01 CRITERION= .2511    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 169
*** TIME = .294321E+08 TIME INC = 167221.

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*** RESPONSE EIGENVALUE = .3395E-05  OSCILLATION LIMIT = .5677
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.55      CRITERION= .2527
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7195E-01
  HT FLOW CONVERGENCE VALUE= .5273E-01  CRITERION= .2512  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  8  COMPLETED.  CUM ITER =  170
*** TIME = .295993E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .2756E-05  OSCILLATION LIMIT = .4609
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.45      CRITERION= .2528
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7177E-01
  HT FLOW CONVERGENCE VALUE= .5158E-01  CRITERION= .2510  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  9  COMPLETED.  CUM ITER =  171
*** TIME = .297665E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .3387E-05  OSCILLATION LIMIT = .5663
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.56      CRITERION= .2526
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7195E-01
  HT FLOW CONVERGENCE VALUE= .5269E-01  CRITERION= .2511  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  10  COMPLETED.  CUM ITER =  172
*** TIME = .299337E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .2746E-05  OSCILLATION LIMIT = .4592
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.46      CRITERION= .2527
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7177E-01
  HT FLOW CONVERGENCE VALUE= .5155E-01  CRITERION= .2509  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  11  COMPLETED.  CUM ITER =  173
*** TIME = .301010E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .3384E-05  OSCILLATION LIMIT = .5659
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.57      CRITERION= .2525
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7194E-01
  HT FLOW CONVERGENCE VALUE= .5265E-01  CRITERION= .2510  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  12  COMPLETED.  CUM ITER =  174
*** TIME = .302682E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .2735E-05  OSCILLATION LIMIT = .4574
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.46      CRITERION= .2526
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7177E-01
  HT FLOW CONVERGENCE VALUE= .5153E-01  CRITERION= .2508  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  13  COMPLETED.  CUM ITER =  175
*** TIME = .304354E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .3380E-05  OSCILLATION LIMIT = .5653
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.57      CRITERION= .2524
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7194E-01
  HT FLOW CONVERGENCE VALUE= .5261E-01  CRITERION= .2509  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  13  SUBSTEP  14  COMPLETED.  CUM ITER =  176
*** TIME = .306026E+08  TIME INC =  167221.
*** RESPONSE EIGENVALUE = .2726E-05  OSCILLATION LIMIT = .4559
*** AUTO STEP TIME:  NEXT TIME INC = .16722E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.47      CRITERION= .2525
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .7177E-01
  HT FLOW CONVERGENCE VALUE= .5151E-01  CRITERION= .2507  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 177
*** TIME = .307698E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .3376E-05 OSCILLATION LIMIT = .5645
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7193E-01
HT FLOW CONVERGENCE VALUE= .5257E-01 CRITERION= .2503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 178
*** TIME = .309371E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .2718E-05 OSCILLATION LIMIT = .4546
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.48 CRITERION= .2524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7177E-01
HT FLOW CONVERGENCE VALUE= .5148E-01 CRITERION= .2506 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 179
*** TIME = .311043E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .3371E-05 OSCILLATION LIMIT = .5637
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7192E-01
HT FLOW CONVERGENCE VALUE= .5254E-01 CRITERION= .2506 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 180
*** TIME = .312715E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .2712E-05 OSCILLATION LIMIT = .4535
*** AUTO STEP TIME: NEXT TIME INC = .16722E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.48 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7177E-01
HT FLOW CONVERGENCE VALUE= .5147E-01 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 181
*** TIME = .314387E+08 TIME INC = 167221.
*** RESPONSE EIGENVALUE = .3365E-05 OSCILLATION LIMIT = .5627
*** AUTO STEP TIME: NEXT TIME INC = .11891E+06 DECREASED (FACTOR = .7111)

HT FLOW CONVERGENCE VALUE= 20.35 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5125E-01
HT FLOW CONVERGENCE VALUE= .3742E-01 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 182
*** TIME = .315576E+08 TIME INC = 118907.
*** RESPONSE EIGENVALUE = .2789E-05 OSCILLATION LIMIT = .3317

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*ENDDO INDEX= TM

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 19:47:06 APR 07, 1995 CP= 14648.520
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 86.58 CRITERION= .2651
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1595 CRITERION= .2503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 183
*** TIME = .323466E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3510E-05 OSCILLATION LIMIT = 2.769
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 86.71 CRITERION= .2649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1564 CRITERION= .2503 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 184
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4391E-05 OSCILLATION LIMIT = 3.464
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.64 CRITERION= .2648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1552 CRITERION= .2499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 185
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5237E-05 OSCILLATION LIMIT = 4.132
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.77 CRITERION= .2645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1560 CRITERION= .2498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 186
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4134E-05 OSCILLATION LIMIT = 3.262
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.70 CRITERION= .2644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1547 CRITERION= .2495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 187
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5018E-05 OSCILLATION LIMIT = 3.959
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.83 CRITERION= .2642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1555 CRITERION= .2494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 188
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4287E-05 OSCILLATION LIMIT = 3.382
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.76 CRITERION= .2641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1543 CRITERION= .2491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 189
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4894E-05 OSCILLATION LIMIT = 3.861
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.89 CRITERION= .2638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1551 CRITERION= .2490 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 190
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4370E-05 OSCILLATION LIMIT = 3.448
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.82 CRITERION= .2637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1539 CRITERION= .2486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 191
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4821E-05 OSCILLATION LIMIT = 3.803

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

HT FLOW CONVERGENCE VALUE= 86.95 CRITERION= .2634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1547 CRITERION= .2485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 192
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4416E-05 OSCILLATION LIMIT = 3.484
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.88 CRITERION= .2633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1535 CRITERION= .2482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 193
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4777E-05 OSCILLATION LIMIT = 3.769
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.01 CRITERION= .2630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1543 CRITERION= .2481 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 194
 *** TIME = .410249E+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= 86.94 CRITERION= .2629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1532 CRITERION= .2478 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 195
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4750E-05 OSCILLATION LIMIT = 3.747
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.07 CRITERION= .2626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1539 CRITERION= .2477 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 196
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4454E-05 OSCILLATION LIMIT = 3.514
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.00 CRITERION= .2625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1528 CRITERION= .2473 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 197
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4732E-05 OSCILLATION LIMIT = 3.733
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.13 CRITERION= .2622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1535 CRITERION= .2472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 198
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4460E-05 OSCILLATION LIMIT = 3.519
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.06 CRITERION= .2621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1524 CRITERION= .2469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 199

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*** TIME = .449696E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4720E-05    OSCILLATION LIMIT = 3.724
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.18    CRITERION= .2618
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1531    CRITERION= .2468    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 200
*** TIME = .457586E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4462E-05    OSCILLATION LIMIT = 3.520
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.12    CRITERION= .2617
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1520    CRITERION= .2465    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 201
*** TIME = .465475E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4711E-05    OSCILLATION LIMIT = 3.717
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.24    CRITERION= .2614
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1527    CRITERION= .2464    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 202
*** TIME = .473364E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4461E-05    OSCILLATION LIMIT = 3.519
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.18    CRITERION= .2613
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1516    CRITERION= .2460    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 203
*** TIME = .481254E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4704E-05    OSCILLATION LIMIT = 3.711
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.30    CRITERION= .2610
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1523    CRITERION= .2459    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 204
*** TIME = .489143E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4458E-05    OSCILLATION LIMIT = 3.517
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.24    CRITERION= .2609
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1512    CRITERION= .2456    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 205
*** TIME = .497033E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4698E-05    OSCILLATION LIMIT = 3.706
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.36    CRITERION= .2607
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1519    CRITERION= .2455    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 206
*** TIME = .504922E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4455E-05    OSCILLATION LIMIT = 3.515
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 87.30    CRITERION= .2606
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
    HT FLOW CONVERGENCE VALUE= .1509    CRITERION= .2452    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 207
*** TIME = .512811E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4692E-05 OSCILLATION LIMIT = 3.702
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.42 CRITERION= .2603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1515 CRITERION= .2451 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 208
*** TIME = .520701E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4452E-05 OSCILLATION LIMIT = 3.512
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.36 CRITERION= .2602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1505 CRITERION= .2447 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 209
*** TIME = .528590E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4687E-05 OSCILLATION LIMIT = 3.698
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.48 CRITERION= .2599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1511 CRITERION= .2446 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 210
*** TIME = .536480E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4448E-05 OSCILLATION LIMIT = 3.509
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.42 CRITERION= .2598
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1501 CRITERION= .2443 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 211
*** TIME = .544369E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4682E-05 OSCILLATION LIMIT = 3.694
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.54 CRITERION= .2595
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1508 CRITERION= .2442 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 212
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4443E-05 OSCILLATION LIMIT = 3.506
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.48 CRITERION= .2594
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1497 CRITERION= .2439 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 213
*** TIME = .560148E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4677E-05 OSCILLATION LIMIT = 3.690
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.60 CRITERION= .2591
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .2438 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 214
*** TIME = .568037E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4439E-05 OSCILLATION LIMIT = 3.502
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.54 CRITERION= .2590

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1494 CRITERION= .2434 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 215
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4671E-05 OSCILLATION LIMIT = 3.685
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.66 CRITERION= .2587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1500 CRITERION= .2433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 216
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4435E-05 OSCILLATION LIMIT = 3.499
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.59 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1490 CRITERION= .2430 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 217
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4666E-05 OSCILLATION LIMIT = 3.681
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.72 CRITERION= .2583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1496 CRITERION= .2429 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 218
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4430E-05 OSCILLATION LIMIT = 3.495
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.65 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1486 CRITERION= .2426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 219
 *** TIME = .607484E+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= 87.78 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1493 CRITERION= .2425 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 220
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4426E-05 OSCILLATION LIMIT = 3.492
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.71 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1483 CRITERION= .2422 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 221
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4655E-05 OSCILLATION LIMIT = 3.673
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.84 CRITERION= .2576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1489 CRITERION= .2420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 222
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4421E-05 OSCILLATION LIMIT = 3.488

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:47:51 APR 07, 1995 CP= 18244.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 46.26 CRITERION= .2464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .8671E-01 CRITERION= .2417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 223
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9831E-05 OSCILLATION LIMIT = 7.756
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.36 CRITERION= .2461
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .8304E-01 CRITERION= .2416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 224
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 7.983
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.28 CRITERION= .2460
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7872E-01 CRITERION= .2413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 225
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8851E-05 OSCILLATION LIMIT = 6.983
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.38 CRITERION= .2457
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .8206E-01 CRITERION= .2412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 226
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.956
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.30 CRITERION= .2456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7908E-01 CRITERION= .2409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 227
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9390E-05 OSCILLATION LIMIT = 7.408
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.39 CRITERION= .2453
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .8133E-01 CRITERION= .2408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 228
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9739E-05 OSCILLATION LIMIT = 7.683
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.31 CRITERION= .2452
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7920E-01 CRITERION= .2406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 229
 *** TIME = .686378E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .9692E-05  OSCILLATION LIMIT = 7.647
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.41  CRITERION= .2450
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .8085E-01 CRITERION= .2405  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 230
*** TIME = .694268E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9540E-05  OSCILLATION LIMIT = 7.526
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.33  CRITERION= .2449
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .7921E-01 CRITERION= .2402  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 231
*** TIME = .702157E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9864E-05  OSCILLATION LIMIT = 7.782
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.43  CRITERION= .2446
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .8050E-01 CRITERION= .2401  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 232
*** TIME = .710046E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9426E-05  OSCILLATION LIMIT = 7.437
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.35  CRITERION= .2445
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .7913E-01 CRITERION= .2398  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 233
*** TIME = .717936E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9962E-05  OSCILLATION LIMIT = 7.859
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.44  CRITERION= .2442
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .8021E-01 CRITERION= .2397  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 234
*** TIME = .725825E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9364E-05  OSCILLATION LIMIT = 7.387
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.36  CRITERION= .2441
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .7902E-01 CRITERION= .2394  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 235
*** TIME = .733715E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1002E-04  OSCILLATION LIMIT = 7.903
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.46  CRITERION= .2439
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .7997E-01 CRITERION= .2393  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 236
*** TIME = .741604E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9331E-05  OSCILLATION LIMIT = 7.362
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 46.38  CRITERION= .2438
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
  HT FLOW CONVERGENCE VALUE= .7888E-01 CRITERION= .2391  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 237
*** TIME = .749493E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 7.929
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.48 CRITERION= .2435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7975E-01 CRITERION= .2390 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 238
*** TIME = .757383E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9316E-05 OSCILLATION LIMIT = 7.349
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.40 CRITERION= .2434
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7872E-01 CRITERION= .2387 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 239
*** TIME = .765272E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 7.943
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.49 CRITERION= .2432
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7955E-01 CRITERION= .2386 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 240
*** TIME = .773162E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9310E-05 OSCILLATION LIMIT = 7.345
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.41 CRITERION= .2431
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7855E-01 CRITERION= .2383 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 241
*** TIME = .781051E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.951
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.51 CRITERION= .2428
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7935E-01 CRITERION= .2382 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 242
*** TIME = .788940E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9311E-05 OSCILLATION LIMIT = 7.345
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.43 CRITERION= .2427
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7838E-01 CRITERION= .2379 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 243
*** TIME = .796830E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = 7.956
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.53 CRITERION= .2424
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7915E-01 CRITERION= .2378 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 244
*** TIME = .804719E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9314E-05 OSCILLATION LIMIT = 7.348
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.45 CRITERION= .2423
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155

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HT FLOW CONVERGENCE VALUE= .7821E-01 CRITERION= .2376 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 245
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.958
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.54 CRITERION= .2421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7896E-01 CRITERION= .2375 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 246
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9320E-05 OSCILLATION LIMIT = 7.353
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.46 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7803E-01 CRITERION= .2372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 247
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.960
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .2417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7877E-01 CRITERION= .2371 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 248
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9326E-05 OSCILLATION LIMIT = 7.358
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.48 CRITERION= .2416
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7785E-01 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 249
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.960
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.58 CRITERION= .2413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7858E-01 CRITERION= .2367 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 250
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9333E-05 OSCILLATION LIMIT = 7.363
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.50 CRITERION= .2412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7768E-01 CRITERION= .2364 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 251
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.59 CRITERION= .2410
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7840E-01 CRITERION= .2363 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 252
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9340E-05 OSCILLATION LIMIT = 7.369
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.51 CRITERION= .2409
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7750E-01 CRITERION= .2361 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 253
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.61 CRITERION= .2406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7821E-01 CRITERION= .2360 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 254
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9348E-05 OSCILLATION LIMIT = 7.375
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.53 CRITERION= .2405
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7732E-01 CRITERION= .2357 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 255
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.63 CRITERION= .2402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7802E-01 CRITERION= .2356 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 256
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9355E-05 OSCILLATION LIMIT = 7.380
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.55 CRITERION= .2401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7714E-01 CRITERION= .2353 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 257
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.64 CRITERION= .2399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7784E-01 CRITERION= .2352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 258
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9362E-05 OSCILLATION LIMIT = 7.386
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .2398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7697E-01 CRITERION= .2349 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 259
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.66 CRITERION= .2395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7765E-01 CRITERION= .2348 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 260
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9369E-05 OSCILLATION LIMIT = 7.392

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

HT FLOW CONVERGENCE VALUE= 46.58 CRITERION= .2394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7679E-01 CRITERION= .2346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 261
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1009E-04 OSCILLATION LIMIT = 7.961
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.68 CRITERION= .2391
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7747E-01 CRITERION= .2345 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 262
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9376E-05 OSCILLATION LIMIT = 7.397

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

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:48:46 APR 07, 1995 CP= 21844.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 30.29 CRITERION= .2364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5816E-01 CRITERION= .2342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 263
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1268E-04 OSCILLATION LIMIT = 10.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.38 CRITERION= .2361
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5658E-01 CRITERION= .2341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 264
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 9.855
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.30 CRITERION= .2360
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5369E-01 CRITERION= .2338 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 265
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1332E-04 OSCILLATION LIMIT = 10.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.39 CRITERION= .2358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5608E-01 CRITERION= .2338 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 266
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.927
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.30 CRITERION= .2357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5399E-01 CRITERION= .2335 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 267

*** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1344E-04 OSCILLATION LIMIT = 10.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.39 CRITERION= .2355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5567E-01 CRITERION= .2334 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 268
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 9.868
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.31 CRITERION= .2354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5409E-01 CRITERION= .2332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 269
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.40 CRITERION= .2351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5539E-01 CRITERION= .2331 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 270
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 9.840
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.32 CRITERION= .2351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5411E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 271
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1356E-04 OSCILLATION LIMIT = 10.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.41 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5517E-01 CRITERION= .2328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 272
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 9.828
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.33 CRITERION= .2347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5407E-01 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 273
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1358E-04 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.42 CRITERION= .2345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5500E-01 CRITERION= .2324 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 274
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 9.827
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.33 CRITERION= .2344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5401E-01 CRITERION= .2322 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 275
*** TIME = .104929E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1360E-04 OSCILLATION LIMIT = 10.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.42 CRITERION= .2342
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5485E-01 CRITERION= .2321 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 276
*** TIME = .105718E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 9.831
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.34 CRITERION= .2341
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5393E-01 CRITERION= .2319 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 277
*** TIME = .106507E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 10.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.43 CRITERION= .2338
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5472E-01 CRITERION= .2318 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 278
*** TIME = .107296E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 9.840
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.35 CRITERION= .2337
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5383E-01 CRITERION= .2315 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 279
*** TIME = .108085E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1362E-04 OSCILLATION LIMIT = 10.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.44 CRITERION= .2335
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5459E-01 CRITERION= .2314 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 280
*** TIME = .108874E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 9.850
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.35 CRITERION= .2334
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5374E-01 CRITERION= .2312 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 281
*** TIME = .109663E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1363E-04 OSCILLATION LIMIT = 10.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.44 CRITERION= .2332
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5447E-01 CRITERION= .2311 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 282
*** TIME = .110452E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 9.861
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.36 CRITERION= .2331

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5364E-01 CRITERION= .2309 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 283
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1363E-04 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.45 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5435E-01 CRITERION= .2308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 284
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 9.872
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.37 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5353E-01 CRITERION= .2305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 285
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.46 CRITERION= .2325
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5424E-01 CRITERION= .2304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 286
 *** TIME = .113607E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1253E-04 OSCILLATION LIMIT = 9.884
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.37 CRITERION= .2324
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5343E-01 CRITERION= .2302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 287
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.46 CRITERION= .2322
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5412E-01 CRITERION= .2301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 288
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1254E-04 OSCILLATION LIMIT = 9.896
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.38 CRITERION= .2321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5333E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 289
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.47 CRITERION= .2319
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5400E-01 CRITERION= .2298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 290
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1256E-04 OSCILLATION LIMIT = 9.908
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.39 CRITERION= .2318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5322E-01 CRITERION= .2295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 291
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.48 CRITERION= .2315
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5389E-01 CRITERION= .2295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 292
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.920
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.40 CRITERION= .2314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5312E-01 CRITERION= .2292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 293
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.48 CRITERION= .2312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5378E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 294
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 9.932
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.40 CRITERION= .2311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5301E-01 CRITERION= .2289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 295
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1366E-04 OSCILLATION LIMIT = 10.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.49 CRITERION= .2309
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5366E-01 CRITERION= .2288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 296
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1260E-04 OSCILLATION LIMIT = 9.944
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.41 CRITERION= .2308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5290E-01 CRITERION= .2285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 297
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1366E-04 OSCILLATION LIMIT = 10.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.50 CRITERION= .2305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .5355E-01 CRITERION= .2285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 298
 *** TIME = .123075E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1262E-04 OSCILLATION LIMIT = 9.955
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.42 CRITERION= .2305
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5280E-01 CRITERION= .2282 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 299
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1367E-04 OSCILLATION LIMIT = 10.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.51 CRITERION= .2302
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5344E-01 CRITERION= .2281 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 300
*** TIME = .124653E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1263E-04 OSCILLATION LIMIT = 9.967
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.42 CRITERION= .2301
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5269E-01 CRITERION= .2279 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 301
*** TIME = .125441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1367E-04 OSCILLATION LIMIT = 10.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 30.51 CRITERION= .2299
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .5332E-01 CRITERION= .2278 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 302
*** TIME = .126230E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1265E-04 OSCILLATION LIMIT = 9.978

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:49:45 APR 07, 1995 CP= 25446.160
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 21.32 CRITERION= .2288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4380E-01 CRITERION= .2276 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 303
*** TIME = .127019E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1369E-04 OSCILLATION LIMIT = 10.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.41 CRITERION= .2285
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4258E-01 CRITERION= .2275 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 304
*** TIME = .127808E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1336E-04 OSCILLATION LIMIT = 10.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.32 CRITERION= .2285
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4079E-01 CRITERION= .2273 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 305
*** TIME = .128597E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1478E-04 OSCILLATION LIMIT = 11.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.41 CRITERION= .2283
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4235E-01 CRITERION= .2272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 306
*** TIME = .129386E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1346E-04 OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.33 CRITERION= .2282
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4096E-01 CRITERION= .2270 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 307
*** TIME = .130175E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1477E-04 OSCILLATION LIMIT = 11.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.41 CRITERION= .2280
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .2269 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 308
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1346E-04 OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.33 CRITERION= .2279
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4101E-01 CRITERION= .2267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 309
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1478E-04 OSCILLATION LIMIT = 11.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.42 CRITERION= .2277
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .2266 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 310
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1347E-04 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.33 CRITERION= .2276
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4101E-01 CRITERION= .2264 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 311
*** TIME = .133331E+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= 21.42 CRITERION= .2274
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .4183E-01 CRITERION= .2263 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 312
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.34 CRITERION= .2273
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01

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HT FLOW CONVERGENCE VALUE= .4098E-01 CRITERION= .2261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 313
 *** TIME = .134909E+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= 21.42 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4172E-01 CRITERION= .2261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 314
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1349E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.34 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4094E-01 CRITERION= .2258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 315
 *** TIME = .136487E+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= 21.43 CRITERION= .2268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4163E-01 CRITERION= .2258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 316
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.34 CRITERION= .2268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4089E-01 CRITERION= .2255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 317
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1480E-04 OSCILLATION LIMIT = 11.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.43 CRITERION= .2265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4154E-01 CRITERION= .2255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 318
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.35 CRITERION= .2265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4083E-01 CRITERION= .2253 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 319
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1480E-04 OSCILLATION LIMIT = 11.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.43 CRITERION= .2263
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4146E-01 CRITERION= .2252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 320
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1354E-04 OSCILLATION LIMIT = 10.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.35 CRITERION= .2262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4076E-01 CRITERION= .2250 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 321
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1480E-04 OSCILLATION LIMIT = 11.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.44 CRITERION= .2260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4138E-01 CRITERION= .2249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 322
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1355E-04 OSCILLATION LIMIT = 10.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.36 CRITERION= .2259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4070E-01 CRITERION= .2247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 323
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1481E-04 OSCILLATION LIMIT = 11.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.44 CRITERION= .2257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4131E-01 CRITERION= .2246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 324
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1357E-04 OSCILLATION LIMIT = 10.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.36 CRITERION= .2256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4064E-01 CRITERION= .2244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 325
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1481E-04 OSCILLATION LIMIT = 11.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.44 CRITERION= .2254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4123E-01 CRITERION= .2243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 326
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1358E-04 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.36 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4057E-01 CRITERION= .2241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 327
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1481E-04 OSCILLATION LIMIT = 11.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.45 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4116E-01 CRITERION= .2241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 328
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1360E-04 OSCILLATION LIMIT = 10.73

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

HT FLOW CONVERGENCE VALUE= 21.37 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4050E-01 CRITERION= .2238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 329
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1482E-04 OSCILLATION LIMIT = 11.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.45 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4108E-01 CRITERION= .2238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 330
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 10.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.37 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4043E-01 CRITERION= .2235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 331
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1482E-04 OSCILLATION LIMIT = 11.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.45 CRITERION= .2246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4099E-01 CRITERION= .2235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 332
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1363E-04 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.37 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4036E-01 CRITERION= .2233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 333
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1483E-04 OSCILLATION LIMIT = 11.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.46 CRITERION= .2243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4092E-01 CRITERION= .2232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 334
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.38 CRITERION= .2242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4029E-01 CRITERION= .2230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 335
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1483E-04 OSCILLATION LIMIT = 11.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.46 CRITERION= .2240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .4085E-01 CRITERION= .2229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 336


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*** TIME = .153054E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1366E-04    OSCILLATION LIMIT = 10.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.38    CRITERION= .2239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4022E-01    CRITERION= .2227    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 337
*** TIME = .153843E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1483E-04    OSCILLATION LIMIT = 11.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.46    CRITERION= .2237
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4077E-01    CRITERION= .2226    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 338
*** TIME = .154632E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1367E-04    OSCILLATION LIMIT = 10.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.38    CRITERION= .2236
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4015E-01    CRITERION= .2224    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 339
*** TIME = .155421E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1484E-04    OSCILLATION LIMIT = 11.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.47    CRITERION= .2234
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4070E-01    CRITERION= .2223    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 340
*** TIME = .156210E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1368E-04    OSCILLATION LIMIT = 10.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.39    CRITERION= .2233
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4009E-01    CRITERION= .2221    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 341
*** TIME = .156999E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1484E-04    OSCILLATION LIMIT = 11.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 21.47    CRITERION= .2231
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
    HT FLOW CONVERGENCE VALUE= .4062E-01    CRITERION= .2220    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 342
*** TIME = .157788E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1370E-04    OSCILLATION LIMIT = 10.81

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    23:50:29 APR 07, 1995 CP= 29040.260
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 15.67    CRITERION= .2226
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5574E-01
    HT FLOW CONVERGENCE VALUE= .3996E-01    CRITERION= .2218    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 343
*** TIME = .158577E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1324E-04 OSCILLATION LIMIT = 10.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.76 CRITERION= .2224
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5585E-01
HT FLOW CONVERGENCE VALUE= .4016E-01 CRITERION= .2217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 344
*** TIME = .159366E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1264E-04 OSCILLATION LIMIT = 9.972
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.68 CRITERION= .2223
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5266E-01
HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .2215 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 345
*** TIME = .160155E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1400E-04 OSCILLATION LIMIT = 11.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.76 CRITERION= .2221
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5529E-01
HT FLOW CONVERGENCE VALUE= .3971E-01 CRITERION= .2214 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 346
*** TIME = .160944E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1275E-04 OSCILLATION LIMIT = 10.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.68 CRITERION= .2220
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5333E-01
HT FLOW CONVERGENCE VALUE= .3819E-01 CRITERION= .2212 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 347
*** TIME = .161733E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1394E-04 OSCILLATION LIMIT = 11.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.76 CRITERION= .2218
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5480E-01
HT FLOW CONVERGENCE VALUE= .3941E-01 CRITERION= .2212 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 348
*** TIME = .162522E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1279E-04 OSCILLATION LIMIT = 10.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.68 CRITERION= .2217
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5371E-01
HT FLOW CONVERGENCE VALUE= .3830E-01 CRITERION= .2209 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 349
*** TIME = .163311E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1392E-04 OSCILLATION LIMIT = 10.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.76 CRITERION= .2215
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5452E-01
HT FLOW CONVERGENCE VALUE= .3917E-01 CRITERION= .2209 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 350
*** TIME = .164100E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1281E-04 OSCILLATION LIMIT = 10.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.68 CRITERION= .2214

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5392E-01
HT FLOW CONVERGENCE VALUE= .3828E-01 CRITERION= .2206 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 351
*** TIME = .164888E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1391E-04 OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.76 CRITERION= .2212
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5436E-01
HT FLOW CONVERGENCE VALUE= .3901E-01 CRITERION= .2206 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 352
*** TIME = .165677E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1283E-04 OSCILLATION LIMIT = 10.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.68 CRITERION= .2211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5404E-01
HT FLOW CONVERGENCE VALUE= .3828E-01 CRITERION= .2203 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 353
*** TIME = .166466E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04 OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.77 CRITERION= .2209
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5427E-01
HT FLOW CONVERGENCE VALUE= .3889E-01 CRITERION= .2203 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 354
*** TIME = .167255E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1284E-04 OSCILLATION LIMIT = 10.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5412E-01
HT FLOW CONVERGENCE VALUE= .3821E-01 CRITERION= .2200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 355
*** TIME = .168044E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.77 CRITERION= .2206
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5422E-01
HT FLOW CONVERGENCE VALUE= .3878E-01 CRITERION= .2200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 356
*** TIME = .168833E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1286E-04 OSCILLATION LIMIT = 10.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2205
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5416E-01
HT FLOW CONVERGENCE VALUE= .3817E-01 CRITERION= .2197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 357
*** TIME = .169622E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.77 CRITERION= .2203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
HT FLOW CONVERGENCE VALUE= .3869E-01 CRITERION= .2197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 358
*** TIME = .170411E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1287E-04 OSCILLATION LIMIT = 10.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2202
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
 HT FLOW CONVERGENCE VALUE= .3810E-01 CRITERION= .2195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 359
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.77 CRITERION= .2200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
 HT FLOW CONVERGENCE VALUE= .3860E-01 CRITERION= .2194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 360
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1288E-04 OSCILLATION LIMIT = 10.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2199
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
 HT FLOW CONVERGENCE VALUE= .3805E-01 CRITERION= .2192 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 361
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.77 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5417E-01
 HT FLOW CONVERGENCE VALUE= .3851E-01 CRITERION= .2191 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 362
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1289E-04 OSCILLATION LIMIT = 10.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
 HT FLOW CONVERGENCE VALUE= .3797E-01 CRITERION= .2189 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 363
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.78 CRITERION= .2194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5417E-01
 HT FLOW CONVERGENCE VALUE= .3845E-01 CRITERION= .2188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 364
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1290E-04 OSCILLATION LIMIT = 10.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.69 CRITERION= .2193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
 HT FLOW CONVERGENCE VALUE= .3792E-01 CRITERION= .2186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 365
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1389E-04 OSCILLATION LIMIT = 10.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.78 CRITERION= .2191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5417E-01
 HT FLOW CONVERGENCE VALUE= .3838E-01 CRITERION= .2185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 366
 *** TIME = .176723E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1291E-04  OSCILLATION LIMIT = 10.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.70  CRITERION= .2190
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
  HT FLOW CONVERGENCE VALUE= .3785E-01 CRITERION= .2183  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 367
*** TIME = .177512E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1389E-04  OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.78  CRITERION= .2183
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
  HT FLOW CONVERGENCE VALUE= .3830E-01 CRITERION= .2182  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 368
*** TIME = .178300E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1292E-04  OSCILLATION LIMIT = 10.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.70  CRITERION= .2188
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
  HT FLOW CONVERGENCE VALUE= .3779E-01 CRITERION= .2180  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 369
*** TIME = .179089E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04  OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.78  CRITERION= .2185
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
  HT FLOW CONVERGENCE VALUE= .3823E-01 CRITERION= .2179  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 370
*** TIME = .179878E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1293E-04  OSCILLATION LIMIT = 10.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.70  CRITERION= .2185
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
  HT FLOW CONVERGENCE VALUE= .3772E-01 CRITERION= .2177  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 371
*** TIME = .180667E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04  OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.78  CRITERION= .2182
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
  HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .2176  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 372
*** TIME = .181456E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1294E-04  OSCILLATION LIMIT = 10.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.70  CRITERION= .2182
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
  HT FLOW CONVERGENCE VALUE= .3760E-01 CRITERION= .2174  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 373
*** TIME = .182245E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04  OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.78  CRITERION= .2179
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
  HT FLOW CONVERGENCE VALUE= .3803E-01 CRITERION= .2173  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 374
*** TIME = .183034E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1295E-04 OSCILLATION LIMIT = 10.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.70 CRITERION= .2179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
HT FLOW CONVERGENCE VALUE= .3754E-01 CRITERION= .2171 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 375
*** TIME = .183823E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04 OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.79 CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
HT FLOW CONVERGENCE VALUE= .3795E-01 CRITERION= .2170 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 376
*** TIME = .184612E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1296E-04 OSCILLATION LIMIT = 10.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.71 CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
HT FLOW CONVERGENCE VALUE= .3745E-01 CRITERION= .2168 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 377
*** TIME = .185401E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1390E-04 OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.79 CRITERION= .2174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
HT FLOW CONVERGENCE VALUE= .3786E-01 CRITERION= .2167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 378
*** TIME = .186190E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1297E-04 OSCILLATION LIMIT = 10.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.71 CRITERION= .2173
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
HT FLOW CONVERGENCE VALUE= .3736E-01 CRITERION= .2165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 379
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1391E-04 OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.79 CRITERION= .2171
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
HT FLOW CONVERGENCE VALUE= .3778E-01 CRITERION= .2164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 380
*** TIME = .187768E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1298E-04 OSCILLATION LIMIT = 10.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.71 CRITERION= .2170
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
HT FLOW CONVERGENCE VALUE= .3727E-01 CRITERION= .2162 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 381
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1391E-04 OSCILLATION LIMIT = 10.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.79 CRITERION= .2168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01

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HT FLOW CONVERGENCE VALUE= .3768E-01 CRITERION= .2161 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 382
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1299E-04 OSCILLATION LIMIT = 10.25

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:51:25 APR 08, 1995 CP= 32642.240
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 11.71 CRITERION= .2164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5137E-01
HT FLOW CONVERGENCE VALUE= .3357E-01 CRITERION= .2159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 383
*** TIME = .190135E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1234E-04 OSCILLATION LIMIT = 9.736
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .2162
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4953E-01
HT FLOW CONVERGENCE VALUE= .3251E-01 CRITERION= .2159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 384
*** TIME = .190924E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1207E-04 OSCILLATION LIMIT = 9.526
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.71 CRITERION= .2162
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4940E-01
HT FLOW CONVERGENCE VALUE= .3188E-01 CRITERION= .2157 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 385
*** TIME = .191712E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1317E-04 OSCILLATION LIMIT = 10.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.79 CRITERION= .2160
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4969E-01
HT FLOW CONVERGENCE VALUE= .3248E-01 CRITERION= .2156 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 386
*** TIME = .192501E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1211E-04 OSCILLATION LIMIT = 9.550
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.71 CRITERION= .2159
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4950E-01
HT FLOW CONVERGENCE VALUE= .3188E-01 CRITERION= .2154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 387
*** TIME = .193290E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1315E-04 OSCILLATION LIMIT = 10.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
HT FLOW CONVERGENCE VALUE= .3239E-01 CRITERION= .2154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 388
*** TIME = .194079E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.560
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4955E-01
 HT FLOW CONVERGENCE VALUE= .3186E-01 CRITERION= .2152 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 389
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1315E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4960E-01
 HT FLOW CONVERGENCE VALUE= .3232E-01 CRITERION= .2151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 390
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1213E-04 OSCILLATION LIMIT = 9.568
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2154
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4958E-01
 HT FLOW CONVERGENCE VALUE= .3183E-01 CRITERION= .2149 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 391
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959E-01
 HT FLOW CONVERGENCE VALUE= .3227E-01 CRITERION= .2148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 392
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 9.575
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959E-01
 HT FLOW CONVERGENCE VALUE= .3180E-01 CRITERION= .2146 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 393
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2150
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959E-01
 HT FLOW CONVERGENCE VALUE= .3221E-01 CRITERION= .2146 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 394
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1214E-04 OSCILLATION LIMIT = 9.581
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4960E-01
 HT FLOW CONVERGENCE VALUE= .3176E-01 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 395
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4958E-01
 HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 396
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1215E-04 OSCILLATION LIMIT = 9.587

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

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4961E-01
 HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .2141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 397
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959E-01
 HT FLOW CONVERGENCE VALUE= .3212E-01 CRITERION= .2141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 398
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 9.593
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4962E-01
 HT FLOW CONVERGENCE VALUE= .3168E-01 CRITERION= .2139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 399
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4959E-01
 HT FLOW CONVERGENCE VALUE= .3206E-01 CRITERION= .2138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 400
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 9.599
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4962E-01
 HT FLOW CONVERGENCE VALUE= .3164E-01 CRITERION= .2136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 401
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4960E-01
 HT FLOW CONVERGENCE VALUE= .3202E-01 CRITERION= .2136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 402
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1217E-04 OSCILLATION LIMIT = 9.605
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.72 CRITERION= .2139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
 HT FLOW CONVERGENCE VALUE= .3160E-01 CRITERION= .2134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 403
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.80 CRITERION= .2137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4960E-01
 HT FLOW CONVERGENCE VALUE= .3198E-01 CRITERION= .2133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 404

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*** TIME = .206702E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1218E-04    OSCILLATION LIMIT = 9.610
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.72    CRITERION= .2136
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
    HT FLOW CONVERGENCE VALUE= .3156E-01    CRITERION= .2131    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 23 COMPLETED.    CUM ITER = 405
*** TIME = .207491E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.80    CRITERION= .2134
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4961E-01
    HT FLOW CONVERGENCE VALUE= .3194E-01    CRITERION= .2131    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 24 COMPLETED.    CUM ITER = 406
*** TIME = .208280E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1219E-04    OSCILLATION LIMIT = 9.615
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.73    CRITERION= .2134
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
    HT FLOW CONVERGENCE VALUE= .3152E-01    CRITERION= .2129    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 25 COMPLETED.    CUM ITER = 407
*** TIME = .209069E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.81    CRITERION= .2132
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4961E-01
    HT FLOW CONVERGENCE VALUE= .3189E-01    CRITERION= .2128    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 26 COMPLETED.    CUM ITER = 408
*** TIME = .209858E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1219E-04    OSCILLATION LIMIT = 9.621
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.73    CRITERION= .2131
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
    HT FLOW CONVERGENCE VALUE= .3148E-01    CRITERION= .2126    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED.    CUM ITER = 409
*** TIME = .210647E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.81    CRITERION= .2129
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4962E-01
    HT FLOW CONVERGENCE VALUE= .3184E-01    CRITERION= .2125    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED.    CUM ITER = 410
*** TIME = .211436E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1220E-04    OSCILLATION LIMIT = 9.626
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.73    CRITERION= .2129
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4964E-01
    HT FLOW CONVERGENCE VALUE= .3144E-01    CRITERION= .2123    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED.    CUM ITER = 411
*** TIME = .212225E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.81    CRITERION= .2127
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
    HT FLOW CONVERGENCE VALUE= .3180E-01    CRITERION= .2123    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 412
*** TIME = .213014E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 9.631
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.73 CRITERION= .2126
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4964E-01
HT FLOW CONVERGENCE VALUE= .3140E-01 CRITERION= .2121 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 413
*** TIME = .213803E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.81 CRITERION= .2124
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4963E-01
HT FLOW CONVERGENCE VALUE= .3176E-01 CRITERION= .2120 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 414
*** TIME = .214592E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 9.636
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.73 CRITERION= .2123
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4964E-01
HT FLOW CONVERGENCE VALUE= .3136E-01 CRITERION= .2118 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 415
*** TIME = .215381E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.81 CRITERION= .2121
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4964E-01
HT FLOW CONVERGENCE VALUE= .3172E-01 CRITERION= .2118 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 416
*** TIME = .216170E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1222E-04 OSCILLATION LIMIT = 9.641
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.73 CRITERION= .2121
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4965E-01
HT FLOW CONVERGENCE VALUE= .3133E-01 CRITERION= .2116 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 417
*** TIME = .216959E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.81 CRITERION= .2119
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4964E-01
HT FLOW CONVERGENCE VALUE= .3168E-01 CRITERION= .2115 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 418
*** TIME = .217747E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 9.646
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.73 CRITERION= .2118
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4965E-01
HT FLOW CONVERGENCE VALUE= .3129E-01 CRITERION= .2113 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 419
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.81 CRITERION= .2116

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4965E-01
 HT FLOW CONVERGENCE VALUE= .3163E-01 CRITERION= .2113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 420
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 9.651
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.73 CRITERION= .2116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4965E-01
 HT FLOW CONVERGENCE VALUE= .3125E-01 CRITERION= .2111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 421
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.81 CRITERION= .2114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4965E-01
 HT FLOW CONVERGENCE VALUE= .3159E-01 CRITERION= .2110 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 422
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1224E-04 OSCILLATION LIMIT = 9.656

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:52:21 APR 08, 1995 CP= 36244.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.914 CRITERION= .2112
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4847E-01
 HT FLOW CONVERGENCE VALUE= .2980E-01 CRITERION= .2108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 423
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = 9.631
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.994 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4766E-01
 HT FLOW CONVERGENCE VALUE= .2949E-01 CRITERION= .2108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 424
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1164E-04 OSCILLATION LIMIT = 9.185
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.915 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4759E-01
 HT FLOW CONVERGENCE VALUE= .2902E-01 CRITERION= .2106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 425
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1260E-04 OSCILLATION LIMIT = 9.942
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.995 CRITERION= .2108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4774E-01
 HT FLOW CONVERGENCE VALUE= .2944E-01 CRITERION= .2105 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 426
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1166E-04 OSCILLATION LIMIT = 9.199
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.916 CRITERION= .2107
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4764E-01
 HT FLOW CONVERGENCE VALUE= .2896E-01 CRITERION= .2103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 427
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 9.933
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.996 CRITERION= .2106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4771E-01
 HT FLOW CONVERGENCE VALUE= .2934E-01 CRITERION= .2103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 428
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1167E-04 OSCILLATION LIMIT = 9.205
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.916 CRITERION= .2105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4767E-01
 HT FLOW CONVERGENCE VALUE= .2893E-01 CRITERION= .2101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 429
 *** TIME = .226426E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1259E-04 OSCILLATION LIMIT = 9.931
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.996 CRITERION= .2103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4770E-01
 HT FLOW CONVERGENCE VALUE= .2929E-01 CRITERION= .2100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 430
 *** TIME = .227215E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1167E-04 OSCILLATION LIMIT = 9.210
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.917 CRITERION= .2103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4769E-01
 HT FLOW CONVERGENCE VALUE= .2891E-01 CRITERION= .2099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 431
 *** TIME = .228004E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.929
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.997 CRITERION= .2101
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4770E-01
 HT FLOW CONVERGENCE VALUE= .2923E-01 CRITERION= .2098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 432
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1168E-04 OSCILLATION LIMIT = 9.215
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.918 CRITERION= .2100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4770E-01
 HT FLOW CONVERGENCE VALUE= .2886E-01 CRITERION= .2096 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 433
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.927
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.998 CRITERION= .2098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4770E-01
 HT FLOW CONVERGENCE VALUE= .2919E-01 CRITERION= .2096 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 434
 *** TIME = .230371E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1169E-04  OSCILLATION LIMIT = 9.219
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.919      CRITERION= .2093
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4771E-01
    HT FLOW CONVERGENCE VALUE= .2882E-01 CRITERION= .2094    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 435
*** TIME = .231159E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04  OSCILLATION LIMIT = 9.926
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.998      CRITERION= .2096
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4770E-01
    HT FLOW CONVERGENCE VALUE= .2911E-01 CRITERION= .2093    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 436
*** TIME = .231948E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1169E-04  OSCILLATION LIMIT = 9.223
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.920      CRITERION= .2096
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4772E-01
    HT FLOW CONVERGENCE VALUE= .2876E-01 CRITERION= .2091    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 437
*** TIME = .232737E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04  OSCILLATION LIMIT = 9.925
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.999      CRITERION= .2094
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4771E-01
    HT FLOW CONVERGENCE VALUE= .2908E-01 CRITERION= .2091    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 438
*** TIME = .233526E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1170E-04  OSCILLATION LIMIT = 9.228
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.920      CRITERION= .2093
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4772E-01
    HT FLOW CONVERGENCE VALUE= .2871E-01 CRITERION= .2089    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 439
*** TIME = .234315E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04  OSCILLATION LIMIT = 9.924
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.000     CRITERION= .2091
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4771E-01
    HT FLOW CONVERGENCE VALUE= .2903E-01 CRITERION= .2089    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 440
*** TIME = .235104E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1170E-04  OSCILLATION LIMIT = 9.232
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.921      CRITERION= .2091
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4773E-01
    HT FLOW CONVERGENCE VALUE= .2868E-01 CRITERION= .2087    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 441
*** TIME = .235893E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04  OSCILLATION LIMIT = 9.923
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.00      CRITERION= .2089
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4772E-01
    HT FLOW CONVERGENCE VALUE= .2895E-01 CRITERION= .2086    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 442
*** TIME = .236682E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1171E-04 OSCILLATION LIMIT = 9.235
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.922 CRITERION= .2088
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4773E-01
HT FLOW CONVERGENCE VALUE= .2860E-01 CRITERION= .2084 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 443
*** TIME = .237471E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2087
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4772E-01
HT FLOW CONVERGENCE VALUE= .2890E-01 CRITERION= .2084 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 444
*** TIME = .238260E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1171E-04 OSCILLATION LIMIT = 9.239
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.923 CRITERION= .2086
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4774E-01
HT FLOW CONVERGENCE VALUE= .2854E-01 CRITERION= .2082 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 445
*** TIME = .239049E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2084
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4773E-01
HT FLOW CONVERGENCE VALUE= .2882E-01 CRITERION= .2081 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 446
*** TIME = .239838E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1172E-04 OSCILLATION LIMIT = 9.243
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.923 CRITERION= .2084
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4774E-01
HT FLOW CONVERGENCE VALUE= .2848E-01 CRITERION= .2079 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 447
*** TIME = .240627E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1258E-04 OSCILLATION LIMIT = 9.921
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2082
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4774E-01
HT FLOW CONVERGENCE VALUE= .2878E-01 CRITERION= .2079 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 448
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1172E-04 OSCILLATION LIMIT = 9.247
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.924 CRITERION= .2081
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4775E-01
HT FLOW CONVERGENCE VALUE= .2844E-01 CRITERION= .2077 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 449
*** TIME = .242205E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.921
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2079
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4774E-01

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HT FLOW CONVERGENCE VALUE= .2874E-01 CRITERION= .2077 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 450
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1173E-04 OSCILLATION LIMIT = 9.250
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.925 CRITERION= .2079
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4775E-01
HT FLOW CONVERGENCE VALUE= .2840E-01 CRITERION= .2075 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 451
*** TIME = .243782E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.920
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2077
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4775E-01
HT FLOW CONVERGENCE VALUE= .2866E-01 CRITERION= .2074 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 452
*** TIME = .244571E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1173E-04 OSCILLATION LIMIT = 9.254
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.926 CRITERION= .2077
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4776E-01
HT FLOW CONVERGENCE VALUE= .2833E-01 CRITERION= .2072 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 453
*** TIME = .245360E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.920
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.00 CRITERION= .2075
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4776E-01
HT FLOW CONVERGENCE VALUE= .2863E-01 CRITERION= .2072 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 454
*** TIME = .246149E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1173E-04 OSCILLATION LIMIT = 9.258
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.926 CRITERION= .2074
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4777E-01
HT FLOW CONVERGENCE VALUE= .2830E-01 CRITERION= .2070 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 455
*** TIME = .246938E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.919
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.01 CRITERION= .2072
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4776E-01
HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2069 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 456
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1174E-04 OSCILLATION LIMIT = 9.261
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.927 CRITERION= .2072
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4777E-01
HT FLOW CONVERGENCE VALUE= .2826E-01 CRITERION= .2068 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 457
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.919
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.01    CRITERION= .2070
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4777E-01
HT FLOW CONVERGENCE VALUE= .2855E-01 CRITERION= .2067    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 458
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1174E-04 OSCILLATION LIMIT = 9.265
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.928    CRITERION= .2069
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4778E-01
HT FLOW CONVERGENCE VALUE= .2823E-01 CRITERION= .2065    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 459
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.919
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.01    CRITERION= .2067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4777E-01
HT FLOW CONVERGENCE VALUE= .2851E-01 CRITERION= .2065    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 460
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1175E-04 OSCILLATION LIMIT = 9.268
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.929    CRITERION= .2067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4778E-01
HT FLOW CONVERGENCE VALUE= .2819E-01 CRITERION= .2063    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 461
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1257E-04 OSCILLATION LIMIT = 9.918
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.01    CRITERION= .2065
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4778E-01
HT FLOW CONVERGENCE VALUE= .2848E-01 CRITERION= .2062    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 462
*** TIME = .252461E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1175E-04 OSCILLATION LIMIT = 9.272

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX 02:53:35 APR 08, 1995 CP= 39852.650
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 1.333    CRITERION= .2062
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5901E-01
HT FLOW CONVERGENCE VALUE= .3260E-01 CRITERION= .2060    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 463
*** TIME = .253250E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6643E-05 OSCILLATION LIMIT = 5.241
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.409    CRITERION= .2060
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5838E-01
HT FLOW CONVERGENCE VALUE= .3177E-01 CRITERION= .2060    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 464
*** TIME = .254039E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6671E-05 OSCILLATION LIMIT = 5.263

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

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5479E-01
 HT FLOW CONVERGENCE VALUE= .2943E-01 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 465
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7333E-05 OSCILLATION LIMIT = 5.785
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5783E-01
 HT FLOW CONVERGENCE VALUE= .3131E-01 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 466
 *** TIME = .255617E+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= 1.333 CRITERION= .2058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5559E-01
 HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .2056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 467
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7308E-05 OSCILLATION LIMIT = 5.765
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5726E-01
 HT FLOW CONVERGENCE VALUE= .3099E-01 CRITERION= .2055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 468
 *** TIME = .257194E+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= 1.333 CRITERION= .2055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5604E-01
 HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .2054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 469
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7298E-05 OSCILLATION LIMIT = 5.758
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5695E-01
 HT FLOW CONVERGENCE VALUE= .3080E-01 CRITERION= .2053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 470
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = 5.317
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5631E-01
 HT FLOW CONVERGENCE VALUE= .3015E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 471
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7291E-05 OSCILLATION LIMIT = 5.752
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5678E-01
 HT FLOW CONVERGENCE VALUE= .3067E-01 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 472

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*** TIME = .260350E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6740E-05    OSCILLATION LIMIT = 5.318
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.333    CRITERION= .2051
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5647E-01
    HT FLOW CONVERGENCE VALUE= .3020E-01    CRITERION= .2049    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 473
*** TIME = .261139E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7284E-05    OSCILLATION LIMIT = 5.747
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.409    CRITERION= .2049
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5669E-01
    HT FLOW CONVERGENCE VALUE= .3058E-01    CRITERION= .2049    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 474
*** TIME = .261928E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6742E-05    OSCILLATION LIMIT = 5.319
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.333    CRITERION= .2049
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5656E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01    CRITERION= .2047    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 475
*** TIME = .262717E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7279E-05    OSCILLATION LIMIT = 5.743
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.409    CRITERION= .2047
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5665E-01
    HT FLOW CONVERGENCE VALUE= .3053E-01    CRITERION= .2046    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 476
*** TIME = .263506E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6743E-05    OSCILLATION LIMIT = 5.320
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.333    CRITERION= .2046
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5663E-01
    HT FLOW CONVERGENCE VALUE= .3022E-01    CRITERION= .2045    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 477
*** TIME = .264295E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7274E-05    OSCILLATION LIMIT = 5.739
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.409    CRITERION= .2045
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5663E-01
    HT FLOW CONVERGENCE VALUE= .3048E-01    CRITERION= .2044    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 478
*** TIME = .265084E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6744E-05    OSCILLATION LIMIT = 5.321
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.333    CRITERION= .2044
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5667E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01    CRITERION= .2042    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 479
*** TIME = .265873E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7269E-05    OSCILLATION LIMIT = 5.735
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.409    CRITERION= .2042
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5663E-01
    HT FLOW CONVERGENCE VALUE= .3045E-01    CRITERION= .2042    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 480
*** TIME = .266662E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6746E-05 OSCILLATION LIMIT = 5.322
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5670E-01
HT FLOW CONVERGENCE VALUE= .3020E-01 CRITERION= .2040 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 481
*** TIME = .267451E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7265E-05 OSCILLATION LIMIT = 5.731
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2040
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5664E-01
HT FLOW CONVERGENCE VALUE= .3042E-01 CRITERION= .2040 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 482
*** TIME = .268240E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6747E-05 OSCILLATION LIMIT = 5.323
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2040
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5672E-01
HT FLOW CONVERGENCE VALUE= .3018E-01 CRITERION= .2038 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 483
*** TIME = .269029E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7260E-05 OSCILLATION LIMIT = 5.728
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2038
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5666E-01
HT FLOW CONVERGENCE VALUE= .3039E-01 CRITERION= .2037 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 484
*** TIME = .269818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6748E-05 OSCILLATION LIMIT = 5.324
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2037
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5674E-01
HT FLOW CONVERGENCE VALUE= .3016E-01 CRITERION= .2036 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 485
*** TIME = .270606E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7256E-05 OSCILLATION LIMIT = 5.725
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5667E-01
HT FLOW CONVERGENCE VALUE= .3035E-01 CRITERION= .2035 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 486
*** TIME = .271395E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6750E-05 OSCILLATION LIMIT = 5.325
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.333 CRITERION= .2035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5676E-01
HT FLOW CONVERGENCE VALUE= .3013E-01 CRITERION= .2033 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 487
*** TIME = .272184E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7252E-05 OSCILLATION LIMIT = 5.722
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2033

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5669E-01
 HT FLOW CONVERGENCE VALUE= .3030E-01 CRITERION= .2033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 488
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6751E-05 OSCILLATION LIMIT = 5.326
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5678E-01
 HT FLOW CONVERGENCE VALUE= .3009E-01 CRITERION= .2031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 489
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7249E-05 OSCILLATION LIMIT = 5.719
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5671E-01
 HT FLOW CONVERGENCE VALUE= .3027E-01 CRITERION= .2031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 490
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6752E-05 OSCILLATION LIMIT = 5.327
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5679E-01
 HT FLOW CONVERGENCE VALUE= .3006E-01 CRITERION= .2029 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 491
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7245E-05 OSCILLATION LIMIT = 5.716
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5673E-01
 HT FLOW CONVERGENCE VALUE= .3024E-01 CRITERION= .2028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 492
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6753E-05 OSCILLATION LIMIT = 5.328
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5681E-01
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .2027 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 493
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7241E-05 OSCILLATION LIMIT = 5.713
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5674E-01
 HT FLOW CONVERGENCE VALUE= .3020E-01 CRITERION= .2026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 494
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6754E-05 OSCILLATION LIMIT = 5.328
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5682E-01
 HT FLOW CONVERGENCE VALUE= .2999E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 495
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-05 OSCILLATION LIMIT = 5.710
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5676E-01
 HT FLOW CONVERGENCE VALUE= .3016E-01 CRITERION= .2024 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 496
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6754E-05 OSCILLATION LIMIT = 5.329
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5684E-01
 HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .2022 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 497
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7234E-05 OSCILLATION LIMIT = 5.707
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5678E-01
 HT FLOW CONVERGENCE VALUE= .3011E-01 CRITERION= .2022 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 498
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6755E-05 OSCILLATION LIMIT = 5.330
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5686E-01
 HT FLOW CONVERGENCE VALUE= .2991E-01 CRITERION= .2020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 499
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7231E-05 OSCILLATION LIMIT = 5.705
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5680E-01
 HT FLOW CONVERGENCE VALUE= .3007E-01 CRITERION= .2019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 500
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6756E-05 OSCILLATION LIMIT = 5.330
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.334 CRITERION= .2019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5687E-01
 HT FLOW CONVERGENCE VALUE= .2987E-01 CRITERION= .2018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 501
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7227E-05 OSCILLATION LIMIT = 5.702
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.409 CRITERION= .2018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5682E-01
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .2017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 502
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6757E-05 OSCILLATION LIMIT = 5.331
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
4913.36056 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 145.65 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 146.46 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 148.56 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 43456.340 TIME= 03:54:42
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 03:54:42 APR 08, 1995 CP= 43456.340
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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 4
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= .6753 CRITERION= .2017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4901E-01
HT FLOW CONVERGENCE VALUE= .2604E-01 CRITERION= .2016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 503
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6807E-05 OSCILLATION LIMIT = 5.370
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7490 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4729E-01
HT FLOW CONVERGENCE VALUE= .2502E-01 CRITERION= .2015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 504
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6462E-05 OSCILLATION LIMIT = 5.098
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6752 CRITERION= .2015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4876E-01
HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .2014 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 505
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6999E-05 OSCILLATION LIMIT = 5.522
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7490 CRITERION= .2014
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4771E-01
HT FLOW CONVERGENCE VALUE= .2520E-01 CRITERION= .2013 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 506
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6457E-05 OSCILLATION LIMIT = 5.094
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6752 CRITERION= .2013
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4853E-01
HT FLOW CONVERGENCE VALUE= .2540E-01 CRITERION= .2012 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 507
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6995E-05 OSCILLATION LIMIT = 5.518
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7490 CRITERION= .2012
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4790E-01
HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .2012 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 508
*** TIME = .288752E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6459E-05 OSCILLATION LIMIT = 5.096
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6752 CRITERION= .2011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4840E-01
HT FLOW CONVERGENCE VALUE= .2531E-01 CRITERION= .2010 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 509
*** TIME = .289541E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6992E-05 OSCILLATION LIMIT = 5.516
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7490 CRITERION= .2010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4802E-01
HT FLOW CONVERGENCE VALUE= .2530E-01 CRITERION= .2010 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 510
*** TIME = .290330E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6461E-05 OSCILLATION LIMIT = 5.097
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6752 CRITERION= .2010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4833E-01
HT FLOW CONVERGENCE VALUE= .2525E-01 CRITERION= .2008 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 511
*** TIME = .291119E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6989E-05 OSCILLATION LIMIT = 5.514
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7490 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4809E-01
HT FLOW CONVERGENCE VALUE= .2532E-01 CRITERION= .2008 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 512
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6462E-05 OSCILLATION LIMIT = 5.098
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6753 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4830E-01
HT FLOW CONVERGENCE VALUE= .2521E-01 CRITERION= .2006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 513
*** TIME = .292697E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6986E-05 OSCILLATION LIMIT = 5.511
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7489 CRITERION= .2006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4814E-01
HT FLOW CONVERGENCE VALUE= .2529E-01 CRITERION= .2006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 514
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6463E-05 OSCILLATION LIMIT = 5.099
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6753 CRITERION= .2006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4828E-01
HT FLOW CONVERGENCE VALUE= .2515E-01 CRITERION= .2004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 515
*** TIME = .294275E+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= .7489 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4818E-01
HT FLOW CONVERGENCE VALUE= .2527E-01 CRITERION= .2004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 516
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6464E-05 OSCILLATION LIMIT = 5.100
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6753 CRITERION= .2004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4828E-01
HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 517
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6979E-05 OSCILLATION LIMIT = 5.506
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7489 CRITERION= .2002

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4820E-01
 HT FLOW CONVERGENCE VALUE= .2524E-01 CRITERION= .2002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 518
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6465E-05 OSCILLATION LIMIT = 5.100
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6753 CRITERION= .2002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4828E-01
 HT FLOW CONVERGENCE VALUE= .2508E-01 CRITERION= .2001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 519
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6976E-05 OSCILLATION LIMIT = 5.504
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7489 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4822E-01
 HT FLOW CONVERGENCE VALUE= .2521E-01 CRITERION= .2000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 520
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6466E-05 OSCILLATION LIMIT = 5.101
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6753 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4829E-01
 HT FLOW CONVERGENCE VALUE= .2506E-01 CRITERION= .1999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 521
 *** TIME = .299008E+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= .7489 CRITERION= .1999
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4824E-01
 HT FLOW CONVERGENCE VALUE= .2520E-01 CRITERION= .1998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 522
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6466E-05 OSCILLATION LIMIT = 5.101
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6754 CRITERION= .1998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4830E-01
 HT FLOW CONVERGENCE VALUE= .2504E-01 CRITERION= .1997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 523
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6969E-05 OSCILLATION LIMIT = 5.498
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7488 CRITERION= .1997
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4825E-01
 HT FLOW CONVERGENCE VALUE= .2518E-01 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 524
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6467E-05 OSCILLATION LIMIT = 5.102
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6754 CRITERION= .1996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4831E-01
 HT FLOW CONVERGENCE VALUE= .2502E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 525
 *** TIME = .302164E+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= .7488 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4827E-01
 HT FLOW CONVERGENCE VALUE= .2515E-01 CRITERION= .1995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 526
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6467E-05 OSCILLATION LIMIT = 5.102
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6754 CRITERION= .1995
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4832E-01
 HT FLOW CONVERGENCE VALUE= .2500E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 527
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6963E-05 OSCILLATION LIMIT = 5.493
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7488 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4828E-01
 HT FLOW CONVERGENCE VALUE= .2514E-01 CRITERION= .1993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 528
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6468E-05 OSCILLATION LIMIT = 5.103
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6754 CRITERION= .1993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4833E-01
 HT FLOW CONVERGENCE VALUE= .2499E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 529
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6960E-05 OSCILLATION LIMIT = 5.491
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7488 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4830E-01
 HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .1991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 530
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6468E-05 OSCILLATION LIMIT = 5.103
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6754 CRITERION= .1991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4834E-01
 HT FLOW CONVERGENCE VALUE= .2498E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 531
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6957E-05 OSCILLATION LIMIT = 5.488
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7488 CRITERION= .1989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4831E-01
 HT FLOW CONVERGENCE VALUE= .2511E-01 CRITERION= .1989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 532
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6468E-05 OSCILLATION LIMIT = 5.103
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6755 CRITERION= .1989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4835E-01
 HT FLOW CONVERGENCE VALUE= .2496E-01 CRITERION= .1987 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 533
 *** TIME = .308476E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .6953E-05  OSCILLATION LIMIT = 5.486
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .7488  CRITERION= .1987
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4832E-01
  HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .1987  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 534
*** TIME = .309265E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6469E-05  OSCILLATION LIMIT = 5.103
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .6755  CRITERION= .1987
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4837E-01
  HT FLOW CONVERGENCE VALUE= .2494E-01 CRITERION= .1986  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 535
*** TIME = .310053E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6950E-05  OSCILLATION LIMIT = 5.483
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .7487  CRITERION= .1985
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4834E-01
  HT FLOW CONVERGENCE VALUE= .2507E-01 CRITERION= .1985  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 536
*** TIME = .310842E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6469E-05  OSCILLATION LIMIT = 5.104
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .6755  CRITERION= .1985
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4838E-01
  HT FLOW CONVERGENCE VALUE= .2493E-01 CRITERION= .1984  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 537
*** TIME = .311631E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6947E-05  OSCILLATION LIMIT = 5.481
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .7487  CRITERION= .1984
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4835E-01
  HT FLOW CONVERGENCE VALUE= .2505E-01 CRITERION= .1983  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 538
*** TIME = .312420E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6469E-05  OSCILLATION LIMIT = 5.104
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .6755  CRITERION= .1983
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4839E-01
  HT FLOW CONVERGENCE VALUE= .2491E-01 CRITERION= .1982  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 539
*** TIME = .313209E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6945E-05  OSCILLATION LIMIT = 5.479
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .7487  CRITERION= .1982
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4836E-01
  HT FLOW CONVERGENCE VALUE= .2503E-01 CRITERION= .1981  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 540
*** TIME = .313998E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6469E-05  OSCILLATION LIMIT = 5.104
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= .6756  CRITERION= .1981
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4840E-01
  HT FLOW CONVERGENCE VALUE= .2489E-01 CRITERION= .1980  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 541
*** TIME = .314787E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6942E-05 OSCILLATION LIMIT = 5.476
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7487 CRITERION= .1980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4838E-01
HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .1980 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 542
*** TIME = .315576E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6469E-05 OSCILLATION LIMIT = 5.104
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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 04:55:53 APR 08, 1995 CP= 47056.040
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 31.34 CRITERION= .2003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5422
HT FLOW CONVERGENCE VALUE= .2766 CRITERION= .1971
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3919E-01
HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .1970 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 544
*** TIME = .323465E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4454E-05 OSCILLATION LIMIT = 35.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 31.26 CRITERION= .1994
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5452
HT FLOW CONVERGENCE VALUE= .2742 CRITERION= .1963
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3870E-01
HT FLOW CONVERGENCE VALUE= .1217E-01 CRITERION= .1962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 546
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4517E-05 OSCILLATION LIMIT = 35.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 31.33 CRITERION= .1986
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5449
HT FLOW CONVERGENCE VALUE= .2723 CRITERION= .1954
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3863E-01
HT FLOW CONVERGENCE VALUE= .1208E-01 CRITERION= .1952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 548
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4549E-05 OSCILLATION LIMIT = 35.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 31.25 CRITERION= .1977
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5465
HT FLOW CONVERGENCE VALUE= .2714 CRITERION= .1946
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3857E-01
HT FLOW CONVERGENCE VALUE= .1198E-01 CRITERION= .1944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 550
*** TIME = .347134E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4508E-05 OSCILLATION LIMIT = 35.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 31.33 CRITERION= .1969

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5463
HT FLOW CONVERGENCE VALUE= .2696 CRITERION= .1936
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3850E-01
HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .1935 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 552
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4541E-05 OSCILLATION LIMIT = 35.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.25 CRITERION= .1959
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5479
HT FLOW CONVERGENCE VALUE= .2694 CRITERION= .1928
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3845E-01
HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .1927 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 554
*** TIME = .362912E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4500E-05 OSCILLATION LIMIT = 35.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.32 CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5477
HT FLOW CONVERGENCE VALUE= .2679 CRITERION= .1919
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3837E-01
HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .1917 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 556
*** TIME = .370802E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4533E-05 OSCILLATION LIMIT = 35.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.24 CRITERION= .1942
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5492
HT FLOW CONVERGENCE VALUE= .2676 CRITERION= .1911
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3831E-01
HT FLOW CONVERGENCE VALUE= .1167E-01 CRITERION= .1909 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 558
*** TIME = .378691E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4492E-05 OSCILLATION LIMIT = 35.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.31 CRITERION= .1934
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5491
HT FLOW CONVERGENCE VALUE= .2663 CRITERION= .1901
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3825E-01
HT FLOW CONVERGENCE VALUE= .1160E-01 CRITERION= .1900 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 560
*** TIME = .386581E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4525E-05 OSCILLATION LIMIT = 35.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.23 CRITERION= .1925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5506
HT FLOW CONVERGENCE VALUE= .2661 CRITERION= .1893
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3820E-01
HT FLOW CONVERGENCE VALUE= .1153E-01 CRITERION= .1892 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 562
*** TIME = .394470E+09 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= 31.30 CRITERION= .1917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5505
HT FLOW CONVERGENCE VALUE= .2648 CRITERION= .1884
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3814E-01
HT FLOW CONVERGENCE VALUE= .1146E-01 CRITERION= .1882 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 564
*** TIME = .402359E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4516E-05 OSCILLATION LIMIT = 35.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.22 CRITERION= .1907
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5520
HT FLOW CONVERGENCE VALUE= .2645 CRITERION= .1876
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3810E-01
HT FLOW CONVERGENCE VALUE= .1138E-01 CRITERION= .1874 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 566
*** TIME = .410249E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4475E-05 OSCILLATION LIMIT = 35.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.30 CRITERION= .1899
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5520
HT FLOW CONVERGENCE VALUE= .2630 CRITERION= .1866
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3805E-01
HT FLOW CONVERGENCE VALUE= .1131E-01 CRITERION= .1865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 568
*** TIME = .418138E+09 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= 31.22 CRITERION= .1890
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5534
HT FLOW CONVERGENCE VALUE= .2625 CRITERION= .1858
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3800E-01
HT FLOW CONVERGENCE VALUE= .1124E-01 CRITERION= .1857 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 570
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4467E-05 OSCILLATION LIMIT = 35.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.29 CRITERION= .1882
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5534
HT FLOW CONVERGENCE VALUE= .2610 CRITERION= .1849
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3794E-01
HT FLOW CONVERGENCE VALUE= .1119E-01 CRITERION= .1847 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 572
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4499E-05 OSCILLATION LIMIT = 35.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.21 CRITERION= .1873
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5548
HT FLOW CONVERGENCE VALUE= .2605 CRITERION= .1840
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3788E-01
HT FLOW CONVERGENCE VALUE= .1111E-01 CRITERION= .1839 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 574
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4459E-05 OSCILLATION LIMIT = 35.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.28 CRITERION= .1865
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5549
HT FLOW CONVERGENCE VALUE= .2590 CRITERION= .1831
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3782E-01
HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .1830 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 576
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4492E-05 OSCILLATION LIMIT = 35.44

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.20 CRITERION= .1856
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5562
 HT FLOW CONVERGENCE VALUE= .2586 CRITERION= .1823
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3776E-01
 HT FLOW CONVERGENCE VALUE= .1096E-01 CRITERION= .1822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 578
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4451E-05 OSCILLATION LIMIT = 35.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.27 CRITERION= .1848
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5563
 HT FLOW CONVERGENCE VALUE= .2571 CRITERION= .1814
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3771E-01
 HT FLOW CONVERGENCE VALUE= .1090E-01 CRITERION= .1812 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 580
 *** TIME = .465475E+09 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= 31.20 CRITERION= .1838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5576
 HT FLOW CONVERGENCE VALUE= .2566 CRITERION= .1805
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3765E-01
 HT FLOW CONVERGENCE VALUE= .1082E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 582
 *** TIME = .473364E+09 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= 31.27 CRITERION= .1830
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5578
 HT FLOW CONVERGENCE VALUE= .2553 CRITERION= .1796
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3760E-01
 HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .1795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 584
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4475E-05 OSCILLATION LIMIT = 35.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.19 CRITERION= .1821
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5591
 HT FLOW CONVERGENCE VALUE= .2549 CRITERION= .1788
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3754E-01
 HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .1787 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 586
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4435E-05 OSCILLATION LIMIT = 34.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.26 CRITERION= .1813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5593
 HT FLOW CONVERGENCE VALUE= .2536 CRITERION= .1779
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3750E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .1777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 588
 *** TIME = .497032E+09 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= 31.18 CRITERION= .1804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5605

HT FLOW CONVERGENCE VALUE= .2530 CRITERION= .1770
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3743E-01
 HT FLOW CONVERGENCE VALUE= .1053E-01 CRITERION= .1769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 590
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4426E-05 OSCILLATION LIMIT = 34.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.25 CRITERION= .1796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5608
 HT FLOW CONVERGENCE VALUE= .2517 CRITERION= .1761
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3740E-01
 HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1760 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 592
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4458E-05 OSCILLATION LIMIT = 35.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.17 CRITERION= .1787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5620
 HT FLOW CONVERGENCE VALUE= .2509 CRITERION= .1753
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .1038E-01 CRITERION= .1752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 594
 *** TIME = .520700E+09 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= 31.24 CRITERION= .1779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5623
 HT FLOW CONVERGENCE VALUE= .2495 CRITERION= .1744
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3728E-01
 HT FLOW CONVERGENCE VALUE= .1032E-01 CRITERION= .1742 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 596
 *** TIME = .528590E+09 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= 31.17 CRITERION= .1769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5635
 HT FLOW CONVERGENCE VALUE= .2489 CRITERION= .1735
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3719E-01
 HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 598
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4409E-05 OSCILLATION LIMIT = 34.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.24 CRITERION= .1761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5638
 HT FLOW CONVERGENCE VALUE= .2476 CRITERION= .1726
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3703E-01
 HT FLOW CONVERGENCE VALUE= .1017E-01 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 600
 *** TIME = .544369E+09 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= 31.16 CRITERION= .1752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5650
 HT FLOW CONVERGENCE VALUE= .2470 CRITERION= .1718
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .1717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 602
*** TIME = .552258E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4401E-05 OSCILLATION LIMIT = 34.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.23 CRITERION= .1744
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5653
HT FLOW CONVERGENCE VALUE= .2460 CRITERION= .1709
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3657E-01
HT FLOW CONVERGENCE VALUE= .1016E-01 CRITERION= .1707 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 604
*** TIME = .560147E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4433E-05 OSCILLATION LIMIT = 34.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.15 CRITERION= .1735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5665
HT FLOW CONVERGENCE VALUE= .2482 CRITERION= .1700
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3638E-01
HT FLOW CONVERGENCE VALUE= .1014E-01 CRITERION= .1699 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 606
*** TIME = .568037E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4392E-05 OSCILLATION LIMIT = 34.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.22 CRITERION= .1727
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5668
HT FLOW CONVERGENCE VALUE= .2495 CRITERION= .1691
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3631E-01
HT FLOW CONVERGENCE VALUE= .1033E-01 CRITERION= .1690 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 608
*** TIME = .575926E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4422E-05 OSCILLATION LIMIT = 34.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.14 CRITERION= .1718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5680
HT FLOW CONVERGENCE VALUE= .2521 CRITERION= .1683
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3621E-01
HT FLOW CONVERGENCE VALUE= .1034E-01 CRITERION= .1682 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 610
*** TIME = .583816E+09 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= 31.21 CRITERION= .1710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5684
HT FLOW CONVERGENCE VALUE= .2523 CRITERION= .1674
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3606E-01
HT FLOW CONVERGENCE VALUE= .1032E-01 CRITERION= .1672 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 612
*** TIME = .591705E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = 34.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.14 CRITERION= .1700
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5695
HT FLOW CONVERGENCE VALUE= .2524 CRITERION= .1665
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3582E-01
HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .1664 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 614
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4373E-05 OSCILLATION LIMIT = 34.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 31.21    CRITERION= .1692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5699
HT FLOW CONVERGENCE VALUE= .2515    CRITERION= .1656
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3564E-01
HT FLOW CONVERGENCE VALUE= .1020E-01 CRITERION= .1655    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 616
*** TIME = .607484E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4403E-05 OSCILLATION LIMIT = 34.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 31.13    CRITERION= .1683
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5710
HT FLOW CONVERGENCE VALUE= .2510    CRITERION= .1648
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3549E-01
HT FLOW CONVERGENCE VALUE= .1015E-01 CRITERION= .1647    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 618
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4364E-05 OSCILLATION LIMIT = 34.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 31.20    CRITERION= .1675
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5715
HT FLOW CONVERGENCE VALUE= .2504    CRITERION= .1638
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3532E-01
HT FLOW CONVERGENCE VALUE= .1008E-01 CRITERION= .1637    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 620
*** TIME = .623263E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4394E-05 OSCILLATION LIMIT = 34.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 31.12    CRITERION= .1666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5725
HT FLOW CONVERGENCE VALUE= .2499    CRITERION= .1630
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3512E-01
HT FLOW CONVERGENCE VALUE= .1000E-01 CRITERION= .1629    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 622
*** TIME = .631152E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4355E-05 OSCILLATION LIMIT = 34.36

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 06:28:08 APR 08, 1995 CP= 52498.600
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 59.68    CRITERION= .1734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5026
HT FLOW CONVERGENCE VALUE= .2323    CRITERION= .1623
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4440E-01
HT FLOW CONVERGENCE VALUE= .1599E-01 CRITERION= .1622    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 624
*** TIME = .639041E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2781E-05 OSCILLATION LIMIT = 21.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.59    CRITERION= .1727
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5027
HT FLOW CONVERGENCE VALUE= .2316    CRITERION= .1617
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4421E-01
HT FLOW CONVERGENCE VALUE= .1585E-01 CRITERION= .1616    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 626
*** TIME = .646931E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2750E-05 OSCILLATION LIMIT = 21.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.65 CRITERION= .1722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5049
HT FLOW CONVERGENCE VALUE= .2316 CRITERION= .1610
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 628
*** TIME = .654820E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2786E-05 OSCILLATION LIMIT = 21.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.56 CRITERION= .1715
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5038
HT FLOW CONVERGENCE VALUE= .2307 CRITERION= .1604
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4411E-01
HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .1603 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 630
*** TIME = .662710E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2747E-05 OSCILLATION LIMIT = 21.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.62 CRITERION= .1710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5060
HT FLOW CONVERGENCE VALUE= .2314 CRITERION= .1596
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4414E-01
HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .1596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 632
*** TIME = .670599E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2782E-05 OSCILLATION LIMIT = 21.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.54 CRITERION= .1703
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5050
HT FLOW CONVERGENCE VALUE= .2318 CRITERION= .1591
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4401E-01
HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .1590 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 634
*** TIME = .678488E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2744E-05 OSCILLATION LIMIT = 21.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.60 CRITERION= .1697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5070
HT FLOW CONVERGENCE VALUE= .2327 CRITERION= .1583
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4404E-01
HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .1583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 636
*** TIME = .686378E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2778E-05 OSCILLATION LIMIT = 21.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.51 CRITERION= .1690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5062
HT FLOW CONVERGENCE VALUE= .2330 CRITERION= .1577
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4391E-01
HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .1577 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 638
*** TIME = .694267E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2740E-05 OSCILLATION LIMIT = 21.62

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.57 CRITERION= .1685
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5081
 HT FLOW CONVERGENCE VALUE= .2334 CRITERION= .1570
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
 HT FLOW CONVERGENCE VALUE= .1571E-01 CRITERION= .1570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 640
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2774E-05 OSCILLATION LIMIT = 21.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.48 CRITERION= .1678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5073
 HT FLOW CONVERGENCE VALUE= .2324 CRITERION= .1564
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4380E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 642
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2737E-05 OSCILLATION LIMIT = 21.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.54 CRITERION= .1673
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5092
 HT FLOW CONVERGENCE VALUE= .2329 CRITERION= .1557
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4383E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .1557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 644
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2771E-05 OSCILLATION LIMIT = 21.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.46 CRITERION= .1666
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5085
 HT FLOW CONVERGENCE VALUE= .2332 CRITERION= .1551
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4370E-01
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 646
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2734E-05 OSCILLATION LIMIT = 21.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.52 CRITERION= .1660
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5103
 HT FLOW CONVERGENCE VALUE= .2340 CRITERION= .1544
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4373E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .1543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 648
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2767E-05 OSCILLATION LIMIT = 21.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.43 CRITERION= .1653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5097
 HT FLOW CONVERGENCE VALUE= .2331 CRITERION= .1538
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4360E-01
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .1538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 650
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2730E-05 OSCILLATION LIMIT = 21.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.49 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5115

HT FLOW CONVERGENCE VALUE= .2329 CRITERION= .1531
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4361E-01
 HT FLOW CONVERGENCE VALUE= .1542E-01 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 652
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2764E-05 OSCILLATION LIMIT = 21.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.40 CRITERION= .1641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5109
 HT FLOW CONVERGENCE VALUE= .2321 CRITERION= .1525
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4348E-01
 HT FLOW CONVERGENCE VALUE= .1534E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 654
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2727E-05 OSCILLATION LIMIT = 21.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.46 CRITERION= .1636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5126
 HT FLOW CONVERGENCE VALUE= .2323 CRITERION= .1518
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4350E-01
 HT FLOW CONVERGENCE VALUE= .1530E-01 CRITERION= .1517 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 656
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2760E-05 OSCILLATION LIMIT = 21.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.37 CRITERION= .1629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5121
 HT FLOW CONVERGENCE VALUE= .2317 CRITERION= .1512
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4338E-01
 HT FLOW CONVERGENCE VALUE= .1523E-01 CRITERION= .1511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 658
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2724E-05 OSCILLATION LIMIT = 21.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.44 CRITERION= .1623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5137
 HT FLOW CONVERGENCE VALUE= .2318 CRITERION= .1505
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4339E-01
 HT FLOW CONVERGENCE VALUE= .1517E-01 CRITERION= .1504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 660
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2757E-05 OSCILLATION LIMIT = 21.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.35 CRITERION= .1617
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5133
 HT FLOW CONVERGENCE VALUE= .2309 CRITERION= .1499
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4326E-01
 HT FLOW CONVERGENCE VALUE= .1506E-01 CRITERION= .1498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 662
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2721E-05 OSCILLATION LIMIT = 21.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.41 CRITERION= .1611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5149
 HT FLOW CONVERGENCE VALUE= .2308 CRITERION= .1492
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4327E-01
 HT FLOW CONVERGENCE VALUE= .1501E-01 CRITERION= .1491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 664
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2754E-05 OSCILLATION LIMIT = 21.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.32 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5145
 HT FLOW CONVERGENCE VALUE= .2301 CRITERION= .1486
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4315E-01
 HT FLOW CONVERGENCE VALUE= .1494E-01 CRITERION= .1485 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 666
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2718E-05 OSCILLATION LIMIT = 21.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.38 CRITERION= .1599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5161
 HT FLOW CONVERGENCE VALUE= .2302 CRITERION= .1479
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4316E-01
 HT FLOW CONVERGENCE VALUE= .1488E-01 CRITERION= .1478 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 668
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2750E-05 OSCILLATION LIMIT = 21.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.29 CRITERION= .1592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5157
 HT FLOW CONVERGENCE VALUE= .2294 CRITERION= .1473
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4304E-01
 HT FLOW CONVERGENCE VALUE= .1477E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 670
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2716E-05 OSCILLATION LIMIT = 21.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.36 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5172
 HT FLOW CONVERGENCE VALUE= .2290 CRITERION= .1466
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4304E-01
 HT FLOW CONVERGENCE VALUE= .1470E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 672
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2747E-05 OSCILLATION LIMIT = 21.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.27 CRITERION= .1580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5169
 HT FLOW CONVERGENCE VALUE= .2282 CRITERION= .1460
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4292E-01
 HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 674
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2713E-05 OSCILLATION LIMIT = 21.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.33 CRITERION= .1574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5184
 HT FLOW CONVERGENCE VALUE= .2279 CRITERION= .1452
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4291E-01
 HT FLOW CONVERGENCE VALUE= .1453E-01 CRITERION= .1452 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 676
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2744E-05 OSCILLATION LIMIT = 21.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.24 CRITERION= .1568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5181
 HT FLOW CONVERGENCE VALUE= .2272 CRITERION= .1447
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4278E-01
 HT FLOW CONVERGENCE VALUE= .1442E-01 CRITERION= .1446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 678
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2710E-05 OSCILLATION LIMIT = 21.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.30 CRITERION= .1562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5196
 HT FLOW CONVERGENCE VALUE= .2270 CRITERION= .1439
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4276E-01
 HT FLOW CONVERGENCE VALUE= .1436E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 680
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2742E-05 OSCILLATION LIMIT = 21.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.21 CRITERION= .1555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5194
 HT FLOW CONVERGENCE VALUE= .2265 CRITERION= .1433
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4263E-01
 HT FLOW CONVERGENCE VALUE= .1425E-01 CRITERION= .1433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 682
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2708E-05 OSCILLATION LIMIT = 21.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.28 CRITERION= .1550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5208
 HT FLOW CONVERGENCE VALUE= .2262 CRITERION= .1426
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4261E-01
 HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .1426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 684
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2739E-05 OSCILLATION LIMIT = 21.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.19 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5206
 HT FLOW CONVERGENCE VALUE= .2256 CRITERION= .1420
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4248E-01
 HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .1420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 686
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2706E-05 OSCILLATION LIMIT = 21.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.25 CRITERION= .1538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5220
 HT FLOW CONVERGENCE VALUE= .2255 CRITERION= .1413
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4245E-01
 HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 688
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2736E-05 OSCILLATION LIMIT = 21.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.16 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5219
 HT FLOW CONVERGENCE VALUE= .2250 CRITERION= .1407

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4232E-01
 HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .1407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 690
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2703E-05 OSCILLATION LIMIT = 21.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.22 CRITERION= .1526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5233
 HT FLOW CONVERGENCE VALUE= .2247 CRITERION= .1400
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4229E-01
 HT FLOW CONVERGENCE VALUE= .1383E-01 CRITERION= .1399 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 692
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2734E-05 OSCILLATION LIMIT = 21.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.13 CRITERION= .1519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5232
 HT FLOW CONVERGENCE VALUE= .2241 CRITERION= .1394
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4215E-01
 HT FLOW CONVERGENCE VALUE= .1372E-01 CRITERION= .1394 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 694
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2701E-05 OSCILLATION LIMIT = 21.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.19 CRITERION= .1513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5245
 HT FLOW CONVERGENCE VALUE= .2238 CRITERION= .1387
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4212E-01
 HT FLOW CONVERGENCE VALUE= .1365E-01 CRITERION= .1386 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 696
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2731E-05 OSCILLATION LIMIT = 21.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.11 CRITERION= .1507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5244
 HT FLOW CONVERGENCE VALUE= .2232 CRITERION= .1381
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4199E-01
 HT FLOW CONVERGENCE VALUE= .1354E-01 CRITERION= .1380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 698
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2699E-05 OSCILLATION LIMIT = 21.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.17 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5257
 HT FLOW CONVERGENCE VALUE= .2229 CRITERION= .1374
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4195E-01
 HT FLOW CONVERGENCE VALUE= .1347E-01 CRITERION= .1373 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 700
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2729E-05 OSCILLATION LIMIT = 21.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.08 CRITERION= .1494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5257
 HT FLOW CONVERGENCE VALUE= .2225 CRITERION= .1368
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4182E-01
 HT FLOW CONVERGENCE VALUE= .1337E-01 CRITERION= .1367 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 702

*** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2697E-05 OSCILLATION LIMIT = 21.27

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:00:28 APR 08, 1995 CP= 57940.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 68.26 CRITERION= .1528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498
 HT FLOW CONVERGENCE VALUE= .1989 CRITERION= .1362
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4265E-01
 HT FLOW CONVERGENCE VALUE= .1518E-01 CRITERION= .1362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 704
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1943E-05 OSCILLATION LIMIT = 15.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.17 CRITERION= .1522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4479
 HT FLOW CONVERGENCE VALUE= .1980 CRITERION= .1358
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4246E-01
 HT FLOW CONVERGENCE VALUE= .1509E-01 CRITERION= .1357 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 706
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1902E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.22 CRITERION= .1519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4511
 HT FLOW CONVERGENCE VALUE= .1989 CRITERION= .1352
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4253E-01
 HT FLOW CONVERGENCE VALUE= .1505E-01 CRITERION= .1352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 708
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1944E-05 OSCILLATION LIMIT = 15.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.13 CRITERION= .1513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4488
 HT FLOW CONVERGENCE VALUE= .1978 CRITERION= .1348
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4235E-01
 HT FLOW CONVERGENCE VALUE= .1496E-01 CRITERION= .1347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 710
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1902E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.19 CRITERION= .1510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4518
 HT FLOW CONVERGENCE VALUE= .1985 CRITERION= .1342
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4241E-01
 HT FLOW CONVERGENCE VALUE= .1491E-01 CRITERION= .1342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 712
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1943E-05 OSCILLATION LIMIT = 15.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.09 CRITERION= .1504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4497

HT FLOW CONVERGENCE VALUE= .1973 CRITERION= .1338
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4222E-01
 HT FLOW CONVERGENCE VALUE= .1482E-01 CRITERION= .1337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 714
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.15 CRITERION= .1501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4526
 HT FLOW CONVERGENCE VALUE= .1979 CRITERION= .1332
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4227E-01
 HT FLOW CONVERGENCE VALUE= .1476E-01 CRITERION= .1332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 716
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1942E-05 OSCILLATION LIMIT = 15.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.06 CRITERION= .1495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4507
 HT FLOW CONVERGENCE VALUE= .1967 CRITERION= .1328
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4209E-01
 HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .1328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 718
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.12 CRITERION= .1492
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4534
 HT FLOW CONVERGENCE VALUE= .1972 CRITERION= .1322
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4214E-01
 HT FLOW CONVERGENCE VALUE= .1462E-01 CRITERION= .1322 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 720
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1942E-05 OSCILLATION LIMIT = 15.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.02 CRITERION= .1486
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4516
 HT FLOW CONVERGENCE VALUE= .1962 CRITERION= .1318
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4197E-01
 HT FLOW CONVERGENCE VALUE= .1452E-01 CRITERION= .1318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 722
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.08 CRITERION= .1483
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4543
 HT FLOW CONVERGENCE VALUE= .1966 CRITERION= .1312
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4201E-01
 HT FLOW CONVERGENCE VALUE= .1446E-01 CRITERION= .1312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 724
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1941E-05 OSCILLATION LIMIT = 15.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.99 CRITERION= .1477
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4525
 HT FLOW CONVERGENCE VALUE= .1956 CRITERION= .1308
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4184E-01
 HT FLOW CONVERGENCE VALUE= .1437E-01 CRITERION= .1308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 726
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.04 CRITERION= .1474
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4551
HT FLOW CONVERGENCE VALUE= .1960 CRITERION= .1302
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4187E-01
HT FLOW CONVERGENCE VALUE= .1430E-01 CRITERION= .1302 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 728
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1941E-05 OSCILLATION LIMIT = 15.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.95 CRITERION= .1468
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4535
HT FLOW CONVERGENCE VALUE= .1949 CRITERION= .1298
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4171E-01
HT FLOW CONVERGENCE VALUE= .1422E-01 CRITERION= .1298 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 730
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.01 CRITERION= .1465
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4559
HT FLOW CONVERGENCE VALUE= .1952 CRITERION= .1293
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4174E-01
HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .1292 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 732
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1940E-05 OSCILLATION LIMIT = 15.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.92 CRITERION= .1459
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4544
HT FLOW CONVERGENCE VALUE= .1943 CRITERION= .1288
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4159E-01
HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .1288 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 734
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.97 CRITERION= .1456
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4568
HT FLOW CONVERGENCE VALUE= .1945 CRITERION= .1283
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4162E-01
HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .1282 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 736
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1940E-05 OSCILLATION LIMIT = 15.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.88 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4554
HT FLOW CONVERGENCE VALUE= .1937 CRITERION= .1278
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4147E-01
HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .1278 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 738
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 67.94 CRITERION= .1447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4576
 HT FLOW CONVERGENCE VALUE= .1939 CRITERION= .1273
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4150E-01
 HT FLOW CONVERGENCE VALUE= .1387E-01 CRITERION= .1272 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 740
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1939E-05 OSCILLATION LIMIT = 15.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.84 CRITERION= .1442
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4563
 HT FLOW CONVERGENCE VALUE= .1929 CRITERION= .1268
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4135E-01
 HT FLOW CONVERGENCE VALUE= .1379E-01 CRITERION= .1268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 742
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.90 CRITERION= .1438
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4585
 HT FLOW CONVERGENCE VALUE= .1929 CRITERION= .1263
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4137E-01
 HT FLOW CONVERGENCE VALUE= .1373E-01 CRITERION= .1262 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 744
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1938E-05 OSCILLATION LIMIT = 15.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.81 CRITERION= .1433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4573
 HT FLOW CONVERGENCE VALUE= .1920 CRITERION= .1258
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4122E-01
 HT FLOW CONVERGENCE VALUE= .1364E-01 CRITERION= .1258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 746
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.87 CRITERION= .1429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4593
 HT FLOW CONVERGENCE VALUE= .1919 CRITERION= .1253
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4123E-01
 HT FLOW CONVERGENCE VALUE= .1357E-01 CRITERION= .1252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 748
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1937E-05 OSCILLATION LIMIT = 15.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.77 CRITERION= .1424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4582
 HT FLOW CONVERGENCE VALUE= .1910 CRITERION= .1248
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4109E-01
 HT FLOW CONVERGENCE VALUE= .1348E-01 CRITERION= .1248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 750
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.83 CRITERION= .1420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4602
 HT FLOW CONVERGENCE VALUE= .1909 CRITERION= .1243

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4111E-01
 HT FLOW CONVERGENCE VALUE= .1342E-01 CRITERION= .1242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 752
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1937E-05 OSCILLATION LIMIT = 15.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.74 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4592
 HT FLOW CONVERGENCE VALUE= .1899 CRITERION= .1238
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4097E-01
 HT FLOW CONVERGENCE VALUE= .1332E-01 CRITERION= .1238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 754
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.79 CRITERION= .1411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4611
 HT FLOW CONVERGENCE VALUE= .1897 CRITERION= .1233
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4098E-01
 HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .1233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 756
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1936E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.70 CRITERION= .1405
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4602
 HT FLOW CONVERGENCE VALUE= .1886 CRITERION= .1229
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
 HT FLOW CONVERGENCE VALUE= .1316E-01 CRITERION= .1228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 758
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.76 CRITERION= .1402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4620
 HT FLOW CONVERGENCE VALUE= .1885 CRITERION= .1223
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4082E-01
 HT FLOW CONVERGENCE VALUE= .1310E-01 CRITERION= .1223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 760
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1936E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.67 CRITERION= .1397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4612
 HT FLOW CONVERGENCE VALUE= .1877 CRITERION= .1219
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4068E-01
 HT FLOW CONVERGENCE VALUE= .1300E-01 CRITERION= .1218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 762
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.72 CRITERION= .1393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4629
 HT FLOW CONVERGENCE VALUE= .1875 CRITERION= .1213
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4068E-01
 HT FLOW CONVERGENCE VALUE= .1294E-01 CRITERION= .1213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 764

*** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1936E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.63 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4621
 HT FLOW CONVERGENCE VALUE= .1865 CRITERION= .1209
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4053E-01
 HT FLOW CONVERGENCE VALUE= .1284E-01 CRITERION= .1208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 766
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1904E-05 OSCILLATION LIMIT = 15.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.69 CRITERION= .1384
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4638
 HT FLOW CONVERGENCE VALUE= .1863 CRITERION= .1203
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4052E-01
 HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .1203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 768
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1936E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.59 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4631
 HT FLOW CONVERGENCE VALUE= .1856 CRITERION= .1199
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4039E-01
 HT FLOW CONVERGENCE VALUE= .1269E-01 CRITERION= .1198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 770
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1904E-05 OSCILLATION LIMIT = 15.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.65 CRITERION= .1376
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4647
 HT FLOW CONVERGENCE VALUE= .1853 CRITERION= .1193
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4037E-01
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .1193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 772
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1936E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.56 CRITERION= .1370
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4641
 HT FLOW CONVERGENCE VALUE= .1842 CRITERION= .1189
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4023E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .1188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 774
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1904E-05 OSCILLATION LIMIT = 15.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 67.62 CRITERION= .1367
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4657
 HT FLOW CONVERGENCE VALUE= .1836 CRITERION= .1183
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4022E-01
 HT FLOW CONVERGENCE VALUE= .1240E-01 CRITERION= .1183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 776
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1935E-05 OSCILLATION LIMIT = 15.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 67.52    CRITERION= .1362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4651
HT FLOW CONVERGENCE VALUE= .1823    CRITERION= .1179
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4010E-01
HT FLOW CONVERGENCE VALUE= .1226E-01 CRITERION= .1178    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 778
*** TIME = .124653E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 67.58    CRITERION= .1358
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4666
HT FLOW CONVERGENCE VALUE= .1817    CRITERION= .1173
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4009E-01
HT FLOW CONVERGENCE VALUE= .1218E-01 CRITERION= .1173    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 780
*** TIME = .125441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1934E-05 OSCILLATION LIMIT = 15.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 67.49    CRITERION= .1353
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4661
HT FLOW CONVERGENCE VALUE= .1809    CRITERION= .1169
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3997E-01
HT FLOW CONVERGENCE VALUE= .1209E-01 CRITERION= .1168    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 782
*** TIME = .126230E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1903E-05 OSCILLATION LIMIT = 15.01

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 09:32:52 APR 08, 1995 CP= 63387.110
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 59.62    CRITERION= .1311
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3920
HT FLOW CONVERGENCE VALUE= .1530    CRITERION= .1164
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3462E-01
HT FLOW CONVERGENCE VALUE= .1064E-01 CRITERION= .1164    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 784
*** TIME = .127019E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1806E-05 OSCILLATION LIMIT = 14.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.53    CRITERION= .1307
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3891
HT FLOW CONVERGENCE VALUE= .1517    CRITERION= .1161
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3444E-01
HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .1160    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 786
*** TIME = .127808E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1755E-05 OSCILLATION LIMIT = 13.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.59    CRITERION= .1304
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3926
HT FLOW CONVERGENCE VALUE= .1522    CRITERION= .1156
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3453E-01
HT FLOW CONVERGENCE VALUE= .1053E-01 CRITERION= .1156    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 788
*** TIME = .128597E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1802E-05 OSCILLATION LIMIT = 14.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.51 CRITERION= .1300
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3899
HT FLOW CONVERGENCE VALUE= .1510 CRITERION= .1153
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3434E-01
HT FLOW CONVERGENCE VALUE= .1046E-01 CRITERION= .1152 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 790
*** TIME = .129386E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1755E-05 OSCILLATION LIMIT = 13.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.57 CRITERION= .1297
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3932
HT FLOW CONVERGENCE VALUE= .1516 CRITERION= .1148
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3442E-01
HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .1148 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 792
*** TIME = .130175E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = 14.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.48 CRITERION= .1292
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3906
HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .1144
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3425E-01
HT FLOW CONVERGENCE VALUE= .1036E-01 CRITERION= .1144 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 794
*** TIME = .130964E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = 13.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.54 CRITERION= .1289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3938
HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .1140
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3433E-01
HT FLOW CONVERGENCE VALUE= .1033E-01 CRITERION= .1140 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 796
*** TIME = .131753E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.45 CRITERION= .1285
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3914
HT FLOW CONVERGENCE VALUE= .1497 CRITERION= .1136
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3417E-01
HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .1136 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 798
*** TIME = .132542E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1756E-05 OSCILLATION LIMIT = 13.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.51 CRITERION= .1282
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3944
HT FLOW CONVERGENCE VALUE= .1499 CRITERION= .1132
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3424E-01
HT FLOW CONVERGENCE VALUE= .1019E-01 CRITERION= .1131 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 800
*** TIME = .133331E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.42 CRITERION= .1278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3922
 HT FLOW CONVERGENCE VALUE= .1486 CRITERION= .1128
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3407E-01
 HT FLOW CONVERGENCE VALUE= .1011E-01 CRITERION= .1128 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 802
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1757E-05 OSCILLATION LIMIT = 13.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.48 CRITERION= .1275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3950
 HT FLOW CONVERGENCE VALUE= .1487 CRITERION= .1124
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3413E-01
 HT FLOW CONVERGENCE VALUE= .1005E-01 CRITERION= .1123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 804
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.40 CRITERION= .1270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3929
 HT FLOW CONVERGENCE VALUE= .1476 CRITERION= .1120
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3398E-01
 HT FLOW CONVERGENCE VALUE= .9984E-02 CRITERION= .1120 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 806
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1758E-05 OSCILLATION LIMIT = 13.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.46 CRITERION= .1268
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3956
 HT FLOW CONVERGENCE VALUE= .1480 CRITERION= .1116
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3404E-01
 HT FLOW CONVERGENCE VALUE= .9949E-02 CRITERION= .1115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 808
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.37 CRITERION= .1263
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3937
 HT FLOW CONVERGENCE VALUE= .1469 CRITERION= .1112
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3390E-01
 HT FLOW CONVERGENCE VALUE= .9872E-02 CRITERION= .1112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 810
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1759E-05 OSCILLATION LIMIT = 13.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.43 CRITERION= .1260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3962
 HT FLOW CONVERGENCE VALUE= .1470 CRITERION= .1107
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3395E-01
 HT FLOW CONVERGENCE VALUE= .9821E-02 CRITERION= .1107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 812
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1799E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.34 CRITERION= .1256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3944
 HT FLOW CONVERGENCE VALUE= .1459 CRITERION= .1104

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3380E-01
 HT FLOW CONVERGENCE VALUE= .9755E-02 CRITERION= .1104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 814
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1759E-05 OSCILLATION LIMIT = 13.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.40 CRITERION= .1253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3969
 HT FLOW CONVERGENCE VALUE= .1462 CRITERION= .1099
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3385E-01
 HT FLOW CONVERGENCE VALUE= .9716E-02 CRITERION= .1099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 816
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.31 CRITERION= .1249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3952
 HT FLOW CONVERGENCE VALUE= .1454 CRITERION= .1096
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3371E-01
 HT FLOW CONVERGENCE VALUE= .9655E-02 CRITERION= .1096 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 818
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1760E-05 OSCILLATION LIMIT = 13.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.37 CRITERION= .1246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3975
 HT FLOW CONVERGENCE VALUE= .1457 CRITERION= .1091
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3375E-01
 HT FLOW CONVERGENCE VALUE= .9632E-02 CRITERION= .1091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 820
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.28 CRITERION= .1241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3960
 HT FLOW CONVERGENCE VALUE= .1450 CRITERION= .1088
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3362E-01
 HT FLOW CONVERGENCE VALUE= .9562E-02 CRITERION= .1088 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 822
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1761E-05 OSCILLATION LIMIT = 13.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.34 CRITERION= .1238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3982
 HT FLOW CONVERGENCE VALUE= .1451 CRITERION= .1083
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3366E-01
 HT FLOW CONVERGENCE VALUE= .9523E-02 CRITERION= .1083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 824
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.26 CRITERION= .1234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3967
 HT FLOW CONVERGENCE VALUE= .1443 CRITERION= .1080
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3353E-01
 HT FLOW CONVERGENCE VALUE= .9465E-02 CRITERION= .1079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 826

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*** TIME = .143587E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1762E-05    OSCILLATION LIMIT = 13.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.32    CRITERION= .1231
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3989
    HT FLOW CONVERGENCE VALUE= .1444    CRITERION= .1075
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3357E-01
    HT FLOW CONVERGENCE VALUE= .9427E-02 CRITERION= .1075    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 828
*** TIME = .144376E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1800E-05    OSCILLATION LIMIT = 14.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.23    CRITERION= .1227
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3975
    HT FLOW CONVERGENCE VALUE= .1436    CRITERION= .1072
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3345E-01
    HT FLOW CONVERGENCE VALUE= .9365E-02 CRITERION= .1071    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 830
*** TIME = .145165E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1762E-05    OSCILLATION LIMIT = 13.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.29    CRITERION= .1224
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3995
    HT FLOW CONVERGENCE VALUE= .1438    CRITERION= .1067
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3347E-01
    HT FLOW CONVERGENCE VALUE= .9325E-02 CRITERION= .1067    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 832
*** TIME = .145954E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1800E-05    OSCILLATION LIMIT = 14.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.20    CRITERION= .1220
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3983
    HT FLOW CONVERGENCE VALUE= .1431    CRITERION= .1063
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3335E-01
    HT FLOW CONVERGENCE VALUE= .9275E-02 CRITERION= .1063    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 834
*** TIME = .146743E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1763E-05    OSCILLATION LIMIT = 13.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.26    CRITERION= .1217
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4002
    HT FLOW CONVERGENCE VALUE= .1433    CRITERION= .1059
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3336E-01
    HT FLOW CONVERGENCE VALUE= .9237E-02 CRITERION= .1059    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 836
*** TIME = .147532E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1800E-05    OSCILLATION LIMIT = 14.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 59.17    CRITERION= .1212
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3991
    HT FLOW CONVERGENCE VALUE= .1427    CRITERION= .1055
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3323E-01
    HT FLOW CONVERGENCE VALUE= .9188E-02 CRITERION= .1055    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 838
*** TIME = .148321E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1764E-05    OSCILLATION LIMIT = 13.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.23 CRITERION= .1210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4009
 HT FLOW CONVERGENCE VALUE= .1430 CRITERION= .1051
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3318E-01
 HT FLOW CONVERGENCE VALUE= .9164E-02 CRITERION= .1050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 840
 *** TIME = .149110E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.15 CRITERION= .1205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3998
 HT FLOW CONVERGENCE VALUE= .1425 CRITERION= .1047
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3297E-01
 HT FLOW CONVERGENCE VALUE= .9099E-02 CRITERION= .1047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 842
 *** TIME = .149899E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1765E-05 OSCILLATION LIMIT = 13.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.21 CRITERION= .1202
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4016
 HT FLOW CONVERGENCE VALUE= .1425 CRITERION= .1043
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3285E-01
 HT FLOW CONVERGENCE VALUE= .9069E-02 CRITERION= .1042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 844
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = 14.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.12 CRITERION= .1193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4006
 HT FLOW CONVERGENCE VALUE= .1419 CRITERION= .1039
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3267E-01
 HT FLOW CONVERGENCE VALUE= .9018E-02 CRITERION= .1039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 846
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 13.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.18 CRITERION= .1195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4022
 HT FLOW CONVERGENCE VALUE= .1421 CRITERION= .1035
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3265E-01
 HT FLOW CONVERGENCE VALUE= .8991E-02 CRITERION= .1034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 848
 *** TIME = .152265E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = 14.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.09 CRITERION= .1191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4013
 HT FLOW CONVERGENCE VALUE= .1416 CRITERION= .1031
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3252E-01
 HT FLOW CONVERGENCE VALUE= .8942E-02 CRITERION= .1031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 850
 *** TIME = .153054E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 13.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.15 CRITERION= .1188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4029
 HT FLOW CONVERGENCE VALUE= .1417 CRITERION= .1026
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3247E-01

HT FLOW CONVERGENCE VALUE= .8912E-02 CRITERION= .1026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 852
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1801E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.06 CRITERION= .1184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4021
 HT FLOW CONVERGENCE VALUE= .1411 CRITERION= .1023
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3226E-01
 HT FLOW CONVERGENCE VALUE= .8854E-02 CRITERION= .1023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 854
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 13.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.12 CRITERION= .1181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4036
 HT FLOW CONVERGENCE VALUE= .1410 CRITERION= .1018
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3219E-01
 HT FLOW CONVERGENCE VALUE= .8820E-02 CRITERION= .1018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 856
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.03 CRITERION= .1177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4029
 HT FLOW CONVERGENCE VALUE= .1405 CRITERION= .1015
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3204E-01
 HT FLOW CONVERGENCE VALUE= .8768E-02 CRITERION= .1015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 858
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 13.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.09 CRITERION= .1174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4044
 HT FLOW CONVERGENCE VALUE= .1405 CRITERION= .1010
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3198E-01
 HT FLOW CONVERGENCE VALUE= .8742E-02 CRITERION= .1010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 860
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1800E-05 OSCILLATION LIMIT = 14.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.01 CRITERION= .1169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4036
 HT FLOW CONVERGENCE VALUE= .1401 CRITERION= .1007
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3179E-01
 HT FLOW CONVERGENCE VALUE= .8694E-02 CRITERION= .1007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 862
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1766E-05 OSCILLATION LIMIT = 13.94

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:49 APR 08, 1995 CP= 68858.970
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 49.67 CRITERION= .1122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3244
 HT FLOW CONVERGENCE VALUE= .1135 CRITERION= .1003
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2625E-01
 HT FLOW CONVERGENCE VALUE= .7304E-02 CRITERION= .1003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 864
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1685E-05 OSCILLATION LIMIT = 13.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.58 CRITERION= .1118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3210
 HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .1000
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2606E-01
 HT FLOW CONVERGENCE VALUE= .7270E-02 CRITERION= .1000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 866
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1625E-05 OSCILLATION LIMIT = 12.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.65 CRITERION= .1116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3247
 HT FLOW CONVERGENCE VALUE= .1132 CRITERION= .9967E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2616E-01
 HT FLOW CONVERGENCE VALUE= .7257E-02 CRITERION= .9965E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 868
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1680E-05 OSCILLATION LIMIT = 13.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.56 CRITERION= .1113
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3216
 HT FLOW CONVERGENCE VALUE= .1121 CRITERION= .9941E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2600E-01
 HT FLOW CONVERGENCE VALUE= .7224E-02 CRITERION= .9939E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 870
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1625E-05 OSCILLATION LIMIT = 12.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.63 CRITERION= .1111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3251
 HT FLOW CONVERGENCE VALUE= .1129 CRITERION= .9904E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2610E-01
 HT FLOW CONVERGENCE VALUE= .7215E-02 CRITERION= .9902E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 872
 *** TIME = .161733E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1679E-05 OSCILLATION LIMIT = 13.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.54 CRITERION= .1107
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3221
 HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .9878E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2594E-01
 HT FLOW CONVERGENCE VALUE= .7177E-02 CRITERION= .9876E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 874
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1626E-05 OSCILLATION LIMIT = 12.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.61 CRITERION= .1105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3255
 HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .9841E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2602E-01
 HT FLOW CONVERGENCE VALUE= .7158E-02 CRITERION= .9839E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 876
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1678E-05 OSCILLATION LIMIT = 13.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.52 CRITERION= .1101
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3227
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .9816E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2587E-01
 HT FLOW CONVERGENCE VALUE= .7112E-02 CRITERION= .9814E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 878
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1627E-05 OSCILLATION LIMIT = 12.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.59 CRITERION= .1099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3258
 HT FLOW CONVERGENCE VALUE= .1122 CRITERION= .9778E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2595E-01
 HT FLOW CONVERGENCE VALUE= .7099E-02 CRITERION= .9776E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 880
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1677E-05 OSCILLATION LIMIT = 13.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.50 CRITERION= .1096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3233
 HT FLOW CONVERGENCE VALUE= .1113 CRITERION= .9753E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2581E-01
 HT FLOW CONVERGENCE VALUE= .7064E-02 CRITERION= .9751E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 882
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1627E-05 OSCILLATION LIMIT = 12.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.57 CRITERION= .1093
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3262
 HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .9715E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2588E-01
 HT FLOW CONVERGENCE VALUE= .7046E-02 CRITERION= .9713E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 884
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1677E-05 OSCILLATION LIMIT = 13.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.48 CRITERION= .1090
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3239
 HT FLOW CONVERGENCE VALUE= .1109 CRITERION= .9690E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2574E-01
 HT FLOW CONVERGENCE VALUE= .6999E-02 CRITERION= .9688E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 886
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1628E-05 OSCILLATION LIMIT = 12.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.55 CRITERION= .1088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3266
 HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .9652E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2580E-01
 HT FLOW CONVERGENCE VALUE= .6981E-02 CRITERION= .9650E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 888

*** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1676E-05 OSCILLATION LIMIT = 13.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.46 CRITERION= .1084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3244
 HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .9627E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2567E-01
 HT FLOW CONVERGENCE VALUE= .6941E-02 CRITERION= .9625E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 890
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1628E-05 OSCILLATION LIMIT = 12.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.53 CRITERION= .1082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3271
 HT FLOW CONVERGENCE VALUE= .1110 CRITERION= .9589E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2573E-01
 HT FLOW CONVERGENCE VALUE= .6923E-02 CRITERION= .9587E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 892
 *** TIME = .169622E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1676E-05 OSCILLATION LIMIT = 13.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.44 CRITERION= .1079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3250
 HT FLOW CONVERGENCE VALUE= .1101 CRITERION= .9564E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2561E-01
 HT FLOW CONVERGENCE VALUE= .6881E-02 CRITERION= .9562E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 894
 *** TIME = .170411E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1629E-05 OSCILLATION LIMIT = 12.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.51 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3275
 HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .9526E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2566E-01
 HT FLOW CONVERGENCE VALUE= .6863E-02 CRITERION= .9524E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 896
 *** TIME = .171200E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1675E-05 OSCILLATION LIMIT = 13.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.42 CRITERION= .1073
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3255
 HT FLOW CONVERGENCE VALUE= .1097 CRITERION= .9501E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2553E-01
 HT FLOW CONVERGENCE VALUE= .6822E-02 CRITERION= .9499E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 898
 *** TIME = .171989E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1629E-05 OSCILLATION LIMIT = 12.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.49 CRITERION= .1071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3279
 HT FLOW CONVERGENCE VALUE= .1101 CRITERION= .9463E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2558E-01
 HT FLOW CONVERGENCE VALUE= .6809E-02 CRITERION= .9461E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 900
 *** TIME = .172778E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1675E-05 OSCILLATION LIMIT = 13.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.40 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3261
 HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .9438E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2546E-01
 HT FLOW CONVERGENCE VALUE= .6771E-02 CRITERION= .9436E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 902
 *** TIME = .173567E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1630E-05 OSCILLATION LIMIT = 12.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.47 CRITERION= .1065
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3283
 HT FLOW CONVERGENCE VALUE= .1098 CRITERION= .9400E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2551E-01
 HT FLOW CONVERGENCE VALUE= .6752E-02 CRITERION= .9398E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 904
 *** TIME = .174356E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1674E-05 OSCILLATION LIMIT = 13.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.38 CRITERION= .1062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3266
 HT FLOW CONVERGENCE VALUE= .1091 CRITERION= .9375E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2539E-01
 HT FLOW CONVERGENCE VALUE= .6712E-02 CRITERION= .9373E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 906
 *** TIME = .175145E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1630E-05 OSCILLATION LIMIT = 12.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.45 CRITERION= .1059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3288
 HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .9337E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2543E-01
 HT FLOW CONVERGENCE VALUE= .6694E-02 CRITERION= .9335E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 908
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1674E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.36 CRITERION= .1056
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3272
 HT FLOW CONVERGENCE VALUE= .1088 CRITERION= .9312E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2532E-01
 HT FLOW CONVERGENCE VALUE= .6654E-02 CRITERION= .9310E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 910
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1631E-05 OSCILLATION LIMIT = 12.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.43 CRITERION= .1054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3292
 HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .9274E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2535E-01
 HT FLOW CONVERGENCE VALUE= .6637E-02 CRITERION= .9272E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 912
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.35 CRITERION= .1050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3278
 HT FLOW CONVERGENCE VALUE= .1084 CRITERION= .9249E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2524E-01

HT FLOW CONVERGENCE VALUE= .6595E-02 CRITERION= .9247E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 914
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1631E-05 OSCILLATION LIMIT = 12.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.41 CRITERION= .1048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3297
 HT FLOW CONVERGENCE VALUE= .1086 CRITERION= .9212E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2527E-01
 HT FLOW CONVERGENCE VALUE= .6576E-02 CRITERION= .9210E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 916
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.33 CRITERION= .1045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3283
 HT FLOW CONVERGENCE VALUE= .1080 CRITERION= .9186E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2516E-01
 HT FLOW CONVERGENCE VALUE= .6538E-02 CRITERION= .9184E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 918
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1632E-05 OSCILLATION LIMIT = 12.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.39 CRITERION= .1042
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3301
 HT FLOW CONVERGENCE VALUE= .1082 CRITERION= .9149E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2518E-01
 HT FLOW CONVERGENCE VALUE= .6520E-02 CRITERION= .9147E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 920
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.31 CRITERION= .1039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3289
 HT FLOW CONVERGENCE VALUE= .1076 CRITERION= .9123E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2507E-01
 HT FLOW CONVERGENCE VALUE= .6481E-02 CRITERION= .9121E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 922
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1632E-05 OSCILLATION LIMIT = 12.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.37 CRITERION= .1037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3306
 HT FLOW CONVERGENCE VALUE= .1077 CRITERION= .9086E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2509E-01
 HT FLOW CONVERGENCE VALUE= .6463E-02 CRITERION= .9084E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 924
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.29 CRITERION= .1033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3294
 HT FLOW CONVERGENCE VALUE= .1070 CRITERION= .9060E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2499E-01
 HT FLOW CONVERGENCE VALUE= .6424E-02 CRITERION= .9058E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 926
 *** TIME = .183034E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1633E-05 OSCILLATION LIMIT = 12.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.35 CRITERION= .1031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3310
 HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .9023E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2501E-01
 HT FLOW CONVERGENCE VALUE= .6408E-02 CRITERION= .9021E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 928
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.27 CRITERION= .1028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3300
 HT FLOW CONVERGENCE VALUE= .1065 CRITERION= .8997E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2490E-01
 HT FLOW CONVERGENCE VALUE= .6367E-02 CRITERION= .8995E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 930
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1633E-05 OSCILLATION LIMIT = 12.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.33 CRITERION= .1026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3315
 HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .8960E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2493E-01
 HT FLOW CONVERGENCE VALUE= .6287E-02 CRITERION= .8958E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 932
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1672E-05 OSCILLATION LIMIT = 13.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.25 CRITERION= .1022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3305
 HT FLOW CONVERGENCE VALUE= .1049 CRITERION= .8934E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2482E-01
 HT FLOW CONVERGENCE VALUE= .6195E-02 CRITERION= .8933E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 934
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1633E-05 OSCILLATION LIMIT = 12.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.31 CRITERION= .1020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3320
 HT FLOW CONVERGENCE VALUE= .1039 CRITERION= .8897E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2482E-01
 HT FLOW CONVERGENCE VALUE= .6111E-02 CRITERION= .8895E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 936
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.23 CRITERION= .1016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3311
 HT FLOW CONVERGENCE VALUE= .1024 CRITERION= .8872E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2472E-01
 HT FLOW CONVERGENCE VALUE= .6008E-02 CRITERION= .8870E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 938
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1634E-05 OSCILLATION LIMIT = 12.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.29 CRITERION= .1014

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3325
HT FLOW CONVERGENCE VALUE= .1020 CRITERION= .8834E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2473E-01
HT FLOW CONVERGENCE VALUE= .5971E-02 CRITERION= .8832E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 940
*** TIME = .188557E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1673E-05 OSCILLATION LIMIT = 13.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 49.21 CRITERION= .1011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3316
HT FLOW CONVERGENCE VALUE= .1014 CRITERION= .8809E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2463E-01
HT FLOW CONVERGENCE VALUE= .5928E-02 CRITERION= .8807E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 942
*** TIME = .189346E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1635E-05 OSCILLATION LIMIT = 12.90

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 12:42:05 APR 08, 1995 CP= 74429.020
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 41.55 CRITERION= .9735E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2734
HT FLOW CONVERGENCE VALUE= .8402E-01 CRITERION= .8777E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 943
*** TIME = .190135E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1789E-05 OSCILLATION LIMIT = 14.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 41.47 CRITERION= .9706E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2502
HT FLOW CONVERGENCE VALUE= .7909E-01 CRITERION= .8757E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 944
*** TIME = .190923E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1537E-05 OSCILLATION LIMIT = 12.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 41.54 CRITERION= .9689E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2524
HT FLOW CONVERGENCE VALUE= .7930E-01 CRITERION= .8726E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 945
*** TIME = .191712E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1607E-05 OSCILLATION LIMIT = 12.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 41.45 CRITERION= .9659E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2510
HT FLOW CONVERGENCE VALUE= .7882E-01 CRITERION= .8706E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 946
*** TIME = .192501E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1557E-05 OSCILLATION LIMIT = 12.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 41.52 CRITERION= .9643E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2528
HT FLOW CONVERGENCE VALUE= .7902E-01 CRITERION= .8675E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 947
*** TIME = .193290E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1607E-05 OSCILLATION LIMIT = 12.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.44 CRITERION= .9613E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2514
HT FLOW CONVERGENCE VALUE= .7846E-01 CRITERION= .8656E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 948
*** TIME = .194079E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1558E-05 OSCILLATION LIMIT = 12.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.51 CRITERION= .9597E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2532
HT FLOW CONVERGENCE VALUE= .7861E-01 CRITERION= .8624E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 949
*** TIME = .194868E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1607E-05 OSCILLATION LIMIT = 12.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.43 CRITERION= .9566E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2519
HT FLOW CONVERGENCE VALUE= .7810E-01 CRITERION= .8605E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 950
*** TIME = .195657E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1558E-05 OSCILLATION LIMIT = 12.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.49 CRITERION= .9550E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2535
HT FLOW CONVERGENCE VALUE= .7807E-01 CRITERION= .8574E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 951
*** TIME = .196446E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1606E-05 OSCILLATION LIMIT = 12.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .9520E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2524
HT FLOW CONVERGENCE VALUE= .7751E-01 CRITERION= .8555E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 952
*** TIME = .197235E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1559E-05 OSCILLATION LIMIT = 12.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.48 CRITERION= .9504E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2539
HT FLOW CONVERGENCE VALUE= .7729E-01 CRITERION= .8523E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 953
*** TIME = .198024E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1606E-05 OSCILLATION LIMIT = 12.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.40 CRITERION= .9474E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2528
HT FLOW CONVERGENCE VALUE= .7665E-01 CRITERION= .8504E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 954
*** TIME = .198813E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1559E-05 OSCILLATION LIMIT = 12.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.47 CRITERION= .9458E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2542

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HT FLOW CONVERGENCE VALUE= .7673E-01 CRITERION= .8472E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 955
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1606E-05 OSCILLATION LIMIT = 12.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .9428E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2532
 HT FLOW CONVERGENCE VALUE= .7641E-01 CRITERION= .8453E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 956
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1560E-05 OSCILLATION LIMIT = 12.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.45 CRITERION= .9412E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2546
 HT FLOW CONVERGENCE VALUE= .7617E-01 CRITERION= .8422E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 957
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1605E-05 OSCILLATION LIMIT = 12.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.37 CRITERION= .9382E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2537
 HT FLOW CONVERGENCE VALUE= .7539E-01 CRITERION= .8403E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 958
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1560E-05 OSCILLATION LIMIT = 12.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.44 CRITERION= .9366E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2550
 HT FLOW CONVERGENCE VALUE= .7533E-01 CRITERION= .8371E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 959
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1605E-05 OSCILLATION LIMIT = 12.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.36 CRITERION= .9336E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2541
 HT FLOW CONVERGENCE VALUE= .7495E-01 CRITERION= .8352E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 960
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = 12.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.42 CRITERION= .9320E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2554
 HT FLOW CONVERGENCE VALUE= .7495E-01 CRITERION= .8320E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 961
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1605E-05 OSCILLATION LIMIT = 12.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.34 CRITERION= .9290E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2546
 HT FLOW CONVERGENCE VALUE= .7453E-01 CRITERION= .8301E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 962
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = 12.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.41 CRITERION= .9274E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2558
 HT FLOW CONVERGENCE VALUE= .7444E-01 CRITERION= .8270E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 963
 *** TIME = .205913E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1604E-05 OSCILLATION LIMIT = 12.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.33 CRITERION= .9244E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2550
 HT FLOW CONVERGENCE VALUE= .7397E-01 CRITERION= .8251E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 964
 *** TIME = .206702E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.40 CRITERION= .9228E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2561
 HT FLOW CONVERGENCE VALUE= .7392E-01 CRITERION= .8219E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 965
 *** TIME = .207491E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1604E-05 OSCILLATION LIMIT = 12.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.32 CRITERION= .9198E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2555
 HT FLOW CONVERGENCE VALUE= .7361E-01 CRITERION= .8200E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 966
 *** TIME = .208280E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.38 CRITERION= .9182E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2565
 HT FLOW CONVERGENCE VALUE= .7353E-01 CRITERION= .8168E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 967
 *** TIME = .209069E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1603E-05 OSCILLATION LIMIT = 12.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.30 CRITERION= .9152E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2559
 HT FLOW CONVERGENCE VALUE= .7312E-01 CRITERION= .8149E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 968
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.37 CRITERION= .9136E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2569
 HT FLOW CONVERGENCE VALUE= .7302E-01 CRITERION= .8118E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 969
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1603E-05 OSCILLATION LIMIT = 12.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.29 CRITERION= .9106E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2564
 HT FLOW CONVERGENCE VALUE= .7275E-01 CRITERION= .8099E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 970
 *** TIME = .211436E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1562E-05 OSCILLATION LIMIT = 12.32

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.35 CRITERION= .9090E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2573
 HT FLOW CONVERGENCE VALUE= .7274E-01 CRITERION= .8067E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 971
 *** TIME = .212225E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1602E-05 OSCILLATION LIMIT = 12.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.27 CRITERION= .9060E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2568
 HT FLOW CONVERGENCE VALUE= .7246E-01 CRITERION= .8048E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 972
 *** TIME = .213014E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1562E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.34 CRITERION= .9045E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2577
 HT FLOW CONVERGENCE VALUE= .7244E-01 CRITERION= .8016E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 973
 *** TIME = .213803E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1602E-05 OSCILLATION LIMIT = 12.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.26 CRITERION= .9015E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2573
 HT FLOW CONVERGENCE VALUE= .7218E-01 CRITERION= .7997E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 974
 *** TIME = .214592E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1562E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.33 CRITERION= .8999E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2581
 HT FLOW CONVERGENCE VALUE= .7213E-01 CRITERION= .7966E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 975
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1602E-05 OSCILLATION LIMIT = 12.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.25 CRITERION= .8969E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2577
 HT FLOW CONVERGENCE VALUE= .7192E-01 CRITERION= .7947E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 976
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1562E-05 OSCILLATION LIMIT = 12.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.31 CRITERION= .8953E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2585
 HT FLOW CONVERGENCE VALUE= .7185E-01 CRITERION= .7915E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 977
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1601E-05 OSCILLATION LIMIT = 12.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.23 CRITERION= .8923E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2582
 HT FLOW CONVERGENCE VALUE= .7163E-01 CRITERION= .7896E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 978

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*** TIME = .217747E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1562E-05    OSCILLATION LIMIT = 12.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.30    CRITERION= .8908E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2589
    HT FLOW CONVERGENCE VALUE= .7148E-01    CRITERION= .7865E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 979
*** TIME = .218536E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1601E-05    OSCILLATION LIMIT = 12.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.22    CRITERION= .8878E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2586
    HT FLOW CONVERGENCE VALUE= .7120E-01    CRITERION= .7845E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 980
*** TIME = .219325E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1561E-05    OSCILLATION LIMIT = 12.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.28    CRITERION= .8862E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2594
    HT FLOW CONVERGENCE VALUE= .7112E-01    CRITERION= .7814E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 981
*** TIME = .220114E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1600E-05    OSCILLATION LIMIT = 12.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 41.20    CRITERION= .8832E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2590
    HT FLOW CONVERGENCE VALUE= .7087E-01    CRITERION= .7795E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 982
*** TIME = .220903E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1561E-05    OSCILLATION LIMIT = 12.32

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 13:45:51 APR 08, 1995 CP= 78101.330
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 39.74    CRITERION= .8746E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2216
    HT FLOW CONVERGENCE VALUE= .6232E-01    CRITERION= .7767E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 983
*** TIME = .221692E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1321E-05    OSCILLATION LIMIT = 10.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.65    CRITERION= .8720E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2213
    HT FLOW CONVERGENCE VALUE= .6192E-01    CRITERION= .7753E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 984
*** TIME = .222481E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1298E-05    OSCILLATION LIMIT = 10.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 39.72    CRITERION= .8709E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2234
    HT FLOW CONVERGENCE VALUE= .6216E-01    CRITERION= .7726E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 985
*** TIME = .223270E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1351E-05 OSCILLATION LIMIT = 10.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.64 CRITERION= .8683E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2217
HT FLOW CONVERGENCE VALUE= .6168E-01 CRITERION= .7712E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 986
*** TIME = .224059E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1298E-05 OSCILLATION LIMIT = 10.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.71 CRITERION= .8672E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2236
HT FLOW CONVERGENCE VALUE= .6189E-01 CRITERION= .7685E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 987
*** TIME = .224848E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1350E-05 OSCILLATION LIMIT = 10.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.63 CRITERION= .8646E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2221
HT FLOW CONVERGENCE VALUE= .6146E-01 CRITERION= .7671E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 988
*** TIME = .225637E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1299E-05 OSCILLATION LIMIT = 10.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.70 CRITERION= .8635E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2239
HT FLOW CONVERGENCE VALUE= .6163E-01 CRITERION= .7644E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 989
*** TIME = .226426E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1349E-05 OSCILLATION LIMIT = 10.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.62 CRITERION= .8609E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2225
HT FLOW CONVERGENCE VALUE= .6120E-01 CRITERION= .7630E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 990
*** TIME = .227215E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1299E-05 OSCILLATION LIMIT = 10.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.68 CRITERION= .8598E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2241
HT FLOW CONVERGENCE VALUE= .6137E-01 CRITERION= .7603E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 991
*** TIME = .228004E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1349E-05 OSCILLATION LIMIT = 10.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.60 CRITERION= .8572E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2228
HT FLOW CONVERGENCE VALUE= .6098E-01 CRITERION= .7589E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 992
*** TIME = .228793E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1300E-05 OSCILLATION LIMIT = 10.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.67 CRITERION= .8561E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2244
HT FLOW CONVERGENCE VALUE= .6113E-01 CRITERION= .7562E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 993
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1349E-05 OSCILLATION LIMIT = 10.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.59 CRITERION= .8535E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2232
HT FLOW CONVERGENCE VALUE= .6077E-01 CRITERION= .7548E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 994
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1301E-05 OSCILLATION LIMIT = 10.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.66 CRITERION= .8524E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2247
HT FLOW CONVERGENCE VALUE= .6089E-01 CRITERION= .7521E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 995
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1348E-05 OSCILLATION LIMIT = 10.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.58 CRITERION= .8498E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2235
HT FLOW CONVERGENCE VALUE= .6052E-01 CRITERION= .7507E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 996
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1301E-05 OSCILLATION LIMIT = 10.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.64 CRITERION= .8487E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2249
HT FLOW CONVERGENCE VALUE= .6059E-01 CRITERION= .7480E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 997
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1348E-05 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.56 CRITERION= .8461E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2239
HT FLOW CONVERGENCE VALUE= .6021E-01 CRITERION= .7466E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 998
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1302E-05 OSCILLATION LIMIT = 10.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.63 CRITERION= .8450E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2252
HT FLOW CONVERGENCE VALUE= .6030E-01 CRITERION= .7439E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 999
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1347E-05 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.55 CRITERION= .8424E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2242
HT FLOW CONVERGENCE VALUE= .5998E-01 CRITERION= .7425E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 1000
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1302E-05 OSCILLATION LIMIT = 10.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 39.62 CRITERION= .8413E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2255
 HT FLOW CONVERGENCE VALUE= .6006E-01 CRITERION= .7398E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 1001
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1347E-05 OSCILLATION LIMIT = 10.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.54 CRITERION= .8388E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2246
 HT FLOW CONVERGENCE VALUE= .5977E-01 CRITERION= .7384E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 1002
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1303E-05 OSCILLATION LIMIT = 10.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.61 CRITERION= .8376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2258
 HT FLOW CONVERGENCE VALUE= .5984E-01 CRITERION= .7357E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 1003
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1347E-05 OSCILLATION LIMIT = 10.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.52 CRITERION= .8351E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2250
 HT FLOW CONVERGENCE VALUE= .5955E-01 CRITERION= .7343E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 1004
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1303E-05 OSCILLATION LIMIT = 10.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.59 CRITERION= .8340E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2260
 HT FLOW CONVERGENCE VALUE= .5959E-01 CRITERION= .7316E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 1005
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1346E-05 OSCILLATION LIMIT = 10.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.51 CRITERION= .8314E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2253
 HT FLOW CONVERGENCE VALUE= .5932E-01 CRITERION= .7302E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 1006
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1303E-05 OSCILLATION LIMIT = 10.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.58 CRITERION= .8303E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2263
 HT FLOW CONVERGENCE VALUE= .5931E-01 CRITERION= .7275E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 1007
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1346E-05 OSCILLATION LIMIT = 10.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50 CRITERION= .8277E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2257
 HT FLOW CONVERGENCE VALUE= .5904E-01 CRITERION= .7261E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 1008
 *** TIME = .241416E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .1304E-05  OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.57  CRITERION= .8266E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2266
  HT FLOW CONVERGENCE VALUE= .5906E-01 CRITERION= .7234E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 1009
*** TIME = .242205E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1346E-05  OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.49  CRITERION= .8241E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2260
  HT FLOW CONVERGENCE VALUE= .5881E-01 CRITERION= .7220E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 1010
*** TIME = .242994E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1304E-05  OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.55  CRITERION= .8230E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2269
  HT FLOW CONVERGENCE VALUE= .5877E-01 CRITERION= .7193E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 1011
*** TIME = .243782E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1346E-05  OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.47  CRITERION= .8204E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2264
  HT FLOW CONVERGENCE VALUE= .5849E-01 CRITERION= .7179E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 1012
*** TIME = .244571E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05  OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.54  CRITERION= .8193E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2272
  HT FLOW CONVERGENCE VALUE= .5834E-01 CRITERION= .7152E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 1013
*** TIME = .245360E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1346E-05  OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.46  CRITERION= .8168E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2267
  HT FLOW CONVERGENCE VALUE= .5804E-01 CRITERION= .7138E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 1014
*** TIME = .246149E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05  OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.53  CRITERION= .8156E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2275
  HT FLOW CONVERGENCE VALUE= .5800E-01 CRITERION= .7111E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 1015
*** TIME = .246938E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1345E-05  OSCILLATION LIMIT = 10.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 39.45  CRITERION= .8131E-01
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2271
  HT FLOW CONVERGENCE VALUE= .5777E-01 CRITERION= .7097E-01 <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 1016
*** TIME = .247727E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05 OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.52 CRITERION= .8120E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2278
HT FLOW CONVERGENCE VALUE= .5771E-01 CRITERION= .7070E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 1017
*** TIME = .248516E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1345E-05 OSCILLATION LIMIT = 10.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.43 CRITERION= .8095E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2274
HT FLOW CONVERGENCE VALUE= .5750E-01 CRITERION= .7055E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 1018
*** TIME = .249305E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1306E-05 OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.50 CRITERION= .8084E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2282
HT FLOW CONVERGENCE VALUE= .5745E-01 CRITERION= .7029E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 1019
*** TIME = .250094E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1345E-05 OSCILLATION LIMIT = 10.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.42 CRITERION= .8058E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2278
HT FLOW CONVERGENCE VALUE= .5721E-01 CRITERION= .7014E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1020
*** TIME = .250883E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1306E-05 OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.49 CRITERION= .8047E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2285
HT FLOW CONVERGENCE VALUE= .5703E-01 CRITERION= .6988E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1021
*** TIME = .251672E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1345E-05 OSCILLATION LIMIT = 10.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 39.41 CRITERION= .8022E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2281
HT FLOW CONVERGENCE VALUE= .5678E-01 CRITERION= .6973E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1022
*** TIME = .252461E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1306E-05 OSCILLATION LIMIT = 10.31

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***** ANSYS SOLVE COMMAND *****
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 14:49:57 APR 08, 1995 CP= 81779.760
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 30.76 CRITERION= .7619E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1756

HT FLOW CONVERGENCE VALUE= .4376E-01 CRITERION= .6951E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1023
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1328E-05 OSCILLATION LIMIT = 10.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.68 CRITERION= .7597E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1769
 HT FLOW CONVERGENCE VALUE= .4381E-01 CRITERION= .6941E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1024
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1296E-05 OSCILLATION LIMIT = 10.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.75 CRITERION= .7590E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1796
 HT FLOW CONVERGENCE VALUE= .4418E-01 CRITERION= .6919E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1025
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1365E-05 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.67 CRITERION= .7568E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1771
 HT FLOW CONVERGENCE VALUE= .4357E-01 CRITERION= .6909E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1026
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1293E-05 OSCILLATION LIMIT = 10.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.74 CRITERION= .7560E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1797
 HT FLOW CONVERGENCE VALUE= .4391E-01 CRITERION= .6887E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1027
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1364E-05 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.66 CRITERION= .7538E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1774
 HT FLOW CONVERGENCE VALUE= .4339E-01 CRITERION= .6877E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1028
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1294E-05 OSCILLATION LIMIT = 10.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.73 CRITERION= .7531E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1798
 HT FLOW CONVERGENCE VALUE= .4371E-01 CRITERION= .6855E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1029
 *** TIME = .257983E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1363E-05 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.65 CRITERION= .7509E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1777
 HT FLOW CONVERGENCE VALUE= .4320E-01 CRITERION= .6845E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1030
 *** TIME = .258772E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1295E-05 OSCILLATION LIMIT = 10.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.73 CRITERION= .7501E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1800
 HT FLOW CONVERGENCE VALUE= .4346E-01 CRITERION= .6823E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1031
 *** TIME = .259561E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1362E-05 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.65 CRITERION= .7479E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1780
 HT FLOW CONVERGENCE VALUE= .4298E-01 CRITERION= .6813E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1032
 *** TIME = .260350E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1296E-05 OSCILLATION LIMIT = 10.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.72 CRITERION= .7472E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1801
 HT FLOW CONVERGENCE VALUE= .4322E-01 CRITERION= .6791E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1033
 *** TIME = .261139E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1361E-05 OSCILLATION LIMIT = 10.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.64 CRITERION= .7450E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1783
 HT FLOW CONVERGENCE VALUE= .4280E-01 CRITERION= .6781E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1034
 *** TIME = .261928E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1297E-05 OSCILLATION LIMIT = 10.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.71 CRITERION= .7442E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1802
 HT FLOW CONVERGENCE VALUE= .4304E-01 CRITERION= .6759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1035
 *** TIME = .262717E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1361E-05 OSCILLATION LIMIT = 10.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.63 CRITERION= .7420E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1786
 HT FLOW CONVERGENCE VALUE= .4265E-01 CRITERION= .6749E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1036
 *** TIME = .263506E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1298E-05 OSCILLATION LIMIT = 10.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.70 CRITERION= .7413E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1804
 HT FLOW CONVERGENCE VALUE= .4286E-01 CRITERION= .6727E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1037
 *** TIME = .264295E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1360E-05 OSCILLATION LIMIT = 10.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.62 CRITERION= .7391E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1788
 HT FLOW CONVERGENCE VALUE= .4251E-01 CRITERION= .6717E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1038
 *** TIME = .265084E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1299E-05 OSCILLATION LIMIT = 10.25

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.69 CRITERION= .7383E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1805
 HT FLOW CONVERGENCE VALUE= .4270E-01 CRITERION= .6695E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1039
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1359E-05 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.62 CRITERION= .7361E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1791
 HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .6685E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1040
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1300E-05 OSCILLATION LIMIT = 10.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.69 CRITERION= .7354E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1807
 HT FLOW CONVERGENCE VALUE= .4251E-01 CRITERION= .6663E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1041
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1359E-05 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.61 CRITERION= .7332E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1794
 HT FLOW CONVERGENCE VALUE= .4216E-01 CRITERION= .6653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1042
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1301E-05 OSCILLATION LIMIT = 10.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.68 CRITERION= .7324E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1808
 HT FLOW CONVERGENCE VALUE= .4229E-01 CRITERION= .6631E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1043
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1358E-05 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.60 CRITERION= .7303E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1796
 HT FLOW CONVERGENCE VALUE= .4192E-01 CRITERION= .6621E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1044
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1301E-05 OSCILLATION LIMIT = 10.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.67 CRITERION= .7295E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1810
 HT FLOW CONVERGENCE VALUE= .4203E-01 CRITERION= .6599E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1045
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1358E-05 OSCILLATION LIMIT = 10.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.59 CRITERION= .7273E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1799
 HT FLOW CONVERGENCE VALUE= .4171E-01 CRITERION= .6589E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1046

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*** TIME = .271395E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1302E-05    OSCILLATION LIMIT = 10.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.66    CRITERION= .7266E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1812
    HT FLOW CONVERGENCE VALUE= .4181E-01 CRITERION= .6567E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1047
*** TIME = .272184E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1357E-05    OSCILLATION LIMIT = 10.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.58    CRITERION= .7244E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1801
    HT FLOW CONVERGENCE VALUE= .4151E-01 CRITERION= .6557E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1048
*** TIME = .272973E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1303E-05    OSCILLATION LIMIT = 10.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.65    CRITERION= .7236E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1813
    HT FLOW CONVERGENCE VALUE= .4158E-01 CRITERION= .6535E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1049
*** TIME = .273762E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1357E-05    OSCILLATION LIMIT = 10.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.58    CRITERION= .7215E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1804
    HT FLOW CONVERGENCE VALUE= .4128E-01 CRITERION= .6525E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1050
*** TIME = .274551E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1303E-05    OSCILLATION LIMIT = 10.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.65    CRITERION= .7207E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1815
    HT FLOW CONVERGENCE VALUE= .4135E-01 CRITERION= .6503E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1051
*** TIME = .275340E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1357E-05    OSCILLATION LIMIT = 10.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.57    CRITERION= .7185E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1807
    HT FLOW CONVERGENCE VALUE= .4108E-01 CRITERION= .6493E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1052
*** TIME = .276129E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1304E-05    OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.64    CRITERION= .7178E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1817
    HT FLOW CONVERGENCE VALUE= .4116E-01 CRITERION= .6471E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1053
*** TIME = .276918E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1356E-05    OSCILLATION LIMIT = 10.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.56    CRITERION= .7156E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1809
    HT FLOW CONVERGENCE VALUE= .4090E-01 CRITERION= .6461E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1054
*** TIME = .277707E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1304E-05 OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.63 CRITERION= .7149E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1819
HT FLOW CONVERGENCE VALUE= .4094E-01 CRITERION= .6439E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1055
*** TIME = .278496E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1356E-05 OSCILLATION LIMIT = 10.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.55 CRITERION= .7127E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1811
HT FLOW CONVERGENCE VALUE= .4073E-01 CRITERION= .6429E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1056
*** TIME = .279285E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05 OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.62 CRITERION= .7119E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1821
HT FLOW CONVERGENCE VALUE= .4079E-01 CRITERION= .6407E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1057
*** TIME = .280074E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1355E-05 OSCILLATION LIMIT = 10.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.54 CRITERION= .7098E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1814
HT FLOW CONVERGENCE VALUE= .4059E-01 CRITERION= .6397E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1058
*** TIME = .280863E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05 OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.62 CRITERION= .7090E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1823
HT FLOW CONVERGENCE VALUE= .4062E-01 CRITERION= .6375E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1059
*** TIME = .281652E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1355E-05 OSCILLATION LIMIT = 10.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.54 CRITERION= .7068E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1816
HT FLOW CONVERGENCE VALUE= .4044E-01 CRITERION= .6365E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1060
*** TIME = .282441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1305E-05 OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.61 CRITERION= .7061E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1825
HT FLOW CONVERGENCE VALUE= .4046E-01 CRITERION= .6343E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1061
*** TIME = .283229E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1355E-05 OSCILLATION LIMIT = 10.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.53 CRITERION= .7039E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1819
 HT FLOW CONVERGENCE VALUE= .4026E-01 CRITERION= .6333E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1062
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1306E-05 OSCILLATION LIMIT = 10.30
 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

24 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

1280 ELEMENTS (OF 6864 DEFINED) SELECTED FROM
 24 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 1429.42469 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 302 STEP 1

302 AREAS (OF 302 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 106.00 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 106.33 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 107.14 .00000E+00 EXPANSION KEY = 1

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

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 147

*** NOTE *** CP= 85457.850 TIME= 15:54:16
 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 15:54:16 APR 08, 1995 CP= 85457.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 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

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MAXIMUM NUMBER OF SUBSTEPS . . . . . 40
MINIMUM NUMBER OF SUBSTEPS . . . . . 4
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= 25.41    CRITERION= .6822E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1580
HT FLOW CONVERGENCE VALUE= .3452E-01 CRITERION= .6313E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1063
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1455E-05 OSCILLATION LIMIT = 11.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.33    CRITERION= .6802E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
HT FLOW CONVERGENCE VALUE= .3453E-01 CRITERION= .6305E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1064
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1403E-05 OSCILLATION LIMIT = 11.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.40    CRITERION= .6795E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
HT FLOW CONVERGENCE VALUE= .3471E-01 CRITERION= .6284E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1065
*** TIME = .286385E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1470E-05 OSCILLATION LIMIT = 11.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.32    CRITERION= .6775E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
HT FLOW CONVERGENCE VALUE= .3437E-01 CRITERION= .6276E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1066
*** TIME = .287174E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1401E-05 OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.40    CRITERION= .6769E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
HT FLOW CONVERGENCE VALUE= .3454E-01 CRITERION= .6256E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1067
*** TIME = .287963E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1469E-05 OSCILLATION LIMIT = 11.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.32    CRITERION= .6748E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1589
HT FLOW CONVERGENCE VALUE= .3422E-01 CRITERION= .6248E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1068
*** TIME = .288752E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1402E-05 OSCILLATION LIMIT = 11.06

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.39 CRITERION= .6742E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1604
 HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .6227E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1069
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1469E-05 OSCILLATION LIMIT = 11.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.31 CRITERION= .6721E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
 HT FLOW CONVERGENCE VALUE= .3404E-01 CRITERION= .6219E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1070
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1403E-05 OSCILLATION LIMIT = 11.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.39 CRITERION= .6715E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
 HT FLOW CONVERGENCE VALUE= .3417E-01 CRITERION= .6199E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1071
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1468E-05 OSCILLATION LIMIT = 11.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.31 CRITERION= .6695E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1593
 HT FLOW CONVERGENCE VALUE= .3388E-01 CRITERION= .6190E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1072
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1403E-05 OSCILLATION LIMIT = 11.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.38 CRITERION= .6689E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .3399E-01 CRITERION= .6170E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1073
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1467E-05 OSCILLATION LIMIT = 11.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.30 CRITERION= .6668E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
 HT FLOW CONVERGENCE VALUE= .3378E-01 CRITERION= .6162E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1074
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1404E-05 OSCILLATION LIMIT = 11.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.38 CRITERION= .6662E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1608
 HT FLOW CONVERGENCE VALUE= .3389E-01 CRITERION= .6141E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1075
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1466E-05 OSCILLATION LIMIT = 11.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.30 CRITERION= .6641E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
 HT FLOW CONVERGENCE VALUE= .3366E-01 CRITERION= .6133E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1076

*** TIME = .295064E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.37 CRITERION= .6635E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1609
 HT FLOW CONVERGENCE VALUE= .3369E-01 CRITERION= .6113E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1077
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1466E-05 OSCILLATION LIMIT = 11.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.29 CRITERION= .6615E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
 HT FLOW CONVERGENCE VALUE= .3341E-01 CRITERION= .6105E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1078
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.36 CRITERION= .6609E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1610
 HT FLOW CONVERGENCE VALUE= .3340E-01 CRITERION= .6084E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1079
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1465E-05 OSCILLATION LIMIT = 11.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.29 CRITERION= .6588E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
 HT FLOW CONVERGENCE VALUE= .3303E-01 CRITERION= .6076E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1080
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.36 CRITERION= .6582E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1611
 HT FLOW CONVERGENCE VALUE= .3288E-01 CRITERION= .6055E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1081
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1464E-05 OSCILLATION LIMIT = 11.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.28 CRITERION= .6562E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .3252E-01 CRITERION= .6047E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1082
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.35 CRITERION= .6555E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1613
 HT FLOW CONVERGENCE VALUE= .3248E-01 CRITERION= .6027E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1083
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1463E-05 OSCILLATION LIMIT = 11.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.28 CRITERION= .6535E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
 HT FLOW CONVERGENCE VALUE= .3230E-01 CRITERION= .6019E-01 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1084
*** TIME = .301375E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.35 CRITERION= .6529E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1614
HT FLOW CONVERGENCE VALUE= .3233E-01 CRITERION= .5998E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1085
*** TIME = .302164E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1463E-05 OSCILLATION LIMIT = 11.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.27 CRITERION= .6508E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1607
HT FLOW CONVERGENCE VALUE= .3230E-01 CRITERION= .5990E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1086
*** TIME = .302953E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.34 CRITERION= .6502E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1616
HT FLOW CONVERGENCE VALUE= .3242E-01 CRITERION= .5970E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1087
*** TIME = .303742E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1462E-05 OSCILLATION LIMIT = 11.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.27 CRITERION= .6482E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1609
HT FLOW CONVERGENCE VALUE= .3240E-01 CRITERION= .5961E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1088
*** TIME = .304531E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.34 CRITERION= .6476E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1617
HT FLOW CONVERGENCE VALUE= .3258E-01 CRITERION= .5941E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1089
*** TIME = .305320E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1461E-05 OSCILLATION LIMIT = 11.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.26 CRITERION= .6455E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1611
HT FLOW CONVERGENCE VALUE= .3256E-01 CRITERION= .5933E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1090
*** TIME = .306109E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.33 CRITERION= .6449E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1618
HT FLOW CONVERGENCE VALUE= .3261E-01 CRITERION= .5912E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1091
*** TIME = .306898E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1460E-05 OSCILLATION LIMIT = 11.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.25 CRITERION= .6429E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1613
 HT FLOW CONVERGENCE VALUE= .3250E-01 CRITERION= .5904E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1092
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.33 CRITERION= .6423E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1620
 HT FLOW CONVERGENCE VALUE= .3249E-01 CRITERION= .5884E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1093
 *** TIME = .308476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1460E-05 OSCILLATION LIMIT = 11.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.25 CRITERION= .6402E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1615
 HT FLOW CONVERGENCE VALUE= .3231E-01 CRITERION= .5876E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1094
 *** TIME = .309264E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.32 CRITERION= .6396E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1621
 HT FLOW CONVERGENCE VALUE= .3231E-01 CRITERION= .5855E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1095
 *** TIME = .310053E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1459E-05 OSCILLATION LIMIT = 11.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.24 CRITERION= .6376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1617
 HT FLOW CONVERGENCE VALUE= .3210E-01 CRITERION= .5847E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1096
 *** TIME = .310842E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1405E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.32 CRITERION= .6370E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1623
 HT FLOW CONVERGENCE VALUE= .3199E-01 CRITERION= .5827E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1097
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1459E-05 OSCILLATION LIMIT = 11.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.24 CRITERION= .6349E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1619
 HT FLOW CONVERGENCE VALUE= .3184E-01 CRITERION= .5818E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1098
 *** TIME = .312420E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1406E-05 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.31 CRITERION= .6343E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1625
 HT FLOW CONVERGENCE VALUE= .3184E-01 CRITERION= .5798E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1099
 *** TIME = .313209E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1459E-05 OSCILLATION LIMIT = 11.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.23    CRITERION= .6323E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1621
HT FLOW CONVERGENCE VALUE= .3168E-01 CRITERION= .5790E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1100
*** TIME = .313998E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1406E-05 OSCILLATION LIMIT = 11.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.30    CRITERION= .6317E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1626
HT FLOW CONVERGENCE VALUE= .3163E-01 CRITERION= .5769E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1101
*** TIME = .314787E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1459E-05 OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.23    CRITERION= .6296E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1623
HT FLOW CONVERGENCE VALUE= .3160E-01 CRITERION= .5761E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1102
*** TIME = .315576E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1406E-05 OSCILLATION LIMIT = 11.09

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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 16:58:39 APR 08, 1995 CP= 89135.900
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 130.9    CRITERION= .1430
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7894
HT FLOW CONVERGENCE VALUE= .1534    CRITERION= .5694E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5236E-01
HT FLOW CONVERGENCE VALUE= .7925E-02 CRITERION= .5692E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1104
*** TIME = .323465E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1154E-05 OSCILLATION LIMIT = 91.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 130.8    CRITERION= .1426
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7984
HT FLOW CONVERGENCE VALUE= .1533    CRITERION= .5639E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5217E-01
HT FLOW CONVERGENCE VALUE= .7793E-02 CRITERION= .5637E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1106
*** TIME = .331355E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1173E-05 OSCILLATION LIMIT = 92.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 130.8    CRITERION= .1424
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8041
HT FLOW CONVERGENCE VALUE= .1526    CRITERION= .5571E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5212E-01
HT FLOW CONVERGENCE VALUE= .7661E-02 CRITERION= .5569E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1108
*** TIME = .339244E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1192E-05 OSCILLATION LIMIT = 94.07

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.6 CRITERION= .1420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8016
 HT FLOW CONVERGENCE VALUE= .1507 CRITERION= .5516E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5160E-01
 HT FLOW CONVERGENCE VALUE= .7529E-02 CRITERION= .5513E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1110
 *** TIME = .347134E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1176E-05 OSCILLATION LIMIT = 92.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.6 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8073
 HT FLOW CONVERGENCE VALUE= .1501 CRITERION= .5448E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5110E-01
 HT FLOW CONVERGENCE VALUE= .7402E-02 CRITERION= .5445E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1112
 *** TIME = .355023E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1195E-05 OSCILLATION LIMIT = 94.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.5 CRITERION= .1414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8049
 HT FLOW CONVERGENCE VALUE= .1482 CRITERION= .5392E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5045E-01
 HT FLOW CONVERGENCE VALUE= .7271E-02 CRITERION= .5390E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1114
 *** TIME = .362912E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1179E-05 OSCILLATION LIMIT = 92.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.5 CRITERION= .1412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8105
 HT FLOW CONVERGENCE VALUE= .1476 CRITERION= .5324E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4998E-01
 HT FLOW CONVERGENCE VALUE= .7151E-02 CRITERION= .5322E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1116
 *** TIME = .370802E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1197E-05 OSCILLATION LIMIT = 94.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.4 CRITERION= .1408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8081
 HT FLOW CONVERGENCE VALUE= .1457 CRITERION= .5269E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4935E-01
 HT FLOW CONVERGENCE VALUE= .7021E-02 CRITERION= .5266E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1118
 *** TIME = .378691E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1181E-05 OSCILLATION LIMIT = 93.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.4 CRITERION= .1406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8138
 HT FLOW CONVERGENCE VALUE= .1450 CRITERION= .5201E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4913E-01
 HT FLOW CONVERGENCE VALUE= .6902E-02 CRITERION= .5198E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 32 SUBSTEP 9 COMPLETED. CUM ITER = 1120
 *** TIME = .386581E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1199E-05 OSCILLATION LIMIT = 94.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.2 CRITERION= .1402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8115

HT FLOW CONVERGENCE VALUE= .1432 CRITERION= .5145E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4868E-01
 HT FLOW CONVERGENCE VALUE= .6774E-02 CRITERION= .5143E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 10 COMPLETED. CUM ITER = 1122
 *** TIME = .394470E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1182E-05 OSCILLATION LIMIT = 93.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.2 CRITERION= .1400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8172
 HT FLOW CONVERGENCE VALUE= .1424 CRITERION= .5077E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4845E-01
 HT FLOW CONVERGENCE VALUE= .6655E-02 CRITERION= .5075E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 11 COMPLETED. CUM ITER = 1124
 *** TIME = .402359E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1200E-05 OSCILLATION LIMIT = 94.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.1 CRITERION= .1396
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8149
 HT FLOW CONVERGENCE VALUE= .1406 CRITERION= .5022E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4799E-01
 HT FLOW CONVERGENCE VALUE= .6528E-02 CRITERION= .5020E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 12 COMPLETED. CUM ITER = 1126
 *** TIME = .410249E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1184E-05 OSCILLATION LIMIT = 93.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.1 CRITERION= .1394
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8206
 HT FLOW CONVERGENCE VALUE= .1398 CRITERION= .4954E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4776E-01
 HT FLOW CONVERGENCE VALUE= .6410E-02 CRITERION= .4952E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 13 COMPLETED. CUM ITER = 1128
 *** TIME = .418138E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1202E-05 OSCILLATION LIMIT = 94.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.9 CRITERION= .1390
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8183
 HT FLOW CONVERGENCE VALUE= .1380 CRITERION= .4899E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4730E-01
 HT FLOW CONVERGENCE VALUE= .6284E-02 CRITERION= .4896E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 14 COMPLETED. CUM ITER = 1130
 *** TIME = .426028E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1186E-05 OSCILLATION LIMIT = 93.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.9 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8241
 HT FLOW CONVERGENCE VALUE= .1372 CRITERION= .4831E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4705E-01
 HT FLOW CONVERGENCE VALUE= .6167E-02 CRITERION= .4828E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 15 COMPLETED. CUM ITER = 1132
 *** TIME = .433917E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1204E-05 OSCILLATION LIMIT = 94.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.8 CRITERION= .1385
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8218
 HT FLOW CONVERGENCE VALUE= .1353 CRITERION= .4775E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4658E-01
 HT FLOW CONVERGENCE VALUE= .6041E-02 CRITERION= .4773E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 32 SUBSTEP 16 COMPLETED. CUM ITER = 1134
*** TIME = .441806E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1188E-05 OSCILLATION LIMIT = 93.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.8 CRITERION= .1382
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8276
HT FLOW CONVERGENCE VALUE= .1345 CRITERION= .4707E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4632E-01
HT FLOW CONVERGENCE VALUE= .5925E-02 CRITERION= .4705E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 17 COMPLETED. CUM ITER = 1136
*** TIME = .449696E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1206E-05 OSCILLATION LIMIT = 95.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1379
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8254
HT FLOW CONVERGENCE VALUE= .1326 CRITERION= .4652E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4585E-01
HT FLOW CONVERGENCE VALUE= .5801E-02 CRITERION= .4649E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 18 COMPLETED. CUM ITER = 1138
*** TIME = .457585E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1190E-05 OSCILLATION LIMIT = 93.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1377
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8312
HT FLOW CONVERGENCE VALUE= .1320 CRITERION= .4584E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4556E-01
HT FLOW CONVERGENCE VALUE= .5683E-02 CRITERION= .4581E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 19 COMPLETED. CUM ITER = 1140
*** TIME = .465475E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1208E-05 OSCILLATION LIMIT = 95.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1374
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8290
HT FLOW CONVERGENCE VALUE= .1301 CRITERION= .4530E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4501E-01
HT FLOW CONVERGENCE VALUE= .5548E-02 CRITERION= .4526E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 20 COMPLETED. CUM ITER = 1142
*** TIME = .473364E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1193E-05 OSCILLATION LIMIT = 94.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1372
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8348
HT FLOW CONVERGENCE VALUE= .1295 CRITERION= .4462E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4468E-01
HT FLOW CONVERGENCE VALUE= .5425E-02 CRITERION= .4458E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 21 COMPLETED. CUM ITER = 1144
*** TIME = .481253E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1211E-05 OSCILLATION LIMIT = 95.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1369
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8327
HT FLOW CONVERGENCE VALUE= .1277 CRITERION= .4407E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4416E-01
HT FLOW CONVERGENCE VALUE= .5299E-02 CRITERION= .4403E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 22 COMPLETED. CUM ITER = 1146
*** TIME = .489143E+10 TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1196E-05 OSCILLATION LIMIT = 94.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1368
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8384
 HT FLOW CONVERGENCE VALUE= .1268 CRITERION= .4339E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4387E-01
 HT FLOW CONVERGENCE VALUE= .5185E-02 CRITERION= .4334E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 23 COMPLETED. CUM ITER = 1148
 *** TIME = .497032E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1213E-05 OSCILLATION LIMIT = 95.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8364
 HT FLOW CONVERGENCE VALUE= .1250 CRITERION= .4284E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4338E-01
 HT FLOW CONVERGENCE VALUE= .5066E-02 CRITERION= .4279E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 24 COMPLETED. CUM ITER = 1150
 *** TIME = .504922E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1198E-05 OSCILLATION LIMIT = 94.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8422
 HT FLOW CONVERGENCE VALUE= .1240 CRITERION= .4216E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4308E-01
 HT FLOW CONVERGENCE VALUE= .4954E-02 CRITERION= .4211E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 25 COMPLETED. CUM ITER = 1152
 *** TIME = .512811E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1215E-05 OSCILLATION LIMIT = 95.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8402
 HT FLOW CONVERGENCE VALUE= .1222 CRITERION= .4160E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4258E-01
 HT FLOW CONVERGENCE VALUE= .4836E-02 CRITERION= .4156E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 26 COMPLETED. CUM ITER = 1154
 *** TIME = .520700E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1200E-05 OSCILLATION LIMIT = 94.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1360
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8460
 HT FLOW CONVERGENCE VALUE= .1212 CRITERION= .4092E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4227E-01
 HT FLOW CONVERGENCE VALUE= .4725E-02 CRITERION= .4088E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 27 COMPLETED. CUM ITER = 1156
 *** TIME = .528590E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1217E-05 OSCILLATION LIMIT = 95.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8440
 HT FLOW CONVERGENCE VALUE= .1193 CRITERION= .4037E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4176E-01
 HT FLOW CONVERGENCE VALUE= .4608E-02 CRITERION= .4032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 28 COMPLETED. CUM ITER = 1158
 *** TIME = .536479E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1201E-05 OSCILLATION LIMIT = 94.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8498
 HT FLOW CONVERGENCE VALUE= .1183 CRITERION= .3969E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4144E-01
 HT FLOW CONVERGENCE VALUE= .4499E-02 CRITERION= .3964E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 29 COMPLETED. CUM ITER = 1160
 *** TIME = .544369E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1218E-05 OSCILLATION LIMIT = 96.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8479
 HT FLOW CONVERGENCE VALUE= .1164 CRITERION= .3913E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4092E-01
 HT FLOW CONVERGENCE VALUE= .4383E-02 CRITERION= .3909E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 30 COMPLETED. CUM ITER = 1162
 *** TIME = .552258E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1203E-05 OSCILLATION LIMIT = 94.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8538
 HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .3845E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4059E-01
 HT FLOW CONVERGENCE VALUE= .4275E-02 CRITERION= .3841E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 31 COMPLETED. CUM ITER = 1164
 *** TIME = .560147E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1220E-05 OSCILLATION LIMIT = 96.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8519
 HT FLOW CONVERGENCE VALUE= .1135 CRITERION= .3790E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4007E-01
 HT FLOW CONVERGENCE VALUE= .4162E-02 CRITERION= .3785E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 32 COMPLETED. CUM ITER = 1166
 *** TIME = .568037E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1205E-05 OSCILLATION LIMIT = 95.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8577
 HT FLOW CONVERGENCE VALUE= .1124 CRITERION= .3722E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3972E-01
 HT FLOW CONVERGENCE VALUE= .4054E-02 CRITERION= .3717E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 33 COMPLETED. CUM ITER = 1168
 *** TIME = .575926E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1221E-05 OSCILLATION LIMIT = 96.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.5 CRITERION= .1347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8559
 HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .3666E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3919E-01
 HT FLOW CONVERGENCE VALUE= .3943E-02 CRITERION= .3662E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 34 COMPLETED. CUM ITER = 1170
 *** TIME = .583816E+10 TIME INC = .788940E+08
 *** RESPONSE EIGENVALUE = .1207E-05 OSCILLATION LIMIT = 95.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 129.6 CRITERION= .1346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8618
 HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .3598E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3882E-01
 HT FLOW CONVERGENCE VALUE= .3837E-02 CRITERION= .3594E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 35 COMPLETED. CUM ITER = 1172


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*** TIME = .591705E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1223E-05    OSCILLATION LIMIT = 96.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 129.5    CRITERION= .1344
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8600
    HT FLOW CONVERGENCE VALUE= .1075    CRITERION= .3543E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3829E-01
    HT FLOW CONVERGENCE VALUE= .3727E-02    CRITERION= .3539E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 36 COMPLETED. CUM ITER = 1174
*** TIME = .599594E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1208E-05    OSCILLATION LIMIT = 95.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 129.6    CRITERION= .1343
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8659
    HT FLOW CONVERGENCE VALUE= .1063    CRITERION= .3475E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3791E-01
    HT FLOW CONVERGENCE VALUE= .3623E-02    CRITERION= .3471E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 37 COMPLETED. CUM ITER = 1176
*** TIME = .607484E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1225E-05    OSCILLATION LIMIT = 96.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 129.5    CRITERION= .1341
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8642
    HT FLOW CONVERGENCE VALUE= .1044    CRITERION= .3419E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3736E-01
    HT FLOW CONVERGENCE VALUE= .3514E-02    CRITERION= .3415E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 38 COMPLETED. CUM ITER = 1178
*** TIME = .615373E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1210E-05    OSCILLATION LIMIT = 95.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 129.6    CRITERION= .1340
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8701
    HT FLOW CONVERGENCE VALUE= .1033    CRITERION= .3351E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3697E-01
    HT FLOW CONVERGENCE VALUE= .3412E-02    CRITERION= .3347E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 39 COMPLETED. CUM ITER = 1180
*** TIME = .623263E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1226E-05    OSCILLATION LIMIT = 96.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 129.5    CRITERION= .1338
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8684
    HT FLOW CONVERGENCE VALUE= .1020    CRITERION= .3296E-01
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3640E-01
    HT FLOW CONVERGENCE VALUE= .3298E-02    CRITERION= .3292E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 40 COMPLETED. CUM ITER = 1182
*** TIME = .631152E+10    TIME INC = .788940E+08
*** RESPONSE EIGENVALUE = .1212E-05    OSCILLATION LIMIT = 95.64

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX 18:35:32 APR 08, 1995 CP= 94699.840
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 52.34    CRITERION= .6181E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3136

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HT FLOW CONVERGENCE VALUE= .3907E-01 CRITERION= .3266E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1427E-01
 HT FLOW CONVERGENCE VALUE= .1349E-02 CRITERION= .3265E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1184
 *** TIME = .639041E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 52.27 CRITERION= .6163E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3074
 HT FLOW CONVERGENCE VALUE= .3853E-01 CRITERION= .3253E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1410E-01
 HT FLOW CONVERGENCE VALUE= .1333E-02 CRITERION= .3251E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1186
 *** TIME = .646931E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 156.9 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9352
 HT FLOW CONVERGENCE VALUE= .1155 CRITERION= .3188E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4142E-01
 HT FLOW CONVERGENCE VALUE= .3810E-02 CRITERION= .3184E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1188
 *** TIME = .670599E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .71005E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 470.7 CRITERION= .4718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.800
 HT FLOW CONVERGENCE VALUE= .3196 CRITERION= .3018E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1135
 HT FLOW CONVERGENCE VALUE= .9717E-02 CRITERION= .3008E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1190
 *** TIME = .741604E+10 TIME INC = .710046E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.1111)

HT FLOW CONVERGENCE VALUE= 523.1 CRITERION= .5240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.143
 HT FLOW CONVERGENCE VALUE= .3328 CRITERION= .2810E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1186
 HT FLOW CONVERGENCE VALUE= .9432E-02 CRITERION= .2799E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1192
 *** TIME = .820498E+10 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 523.1 CRITERION= .5239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.164
 HT FLOW CONVERGENCE VALUE= .3111 CRITERION= .2613E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1117
 HT FLOW CONVERGENCE VALUE= .8245E-02 CRITERION= .2602E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 6 COMPLETED. CUM ITER = 1194
 *** TIME = .899392E+10 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 314.0 CRITERION= .3150
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.921
 HT FLOW CONVERGENCE VALUE= .1840 CRITERION= .2481E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6712E-01
 HT FLOW CONVERGENCE VALUE= .4792E-02 CRITERION= .2475E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 7 COMPLETED. CUM ITER = 1196
 *** TIME = .946728E+10 TIME INC = .473364E+09

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:52:57 APR 08, 1995 CP= 95679.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 179.6 CRITERION= .1813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.084
 HT FLOW CONVERGENCE VALUE= .1032 CRITERION= .2417E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3836E-01
 HT FLOW CONVERGENCE VALUE= .2712E-02 CRITERION= .2413E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1198
 *** TIME = .994064E+10 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 179.6 CRITERION= .1812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.093
 HT FLOW CONVERGENCE VALUE= .1010 CRITERION= .2342E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3762E-01
 HT FLOW CONVERGENCE VALUE= .2582E-02 CRITERION= .2339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1200
 *** TIME = .104140E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 299.3 CRITERION= .3002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.819
 HT FLOW CONVERGENCE VALUE= .1582 CRITERION= .2238E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5882E-01
 HT FLOW CONVERGENCE VALUE= .3817E-02 CRITERION= .2232E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1202
 *** TIME = .112029E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 299.4 CRITERION= .3002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.835
 HT FLOW CONVERGENCE VALUE= .1514 CRITERION= .2118E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5644E-01
 HT FLOW CONVERGENCE VALUE= .3472E-02 CRITERION= .2113E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1204
 *** TIME = .119919E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 239.5 CRITERION= .2404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.470
 HT FLOW CONVERGENCE VALUE= .1171 CRITERION= .2033E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4409E-01
 HT FLOW CONVERGENCE VALUE= .2606E-02 CRITERION= .2029E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1206
 *** TIME = .126230E+11 TIME INC = .631152E+09

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

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:05:24 APR 08, 1995 CP= 96382.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 174.4 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.004
 HT FLOW CONVERGENCE VALUE= .8057E-01 CRITERION= .1967E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3131E-01

HT FLOW CONVERGENCE VALUE= .1853E-02 CRITERION= .1964E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1208
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 174.3 CRITERION= .1754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.001
 HT FLOW CONVERGENCE VALUE= .7746E-01 CRITERION= .1915E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3059E-01
 HT FLOW CONVERGENCE VALUE= .1663E-02 CRITERION= .1913E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1210
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 217.9 CRITERION= .2188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.262
 HT FLOW CONVERGENCE VALUE= .8990E-01 CRITERION= .1836E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3711E-01
 HT FLOW CONVERGENCE VALUE= .1784E-02 CRITERION= .1833E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1212
 *** TIME = .146743E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 217.9 CRITERION= .2187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.260
 HT FLOW CONVERGENCE VALUE= .8456E-01 CRITERION= .1770E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3588E-01
 HT FLOW CONVERGENCE VALUE= .1638E-02 CRITERION= .1767E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1214
 *** TIME = .154632E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)

HT FLOW CONVERGENCE VALUE= 87.21 CRITERION= .8896E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5104
 HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .1733E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1439E-01
 HT FLOW CONVERGENCE VALUE= .6627E-03 CRITERION= .1732E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1216
 *** TIME = .157788E+11 TIME INC = .315576E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:17:40 APR 08, 1995 CP= 97083.080
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 83.24 CRITERION= .8504E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4301
 HT FLOW CONVERGENCE VALUE= .3017E-01 CRITERION= .1717E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1308E-01
 HT FLOW CONVERGENCE VALUE= .6336E-03 CRITERION= .1716E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1218
 *** TIME = .160944E+11 TIME INC = .315576E+09
 *** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.32 CRITERION= .8505E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4369
 HT FLOW CONVERGENCE VALUE= .3022E-01 CRITERION= .1688E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1300E-01
 HT FLOW CONVERGENCE VALUE= .6221E-03 CRITERION= .1687E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1220
*** TIME = .164100E+11 TIME INC = .315576E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)

HT FLOW CONVERGENCE VALUE= 208.2 CRITERION= .2089
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.082
HT FLOW CONVERGENCE VALUE= .7213E-01 CRITERION= .1639E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3079E-01
HT FLOW CONVERGENCE VALUE= .1442E-02 CRITERION= .1637E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1222
*** TIME = .171989E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 208.3 CRITERION= .2089
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.092
HT FLOW CONVERGENCE VALUE= .7080E-01 CRITERION= .1576E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2992E-01
HT FLOW CONVERGENCE VALUE= .1369E-02 CRITERION= .1574E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1224
*** TIME = .179878E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 124.9 CRITERION= .1259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6522
HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .1548E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
HT FLOW CONVERGENCE VALUE= .8192E-03 CRITERION= .1547E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1226
*** TIME = .184612E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 125.0 CRITERION= .1259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6596
HT FLOW CONVERGENCE VALUE= .4204E-01 CRITERION= .1507E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1758E-01
HT FLOW CONVERGENCE VALUE= .7878E-03 CRITERION= .1506E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 6 COMPLETED. CUM ITER = 1228
*** TIME = .189346E+11 TIME INC = .473364E+09

***** ANSYS SOLVE COMMAND *****
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 19:31:47 APR 08, 1995 CP= 97912.810
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 103.5 CRITERION= .1046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5163
HT FLOW CONVERGENCE VALUE= .3323E-01 CRITERION= .1488E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1419E-01
HT FLOW CONVERGENCE VALUE= .6400E-03 CRITERION= .1487E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1230
*** TIME = .194079E+11 TIME INC = .473364E+09
*** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 103.6 CRITERION= .1046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5232
HT FLOW CONVERGENCE VALUE= .3289E-01 CRITERION= .1456E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1404E-01
HT FLOW CONVERGENCE VALUE= .6199E-03 CRITERION= .1455E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1232
 *** TIME = .198813E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 172.6 CRITERION= .1732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8649
 HT FLOW CONVERGENCE VALUE= .5250E-01 CRITERION= .1421E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2246E-01
 HT FLOW CONVERGENCE VALUE= .9651E-03 CRITERION= .1419E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1234
 *** TIME = .206702E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 172.6 CRITERION= .1732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8731
 HT FLOW CONVERGENCE VALUE= .5128E-01 CRITERION= .1372E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2194E-01
 HT FLOW CONVERGENCE VALUE= .9128E-03 CRITERION= .1370E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1236
 *** TIME = .214592E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 138.0 CRITERION= .1387
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6946
 HT FLOW CONVERGENCE VALUE= .4013E-01 CRITERION= .1344E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1727E-01
 HT FLOW CONVERGENCE VALUE= .7053E-03 CRITERION= .1343E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1238
 *** TIME = .220903E+11 TIME INC = .631152E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:43:24 APR 08, 1995 CP= 98601.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 119.1 CRITERION= .1199
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6004
 HT FLOW CONVERGENCE VALUE= .3405E-01 CRITERION= .1308E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1470E-01
 HT FLOW CONVERGENCE VALUE= .5886E-03 CRITERION= .1307E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1240
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.0 CRITERION= .1198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5950
 HT FLOW CONVERGENCE VALUE= .3315E-01 CRITERION= .1286E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1439E-01
 HT FLOW CONVERGENCE VALUE= .5661E-03 CRITERION= .1285E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1242
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.2500)

HT FLOW CONVERGENCE VALUE= 148.9 CRITERION= .1494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7520
 HT FLOW CONVERGENCE VALUE= .4038E-01 CRITERION= .1244E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1750E-01
 HT FLOW CONVERGENCE VALUE= .6658E-03 CRITERION= .1243E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1244

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*** TIME = .241416E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 148.8 CRITERION= .1494
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7473
HT FLOW CONVERGENCE VALUE= .3909E-01 CRITERION= .1214E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1703E-01
HT FLOW CONVERGENCE VALUE= .6319E-03 CRITERION= .1213E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1246
*** TIME = .249305E+11 TIME INC = .788940E+09
*** AUTO TIME STEP: NEXT TIME INC = .31558E+09 DECREASED (FACTOR = .4000)
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HT FLOW CONVERGENCE VALUE= 59.59 CRITERION= .6079E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3040
HT FLOW CONVERGENCE VALUE= .1587E-01 CRITERION= .1193E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6910E-02
HT FLOW CONVERGENCE VALUE= .2539E-03 CRITERION= .1192E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1248
*** TIME = .252461E+11 TIME INC = .315576E+09
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HIP 9000/7XX 19:55:07 APR 08, 1995 CP= 99291.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 51.36 CRITERION= .5274E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2466
HT FLOW CONVERGENCE VALUE= .1309E-01 CRITERION= .1187E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5821E-02
HT FLOW CONVERGENCE VALUE= .2170E-03 CRITERION= .1187E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1250
*** TIME = .255617E+11 TIME INC = .315576E+09
*** AUTO STEP TIME: NEXT TIME INC = .31558E+09 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 51.44 CRITERION= .5277E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2531
HT FLOW CONVERGENCE VALUE= .1318E-01 CRITERION= .1170E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5825E-02
HT FLOW CONVERGENCE VALUE= .2132E-03 CRITERION= .1169E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1252
*** TIME = .258772E+11 TIME INC = .315576E+09
*** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 2.5000)
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HT FLOW CONVERGENCE VALUE= 128.5 CRITERION= .1290
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6221
HT FLOW CONVERGENCE VALUE= .3143E-01 CRITERION= .1148E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1396E-01
HT FLOW CONVERGENCE VALUE= .4993E-03 CRITERION= .1147E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1254
*** TIME = .266662E+11 TIME INC = .788940E+09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 128.5 CRITERION= .1290
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6295
HT FLOW CONVERGENCE VALUE= .3087E-01 CRITERION= .1113E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1371E-01
HT FLOW CONVERGENCE VALUE= .4764E-03 CRITERION= .1112E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1256
*** TIME = .274551E+11 TIME INC = .788940E+09
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*** AUTO TIME STEP: NEXT TIME INC = .47336E+09 DECREASED (FACTOR = .6000)

HT FLOW CONVERGENCE VALUE= 77.07 CRITERION= .7788E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3733
 HT FLOW CONVERGENCE VALUE= .1829E-01 CRITERION= .1102E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8175E-02
 HT FLOW CONVERGENCE VALUE= .2824E-03 CRITERION= .1101E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1258
 *** TIME = .279285E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.14 CRITERION= .7790E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3800
 HT FLOW CONVERGENCE VALUE= .1821E-01 CRITERION= .1078E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8111E-02
 HT FLOW CONVERGENCE VALUE= .2743E-03 CRITERION= .1077E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 6 COMPLETED. CUM ITER = 1260
 *** TIME = .284018E+11 TIME INC = .473364E+09

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

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:09:06 APR 08, 1995 CP= 100118.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 64.88 CRITERION= .6578E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3098
 HT FLOW CONVERGENCE VALUE= .1488E-01 CRITERION= .1070E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6708E-02
 HT FLOW CONVERGENCE VALUE= .2269E-03 CRITERION= .1070E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1262
 *** TIME = .288752E+11 TIME INC = .473364E+09
 *** AUTO STEP TIME: NEXT TIME INC = .47336E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.95 CRITERION= .6581E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3164
 HT FLOW CONVERGENCE VALUE= .1488E-01 CRITERION= .1050E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6678E-02
 HT FLOW CONVERGENCE VALUE= .2214E-03 CRITERION= .1049E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1264
 *** TIME = .293486E+11 TIME INC = .473364E+09
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+09 INCREASED (FACTOR = 1.6667)

HT FLOW CONVERGENCE VALUE= 108.2 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5193
 HT FLOW CONVERGENCE VALUE= .2386E-01 CRITERION= .1033E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1076E-01
 HT FLOW CONVERGENCE VALUE= .3500E-03 CRITERION= .1032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1266
 *** TIME = .301375E+11 TIME INC = .788940E+09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.2 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5263
 HT FLOW CONVERGENCE VALUE= .2352E-01 CRITERION= .1003E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1059E-01
 HT FLOW CONVERGENCE VALUE= .3353E-03 CRITERION= .1003E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1268
 *** TIME = .309264E+11 TIME INC = .788940E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 DECREASED (FACTOR = .8000)

HT FLOW CONVERGENCE VALUE= 86.52 CRITERION= .8712E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4160
HT FLOW CONVERGENCE VALUE= .1842E-01 CRITERION= .9907E-02
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8346E-02
HT FLOW CONVERGENCE VALUE= .2612E-03 CRITERION= .9902E-02 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1270
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 100807.370

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40h1.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:20:56 APR 08, 1995 CP= 100816.260
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 854 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 854 TEMP peakclad 84.88 .3156E+11 286.5 .6312E+08
*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 63115231.6

***** ROUTINE COMPLETED ***** CP = 100816.540

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:20:58 APR 08, 1995 CP= 100816.580
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/Waste Package with 10 yr old, 49 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****

Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

5832 ELEMENTS (OF 6864 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= 222
TIME/FREQUENCY= .63115E+08

TITLE=
40 BWR MPC/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=
40 BWR MPC/WP at Time of Peak Temp. (2.000001 years)

*** WARNING *** CP= 100857.960 TIME= 20:21:47
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= 542
TIME/FREQUENCY= .31558E+09

TITLE=
40 BWR MPC/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 133.16 BY 1.2074 TO 286.50

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 10 years

*** WARNING *** CP= 100911.390 TIME= 20:22:45
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= 862
TIME/FREQUENCY= .15779E+10

TITLE=
40 BWR MPC/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 133.16 BY 1.2074 TO 286.50

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 50 years

*** WARNING *** CP= 100965.390 TIME= 20:23:43
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= 1102
TIME/FREQUENCY= .31558E+10

TITLE=
40 BWR MPC/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 133.16 BY 1.2074 TO 286.50

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
40 BWR MPC/WP at 100 years

*** WARNING *** CP= 101018.420 TIME= 20:24:37
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 7841 STEP 1

6864 ELEMENTS (OF 6864 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 101029.920

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
a = aluminum-born tube layer

t = stainless tube cladding
g = tube guide
m = mpc shell
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 20:24:48 APR 08, 1995 CP= 101029.930
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 41

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	924	ITEM= TEMP COMP=	NAME= t02i000
VARIABLE 3	IS AT NODE	914	ITEM= TEMP COMP=	NAME= a02i000
VARIABLE 4	IS AT NODE	850	ITEM= TEMP COMP=	NAME= s02i000
VARIABLE 5	IS AT NODE	856	ITEM= TEMP COMP=	NAME= h02i000
VARIABLE 6	IS AT NODE	854	ITEM= TEMP COMP=	NAME= c02i000
VARIABLE 7	IS AT NODE	852	ITEM= TEMP COMP=	NAME= h02o000
VARIABLE 8	IS AT NODE	849	ITEM= TEMP COMP=	NAME= s02o000
VARIABLE 9	IS AT NODE	895	ITEM= TEMP COMP=	NAME= a02o000
VARIABLE 10	IS AT NODE	894	ITEM= TEMP COMP=	NAME= t08i000
VARIABLE 11	IS AT NODE	1027	ITEM= TEMP COMP=	NAME= a08i000
VARIABLE 12	IS AT NODE	963	ITEM= TEMP COMP=	NAME= s08i000
VARIABLE 13	IS AT NODE	969	ITEM= TEMP COMP=	NAME= h08i000
VARIABLE 14	IS AT NODE	967	ITEM= TEMP COMP=	NAME= c08i000
VARIABLE 15	IS AT NODE	965	ITEM= TEMP COMP=	NAME= h08o000
VARIABLE 16	IS AT NODE	962	ITEM= TEMP COMP=	NAME= s08o000
VARIABLE 17	IS AT NODE	1008	ITEM= TEMP COMP=	NAME= a08o000
VARIABLE 18	IS AT NODE	1150	ITEM= TEMP COMP=	NAME= t18i000
VARIABLE 19	IS AT NODE	1140	ITEM= TEMP COMP=	NAME= a18i000
VARIABLE 20	IS AT NODE	1076	ITEM= TEMP COMP=	NAME= s18i000

VARIABLE 21 IS AT NODE 1082 ITEM= TEMP COMP= NAME= h18i000
 VARIABLE 22 IS AT NODE 1080 ITEM= TEMP COMP= NAME= c18i000
 VARIABLE 23 IS AT NODE 1078 ITEM= TEMP COMP= NAME= h18o000
 VARIABLE 24 IS AT NODE 1075 ITEM= TEMP COMP= NAME= s18o000
 VARIABLE 25 IS AT NODE 1121 ITEM= TEMP COMP= NAME= a18o000
 VARIABLE 26 IS AT NODE 1120 ITEM= TEMP COMP= NAME= t24i000
 VARIABLE 27 IS AT NODE 4124 ITEM= TEMP COMP= NAME= a24i000
 VARIABLE 28 IS AT NODE 4072 ITEM= TEMP COMP= NAME= s24i000
 VARIABLE 29 IS AT NODE 4075 ITEM= TEMP COMP= NAME= h24i000
 VARIABLE 30 IS AT NODE 4077 ITEM= TEMP COMP= NAME= c24i000
 VARIABLE 31 IS AT NODE 4079 ITEM= TEMP COMP= NAME= h24o000
 VARIABLE 32 IS AT NODE 4073 ITEM= TEMP COMP= NAME= s24o000
 VARIABLE 33 IS AT NODE 4137 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4865 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4860 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5019 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4946 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5435 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5508 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6022 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	84.18	.3156E+11	277.9	.6312E+08
3	NSOL	914 TEMP	a02i000	84.18	.3156E+11	277.9	.6312E+08
4	NSOL	850 TEMP	s02i000	84.18	.3156E+11	278.0	.6312E+08
5	NSOL	856 TEMP	h02i000	84.74	.3156E+11	284.9	.6312E+08
6	NSOL	854 TEMP	c02i000	84.88	.3156E+11	286.5	.6312E+08
7	NSOL	852 TEMP	h02o000	84.69	.3156E+11	283.8	.6312E+08
8	NSOL	849 TEMP	s02o000	84.08	.3156E+11	275.8	.6312E+08
9	NSOL	895 TEMP	a02o000	84.08	.3156E+11	275.6	.6312E+08
10	NSOL	894 TEMP	t08i000	84.08	.3156E+11	275.6	.6312E+08
11	NSOL	1027 TEMP	a08i000	84.08	.3156E+11	275.6	.6312E+08
12	NSOL	963 TEMP	s08i000	84.08	.3156E+11	275.7	.6312E+08
13	NSOL	969 TEMP	h08i000	84.58	.3156E+11	281.5	.6312E+08
14	NSOL	967 TEMP	c08i000	84.67	.3156E+11	282.0	.6312E+08
15	NSOL	965 TEMP	h08o000	84.43	.3156E+11	278.2	.6312E+08
16	NSOL	962 TEMP	s08o000	83.77	.3156E+11	268.8	.6312E+08
17	NSOL	1008 TEMP	a08o000	83.77	.3156E+11	268.7	.6312E+08
18	NSOL	1150 TEMP	t18i000	83.76	.3156E+11	268.6	.6312E+08
19	NSOL	1140 TEMP	a18i000	83.76	.3156E+11	268.6	.6312E+08
20	NSOL	1076 TEMP	s18i000	83.77	.3156E+11	268.7	.6312E+08
21	NSOL	1082 TEMP	h18i000	84.21	.3156E+11	273.5	.6312E+08
22	NSOL	1080 TEMP	c18i000	84.24	.3156E+11	272.8	.6312E+08
23	NSOL	1078 TEMP	h18o000	83.93	.3156E+11	267.6	.6312E+08
24	NSOL	1075 TEMP	s18o000	83.20	.3156E+11	256.3	.6312E+08
25	NSOL	1121 TEMP	a18o000	83.19	.3156E+11	256.2	.6312E+08

26	NSOL	1120	TEMP	t24i000	83.19	.3156E+11	256.2	.6312E+08
27	NSOL	4124	TEMP	a24i000	83.19	.3156E+11	256.1	.6312E+08
28	NSOL	4072	TEMP	s24i000	83.19	.3156E+11	256.2	.6312E+08
29	NSOL	4075	TEMP	h24i000	83.44	.3156E+11	258.3	.6312E+08
30	NSOL	4077	TEMP	c24i000	83.27	.3156E+11	254.6	.6312E+08
31	NSOL	4079	TEMP	h24o000	82.66	.3156E+11	245.0	.6312E+08
32	NSOL	4073	TEMP	s24o000	81.44	.3156E+11	226.6	.9467E+08
33	NSOL	4137	TEMP	t24o000	81.43	.3156E+11	226.4	.9467E+08
34	NSOL	4865	TEMP	g24i000	80.52	.3156E+11	214.8	.1262E+09
35	NSOL	4860	TEMP	g24o000	80.51	.3156E+11	214.6	.1262E+09
36	NSOL	5019	TEMP	m24i000	79.87	.3156E+11	205.3	.1578E+09
37	NSOL	4946	TEMP	m24o000	79.81	.3156E+11	204.0	.1578E+09
38	NSOL	5435	TEMP	i24i000	29.83	.1000E-05	151.1	.2840E+09
39	NSOL	5508	TEMP	i24o000	28.10	.1000E-05	149.9	.3156E+09
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	148.6	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.690
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	914 TEMP a02i000	850 TEMP s02i000	856 TEMP h02i000	854 TEMP c02i000	852 TEMP h02o000
.10000E-05	243.276	243.280	243.391	251.720	253.652	250.495
.20000E-05	257.917	257.920	258.030	265.956	267.780	264.740
31.558	257.917	257.920	258.030	265.956	267.780	264.740
.31558E+07	269.433	269.437	269.544	277.154	278.906	275.982
.63116E+07	272.214	272.217	272.324	279.837	281.564	278.671
.94673E+07	273.751	273.755	273.861	281.303	283.014	280.143
.12623E+08	274.835	274.839	274.944	282.332	284.029	281.178
.15779E+08	275.641	275.644	275.749	283.087	284.772	281.938
.18935E+08	276.280	276.284	276.388	283.685	285.360	282.541
.22090E+08	276.763	276.767	276.871	284.127	285.793	282.988
.25246E+08	277.097	277.100	277.204	284.424	286.081	283.290
.28402E+08	277.351	277.354	277.457	284.643	286.293	283.514
.31558E+08	277.556	277.560	277.662	284.816	286.458	283.692
.63115E+08	277.911	277.914	278.013	284.916	286.501	283.831
.94673E+08	276.726	276.729	276.825	283.541	285.086	282.490
.12623E+09	275.149	275.152	275.246	281.807	283.318	280.786
.15779E+09	273.536	273.539	273.630	280.062	281.545	279.066
.18935E+09	271.524	271.526	271.616	277.919	279.375	276.950
.22090E+09	269.673	269.676	269.763	275.956	277.389	275.009
.25246E+09	267.889	267.892	267.977	274.068	275.479	273.142
.28402E+09	265.728	265.730	265.814	271.816	273.209	270.910
.31558E+09	263.888	263.890	263.973	269.901	271.278	269.010
.63115E+09	243.924	243.926	243.995	249.226	250.460	248.487
.94673E+09	225.786	225.788	225.847	230.508	231.619	229.884
.12623E+10	209.694	209.695	209.747	213.959	214.972	213.421
.15779E+10	195.639	195.640	195.686	199.499	200.424	199.033
.18935E+10	183.996	183.998	184.038	187.505	188.351	187.095
.22090E+10	174.136	174.137	174.174	177.344	178.122	176.980
.25246E+10	165.436	165.437	165.469	168.393	169.114	168.067
.28402E+10	158.484	158.485	158.515	161.239	161.912	160.941
.31558E+10	152.289	152.290	152.317	154.852	155.481	154.581
.63115E+10	121.937	121.938	121.954	123.563	123.968	123.405
.94673E+10	110.267	110.268	110.280	111.545	111.865	111.426
.12623E+11	103.459	103.459	103.469	104.530	104.799	104.432
.15779E+11	98.7424	98.7427	98.7516	99.6761	99.9113	99.5917
.18935E+11	94.6494	94.6496	94.6574	95.4727	95.6804	95.3990
.22090E+11	91.3731	91.3733	91.3802	92.1117	92.2982	92.0460
.25246E+11	88.5365	88.5366	88.5428	89.2019	89.3701	89.1431
.28402E+11	86.1612	86.1614	86.1670	86.7677	86.9211	86.7144
.31558E+11	84.1773	84.1775	84.1826	84.7350	84.8763	84.6863

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	849 TEMP s02o000	895 TEMP a02o000	894 TEMP t08i000	1027 TEMP a08i000	963 TEMP s08i000	969 TEMP h08i000
.10000E-05	240.826	240.702	240.697	240.688	240.787	247.926
.20000E-05	255.481	255.359	255.354	255.345	255.442	262.189
31.558	255.481	255.359	255.354	255.345	255.442	262.189
.31558E+07	267.094	266.973	266.968	266.959	267.054	273.489
.63116E+07	269.887	269.768	269.763	269.754	269.848	276.189
.94673E+07	271.437	271.318	271.313	271.304	271.398	277.672
.12623E+08	272.534	272.415	272.410	272.401	272.494	278.719
.15779E+08	273.349	273.232	273.227	273.218	273.310	279.489
.18935E+08	274.000	273.883	273.878	273.869	273.961	280.103
.22090E+08	274.493	274.376	274.372	274.363	274.455	280.560
.25246E+08	274.837	274.721	274.716	274.707	274.799	280.872
.28402E+08	275.101	274.985	274.980	274.972	275.062	281.106
.31558E+08	275.316	275.201	275.196	275.188	275.278	281.294
.63115E+08	275.752	275.641	275.637	275.628	275.716	281.516
.94673E+08	274.636	274.528	274.524	274.516	274.601	280.246
.12623E+09	273.119	273.014	273.010	273.002	273.085	278.604
.15779E+09	271.557	271.454	271.450	271.443	271.523	276.937
.18935E+09	269.597	269.497	269.494	269.486	269.565	274.876
.22090E+09	267.792	267.694	267.690	267.683	267.760	272.983
.25246E+09	266.051	265.955	265.951	265.944	266.020	271.161
.28402E+09	263.928	263.834	263.830	263.824	263.898	268.969
.31558E+09	262.121	262.028	262.025	262.018	262.091	267.104
.63115E+09	242.462	242.385	242.382	242.377	242.439	246.902
.94673E+09	224.554	224.488	224.486	224.481	224.534	228.544
.12623E+10	208.635	208.578	208.576	208.572	208.619	212.268
.15779E+10	194.723	194.673	194.672	194.668	194.710	198.031
.18935E+10	183.192	183.148	183.147	183.144	183.180	186.214
.22090E+10	173.423	173.384	173.382	173.380	173.413	176.197
.25246E+10	164.796	164.760	164.759	164.757	164.787	167.364
.28402E+10	157.902	157.870	157.869	157.867	157.894	160.301
.31558E+10	151.759	151.729	151.728	151.727	151.752	153.997
.63115E+10	121.630	121.612	121.612	121.611	121.626	123.064
.94673E+10	110.035	110.021	110.021	110.020	110.032	111.167
.12623E+11	103.268	103.257	103.257	103.256	103.266	104.219
.15779E+11	98.5788	98.5693	98.5689	98.5684	98.5767	99.4090
.18935E+11	94.5064	94.4981	94.4978	94.4974	94.5046	95.2392
.22090E+11	91.2458	91.2383	91.2381	91.2377	91.2441	91.9037
.25246E+11	88.4226	88.4159	88.4157	88.4154	88.4211	89.0158
.28402E+11	86.0581	86.0521	86.0519	86.0516	86.0568	86.5991
.31558E+11	84.0830	84.0775	84.0773	84.0771	84.0818	84.5808

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	967 TEMP c08i000	965 TEMP h08o000	962 TEMP s08o000	1008 TEMP a08o000	1150 TEMP t18i000	1140 TEMP a18i000
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.10000E-05	248.681	244.263	233.108	232.971	232.943	232.944
.20000E-05	262.843	258.551	247.807	247.671	247.643	247.644
31.558	262.843	258.551	247.807	247.671	247.643	247.644
.31558E+07	274.078	269.918	259.578	259.444	259.415	259.416
.63116E+07	276.758	272.633	262.407	262.274	262.245	262.246
.94673E+07	278.228	274.132	263.993	263.861	263.832	263.833
.12623E+08	279.266	275.195	265.126	264.994	264.966	264.966
.15779E+08	280.029	275.980	265.975	265.843	265.815	265.816
.18935E+08	280.638	276.609	266.659	266.528	266.500	266.501
.22090E+08	281.090	277.081	267.184	267.053	267.025	267.026
.25246E+08	281.397	277.407	267.559	267.429	267.401	267.402
.28402E+08	281.628	277.655	267.853	267.724	267.696	267.697
.31558E+08	281.812	277.856	268.098	267.970	267.942	267.943
.63115E+08	282.016	278.198	268.790	268.666	268.639	268.640
.94673E+08	280.736	277.029	267.890	267.770	267.744	267.745
.12623E+09	279.089	275.475	266.563	266.445	266.420	266.421
.15779E+09	277.419	273.885	265.163	265.048	265.024	265.025
.18935E+09	275.356	271.903	263.370	263.259	263.235	263.236
.22090E+09	273.462	270.078	261.709	261.600	261.577	261.577
.25246E+09	271.638	268.319	260.102	259.996	259.973	259.974
.28402E+09	269.447	266.187	258.104	258.000	257.978	257.979
.31558E+09	267.583	264.371	256.402	256.299	256.278	256.278
.63115E+09	247.384	244.630	237.725	237.640	237.623	237.623
.94673E+09	229.019	226.623	220.553	220.481	220.466	220.467
.12623E+10	212.733	210.615	205.194	205.131	205.119	205.120
.15779E+10	198.479	196.595	191.743	191.688	191.678	191.678
.18935E+10	186.640	184.951	180.572	180.524	180.515	180.515
.22090E+10	176.600	175.074	171.096	171.053	171.045	171.045
.25246E+10	167.748	166.355	162.707	162.668	162.661	162.661
.28402E+10	160.668	159.382	156.000	155.965	155.958	155.959
.31558E+10	154.346	153.159	150.025	149.993	149.987	149.988
.63115E+10	123.305	122.575	120.621	120.602	120.599	120.599
.94673E+10	111.362	110.795	109.269	109.255	109.253	109.253
.12623E+11	104.386	103.914	102.640	102.628	102.626	102.626
.15779E+11	99.5555	99.1464	98.0388	98.0286	98.0268	98.0269
.18935E+11	95.3693	95.0097	94.0345	94.0256	94.0241	94.0242
.22090E+11	92.0211	91.6992	90.8256	90.8177	90.8163	90.8164
.25246E+11	89.1221	88.8328	88.0466	88.0395	88.0383	88.0384
.28402E+11	86.6964	86.4333	85.7175	85.7111	85.7100	85.7100
.31558E+11	84.6706	84.4290	83.7713	83.7654	83.7644	83.7645

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1076 TEMP s18i000	1082 TEMP h18i000	1080 TEMP c18i000	1078 TEMP h18o000	1075 TEMP s18o000	1121 TEMP a18o000
.10000E-05	233.031	239.035	238.507	232.517	219.255	219.100
.20000E-05	247.729	253.354	252.735	246.880	234.079	233.925
31.558	247.729	253.355	252.735	246.880	234.079	233.925
.31558E+07	259.499	264.818	264.156	258.476	246.119	245.967
.63116E+07	262.328	267.554	266.875	261.240	249.015	248.863
.94673E+07	263.914	269.076	268.389	262.792	250.670	250.519
.12623E+08	265.047	270.162	269.471	263.907	251.870	251.719
.15779E+08	265.896	270.968	270.275	264.741	252.780	252.630
.18935E+08	266.581	271.619	270.926	265.420	253.526	253.377
.22090E+08	267.106	272.111	271.418	265.938	254.107	253.959
.25246E+08	267.481	272.458	271.765	266.310	254.539	254.392
.28402E+08	267.776	272.726	272.034	266.603	254.889	254.741
.31558E+08	268.021	272.947	272.256	266.849	255.188	255.042
.63115E+08	268.716	273.458	272.787	267.571	256.341	256.199
.94673E+08	267.818	272.432	271.787	266.725	255.828	255.691

.12623E+09	266.493	271.005	270.385	265.455	254.837	254.704
.15779E+09	265.095	269.524	268.926	264.108	253.727	253.597
.18935E+09	263.304	267.653	267.080	262.376	252.231	252.105
.22090E+09	261.645	265.925	265.373	260.768	250.827	250.703
.25246E+09	260.040	264.257	263.725	259.212	249.460	249.339
.28402E+09	258.043	262.209	261.698	257.268	247.684	247.565
.31558E+09	256.342	260.464	259.970	255.609	246.167	246.051
.63115E+09	237.677	241.376	241.039	237.329	229.226	229.130
.94673E+09	220.514	223.869	223.645	220.437	213.354	213.272
.12623E+10	205.161	208.242	208.101	205.281	198.987	198.917
.15779E+10	191.715	194.532	194.448	191.954	186.353	186.292
.18935E+10	180.548	183.134	183.089	180.861	175.824	175.770
.22090E+10	171.075	173.458	173.442	171.436	166.873	166.825
.25246E+10	162.688	164.903	164.909	163.084	158.911	158.868
.28402E+10	155.983	158.059	158.080	156.400	152.540	152.501
.31558E+10	150.010	151.952	151.984	150.436	146.867	146.832
.63115E+10	120.613	121.868	121.920	120.978	118.773	118.752
.94673E+10	109.263	110.258	110.309	109.581	107.864	107.849
.12623E+11	102.635	103.473	103.520	102.916	101.485	101.472
.15779E+11	98.0344	98.7663	98.8102	98.2867	97.0453	97.0341
.18935E+11	94.0307	94.6773	94.7176	94.2579	93.1658	93.1560
.22090E+11	90.8222	91.4031	91.4405	91.0295	90.0517	90.0430
.25246E+11	88.0436	88.5678	88.6024	88.2332	87.3539	87.3462
.28402E+11	85.7148	86.1931	86.2254	85.8898	85.0897	85.0826
.31558E+11	83.7688	84.2091	84.2394	83.9314	83.1965	83.1901

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.740
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1120 TEMP t24i000	4124 TEMP a24i000	4072 TEMP s24i000	4075 TEMP h24i000	4077 TEMP c24i000	4079 TEMP h24o000
.10000E-05	219.091	219.045	219.103	222.012	217.803	206.355
.20000E-05	233.916	233.870	233.926	236.553	232.404	221.386
31.558	233.916	233.870	233.926	236.553	232.404	221.386
.31558E+07	245.958	245.912	245.967	248.422	244.390	233.813
.63116E+07	248.855	248.809	248.863	251.258	247.248	236.781
.94673E+07	250.511	250.465	250.518	252.873	248.887	238.508
.12623E+08	251.711	251.665	251.718	254.045	250.083	239.778
.15779E+08	252.622	252.576	252.629	254.930	250.989	240.749
.18935E+08	253.368	253.323	253.375	255.658	251.738	241.558
.22090E+08	253.950	253.905	253.957	256.222	252.320	242.196
.25246E+08	254.383	254.338	254.390	256.638	252.755	242.684
.28402E+08	254.733	254.688	254.740	256.974	253.108	243.087
.31558E+08	255.033	254.989	255.040	257.261	253.411	243.438
.63115E+08	256.192	256.149	256.198	258.326	254.617	245.026
.94673E+08	255.683	255.641	255.689	257.760	254.166	244.868
.12623E+09	254.697	254.656	254.703	256.731	253.235	244.185
.15779E+09	253.590	253.551	253.596	255.591	252.179	243.338
.18935E+09	252.098	252.060	252.104	254.068	250.742	242.110
.22090E+09	250.696	250.659	250.703	252.641	249.388	240.936
.25246E+09	249.332	249.296	249.339	251.252	248.068	239.784
.28402E+09	247.559	247.523	247.565	249.460	246.340	238.205
.31558E+09	246.044	246.009	246.051	247.930	244.863	236.853
.63115E+09	229.125	229.096	229.132	230.871	228.306	221.452
.94673E+09	213.268	213.244	213.275	214.904	212.721	206.744
.12623E+10	198.913	198.892	198.920	200.453	198.556	193.257
.15779E+10	186.289	186.271	186.296	187.720	186.066	181.362
.18935E+10	175.768	175.752	175.774	177.105	175.645	171.425
.22090E+10	166.823	166.809	166.829	168.074	166.775	162.961
.25246E+10	158.866	158.853	158.872	160.045	158.877	155.396
.28402E+10	152.499	152.488	152.505	153.616	152.549	149.334

.31558E+10	146.830	146.820	146.835	147.879	146.902	143.934
.63115E+10	118.751	118.745	118.755	119.452	118.877	117.053
.94673E+10	107.848	107.843	107.851	108.411	107.974	106.559
.12623E+11	101.471	101.468	101.474	101.950	101.591	100.413
.15779E+11	97.0335	97.0303	97.0356	97.4523	97.1426	96.1220
.18935E+11	93.1556	93.1527	93.1574	93.5266	93.2557	92.3585
.22090E+11	90.0426	90.0401	90.0442	90.3768	90.1355	89.3327
.25246E+11	87.3458	87.3435	87.3473	87.6481	87.4320	86.7107
.28402E+11	85.0823	85.0803	85.0837	85.3587	85.1629	84.5070
.31558E+11	83.1897	83.1879	83.1910	83.4447	83.2655	82.6632

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4073 TEMP s24o000	4137 TEMP t24o000	4865 TEMP g24i000	4860 TEMP g24o000	5019 TEMP m24i000	4946 TEMP m24o000
.10000E-05	183.269	182.939	167.091	166.820	154.157	152.647
.20000E-05	199.372	199.051	184.254	183.988	172.008	170.520
31.558	199.372	199.051	184.254	183.988	172.008	170.520
.31558E+07	212.849	212.540	198.717	198.460	187.172	185.728
.63116E+07	216.078	215.772	202.178	201.924	190.795	189.361
.94673E+07	218.010	217.706	204.282	204.029	193.024	191.600
.12623E+08	219.445	219.143	205.856	205.604	194.702	193.287
.15779E+08	220.564	220.264	207.094	206.844	196.031	194.624
.18935E+08	221.502	221.203	208.137	207.889	197.155	195.756
.22090E+08	222.261	221.964	208.993	208.745	198.085	196.693
.25246E+08	222.863	222.568	209.683	209.437	198.843	197.458
.28402E+08	223.372	223.078	210.273	210.028	199.498	198.119
.31558E+08	223.824	223.532	210.802	210.559	200.089	198.717
.63115E+08	226.203	225.922	213.762	213.528	203.519	202.200
.94673E+08	226.644	226.372	214.621	214.394	204.726	203.449
.12623E+09	226.460	226.195	214.774	214.554	205.165	203.926
.15779E+09	226.030	225.772	214.623	214.408	205.252	204.044
.18935E+09	225.216	224.965	214.081	213.871	204.944	203.767
.22090E+09	224.397	224.151	213.493	213.289	204.557	203.407
.25246E+09	223.575	223.334	212.885	212.685	204.134	203.009
.28402E+09	222.284	222.048	211.775	211.578	203.183	202.081
.31558E+09	221.172	220.940	210.814	210.621	202.356	201.274
.63115E+09	207.989	207.793	199.009	198.847	191.775	190.870
.94673E+09	194.959	194.791	187.021	186.882	180.708	179.937
.12623E+10	182.801	182.653	175.672	175.552	170.075	169.407
.15779E+10	172.050	171.921	165.633	165.528	160.655	160.075
.18935E+10	163.048	162.933	157.216	157.123	152.742	152.231
.22090E+10	155.370	155.267	150.043	149.960	145.992	145.537
.25246E+10	148.453	148.360	143.544	143.469	139.840	139.430
.28402E+10	142.917	142.831	138.352	138.283	134.929	134.554
.31558E+10	138.007	137.929	133.768	133.705	130.608	130.264
.63115E+10	113.388	113.341	110.698	110.661	108.750	108.548
.94673E+10	103.707	103.670	101.595	101.566	100.083	99.9289
.12623E+11	98.0376	98.0077	96.2689	96.2453	95.0111	94.8846
.15779E+11	94.0619	94.0361	92.5212	92.5009	91.4311	91.3224
.18935E+11	90.5466	90.5240	89.1855	89.1677	88.2270	88.1322
.22090E+11	87.7106	87.6905	86.4875	86.4717	85.6295	85.5452
.25246E+11	85.2523	85.2342	84.1493	84.1351	83.3782	83.3028
.28402E+11	83.1801	83.1637	82.1739	82.1611	81.4726	81.4044
.31558E+11	81.4447	81.4297	80.5185	80.5068	79.8743	79.8120

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:24:56 APR 08, 1995 CP= 101037.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5435 TEMP	5508 TEMP	6022 TEMP
	i24i000	i24o000	o24o000
.10000E-05	29.8266	28.0980	26.1414
.20000E-05	72.9393	71.2138	69.2559
.31558E+07	72.9393	71.2138	69.2559
.31558E+07	104.466	102.793	100.953
.63116E+07	111.241	109.583	107.773
.94673E+07	115.581	113.938	112.147
.12623E+08	118.886	117.256	115.484
.15779E+08	121.546	119.927	118.169
.18935E+08	123.791	122.184	120.442
.22090E+08	125.715	124.119	122.389
.25246E+08	127.363	125.778	124.060
.28402E+08	128.813	127.238	125.532
.31558E+08	130.133	128.567	126.871
.63115E+08	138.565	137.072	135.458
.94673E+08	142.949	141.512	139.961
.12623E+09	145.770	144.380	142.879
.15779E+09	147.726	146.375	144.917
.18935E+09	149.135	147.822	146.407
.22090E+09	150.169	148.889	147.510
.25246E+09	151.040	149.790	148.445
.28402E+09	151.068	149.845	148.529
.31558E+09	151.051	149.851	148.559
.63115E+09	147.340	146.345	145.274
.94673E+09	141.046	140.201	139.293
.12623E+10	133.957	133.225	132.440
.15779E+10	127.733	127.096	126.413
.18935E+10	122.516	121.954	121.352
.22090E+10	118.126	117.626	117.090
.25246E+10	113.918	113.468	112.986
.28402E+10	110.645	110.235	109.795
.31558E+10	107.919	107.545	107.143
.63115E+10	93.8432	93.6268	93.3964
.94673E+10	88.1942	88.0312	87.8588
.12623E+11	84.9632	84.8301	84.6895
.15779E+11	82.6172	82.5032	82.3834
.18935E+11	80.3865	80.2874	80.1832
.22090E+11	78.5434	78.4555	78.3629
.25246E+11	76.9547	76.8763	76.7940
.28402E+11	75.5872	75.5163	75.4421
.31558E+11	74.4370	74.3723	74.3044

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 854 ITEM= TEMP COMP= NAME= c02i045

*** WARNING *** CP= 101037.970 TIME= 20:24:57
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 881 ITEM= TEMP COMP= NAME= h02o045

VARIABLE 4 IS AT NODE 862 ITEM= TEMP COMP= NAME= s02o045

VARIABLE 5 IS AT NODE 897 ITEM= TEMP COMP= NAME= a02o045

VARIABLE 6 IS AT NODE 901 ITEM= TEMP COMP= NAME= t02o045

VARIABLE 7 IS AT NODE 1952 ITEM= TEMP COMP= NAME= t07i045

VARIABLE 8 IS AT NODE 1934 ITEM= TEMP COMP= NAME= a07i045
 VARIABLE 9 IS AT NODE 1832 ITEM= TEMP COMP= NAME= s07i045
 VARIABLE 10 IS AT NODE 1859 ITEM= TEMP COMP= NAME= h07i045
 VARIABLE 11 IS AT NODE 1871 ITEM= TEMP COMP= NAME= c07i045
 VARIABLE 12 IS AT NODE 1883 ITEM= TEMP COMP= NAME= h07o045
 VARIABLE 13 IS AT NODE 1816 ITEM= TEMP COMP= NAME= s07o045
 VARIABLE 14 IS AT NODE 1907 ITEM= TEMP COMP= NAME= a07o045
 VARIABLE 15 IS AT NODE 1896 ITEM= TEMP COMP= NAME= t07o045
 VARIABLE 16 IS AT NODE 3415 ITEM= TEMP COMP= NAME= t16i045
 VARIABLE 17 IS AT NODE 3397 ITEM= TEMP COMP= NAME= a16i045
 VARIABLE 18 IS AT NODE 3295 ITEM= TEMP COMP= NAME= s16i045
 VARIABLE 19 IS AT NODE 3322 ITEM= TEMP COMP= NAME= h16i045
 VARIABLE 20 IS AT NODE 3334 ITEM= TEMP COMP= NAME= c16i045
 VARIABLE 21 IS AT NODE 3346 ITEM= TEMP COMP= NAME= h16o045
 VARIABLE 22 IS AT NODE 3279 ITEM= TEMP COMP= NAME= s16o045
 VARIABLE 23 IS AT NODE 3370 ITEM= TEMP COMP= NAME= a16o045
 VARIABLE 24 IS AT NODE 3359 ITEM= TEMP COMP= NAME= t16o045
 VARIABLE 25 IS AT NODE 4698 ITEM= TEMP COMP= NAME= g16i045
 VARIABLE 26 IS AT NODE 5050 ITEM= TEMP COMP= NAME= m16i045
 VARIABLE 27 IS AT NODE 4983 ITEM= TEMP COMP= NAME= m16o045
 VARIABLE 28 IS AT NODE 5472 ITEM= TEMP COMP= NAME= i16i045
 VARIABLE 29 IS AT NODE 5547 ITEM= TEMP COMP= NAME= i16o045
 VARIABLE 30 IS AT NODE 6061 ITEM= TEMP COMP= NAME= o16o045
 Add centers of assemblies 6, 14, 15, 17, 22, 23
 VARIABLE 31 IS AT NODE 1662 ITEM= TEMP COMP= NAME= c06i045
 VARIABLE 32 IS AT NODE 2916 ITEM= TEMP COMP= NAME= c14i045
 VARIABLE 33 IS AT NODE 3125 ITEM= TEMP COMP= NAME= c15i045
 VARIABLE 34 IS AT NODE 2080 ITEM= TEMP COMP= NAME= c17i045
 VARIABLE 35 IS AT NODE 3738 ITEM= TEMP COMP= NAME= c22i045
 VARIABLE 36 IS AT NODE 3933 ITEM= TEMP COMP= NAME= c23i045

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	854 TEMP	c02i045	84.88	.3156E+11	286.5	.6312E+08
3	NSOL	881 TEMP	h02o045	84.56	.3156E+11	282.3	.6312E+08
4	NSOL	862 TEMP	s02o045	84.07	.3156E+11	275.4	.6312E+08
5	NSOL	897 TEMP	a02o045	84.06	.3156E+11	275.3	.6312E+08
6	NSOL	901 TEMP	t02o045	84.06	.3156E+11	275.2	.6312E+08
7	NSOL	1952 TEMP	t07i045	84.03	.3156E+11	274.7	.6312E+08

8	NSOL	1934	TEMP	a07i045	84.03	.3156E+11	274.6	.6312E+08
9	NSOL	1832	TEMP	s07i045	84.03	.3156E+11	274.6	.6312E+08
10	NSOL	1859	TEMP	h07i045	84.41	.3156E+11	278.9	.6312E+08
11	NSOL	1871	TEMP	c07i045	84.59	.3156E+11	280.3	.6312E+08
12	NSOL	1883	TEMP	h07o045	84.20	.3156E+11	274.1	.6312E+08
13	NSOL	1816	TEMP	s07o045	83.63	.3156E+11	265.4	.6312E+08
14	NSOL	1907	TEMP	a07o045	83.62	.3156E+11	265.2	.6312E+08
15	NSOL	1896	TEMP	t07o045	83.61	.3156E+11	265.0	.6312E+08
16	NSOL	3415	TEMP	t16i045	83.55	.3156E+11	263.8	.6312E+08
17	NSOL	3397	TEMP	a16i045	83.55	.3156E+11	263.6	.6312E+08
18	NSOL	3295	TEMP	s16i045	83.54	.3156E+11	263.4	.6312E+08
19	NSOL	3322	TEMP	h16i045	83.85	.3156E+11	266.3	.6312E+08
20	NSOL	3334	TEMP	c16i045	83.92	.3156E+11	265.4	.6312E+08
21	NSOL	3346	TEMP	h16o045	83.41	.3156E+11	256.5	.6312E+08
22	NSOL	3279	TEMP	s16o045	82.78	.3156E+11	246.3	.6312E+08
23	NSOL	3370	TEMP	a16o045	82.77	.3156E+11	246.2	.6312E+08
24	NSOL	3359	TEMP	t16o045	82.77	.3156E+11	246.0	.6312E+08
25	NSOL	4698	TEMP	g16i045	80.50	.3156E+11	217.0	.1262E+09
26	NSOL	5050	TEMP	m16i045	79.29	.3156E+11	201.4	.1578E+09
27	NSOL	4983	TEMP	m16o045	79.23	.3156E+11	200.0	.1578E+09
28	NSOL	5472	TEMP	i16i045	30.13	.1000E-05	150.3	.2840E+09
29	NSOL	5547	TEMP	i16o045	28.15	.1000E-05	148.9	.3156E+09
30	NSOL	6061	TEMP	o16o045	26.14	.1000E-05	147.5	.3156E+09
31	NSOL	1662	TEMP	c06i045	84.80	.3156E+11	284.8	.6312E+08
32	NSOL	2916	TEMP	c14i045	84.57	.3156E+11	279.7	.6312E+08
33	NSOL	3125	TEMP	c15i045	84.34	.3156E+11	274.7	.6312E+08
34	NSOL	2080	TEMP	c17i045	84.19	.3156E+11	271.4	.6312E+08
35	NSOL	3738	TEMP	c22i045	84.08	.3156E+11	269.5	.6312E+08
36	NSOL	3933	TEMP	c23i045	83.68	.3156E+11	262.0	.6312E+08
37	NSOL	4946	TEMP	m24o000	79.81	.3156E+11	204.0	.1578E+09
38	NSOL	5435	TEMP	i24i000	29.83	.1000E-05	151.1	.2840E+09
39	NSOL	5508	TEMP	i24o000	28.10	.1000E-05	149.9	.3156E+09
40	NSOL	6022	TEMP	o24o000	26.14	.1000E-05	148.6	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	854 TEMP c02i045	881 TEMP h02o045	862 TEMP s02o045	897 TEMP a02o045	901 TEMP t02o045	1952 TEMP t07i045
.10000E-05	253.652	248.606	240.463	240.365	240.275	239.678
.20000E-05	267.780	262.936	255.124	255.021	254.931	254.341
31.558	267.780	262.936	255.124	255.021	254.931	254.341
.31558E+07	278.906	274.247	266.734	266.632	266.545	265.970
.63116E+07	281.564	276.956	269.529	269.428	269.340	268.769
.94673E+07	283.014	278.444	271.080	270.979	270.892	270.324
.12623E+08	284.029	279.491	272.178	272.078	271.991	271.426
.15779E+08	284.772	280.262	272.995	272.895	272.809	272.247
.18935E+08	285.360	280.874	273.648	273.548	273.462	272.903
.22090E+08	285.793	281.330	274.142	274.043	273.957	273.400
.25246E+08	286.081	281.640	274.487	274.388	274.303	273.749
.28402E+08	286.293	281.872	274.752	274.654	274.569	274.017
.31558E+08	286.458	282.057	274.969	274.871	274.786	274.237
.63115E+08	286.501	282.253	275.417	275.322	275.241	274.711
.94673E+08	285.086	280.956	274.311	274.219	274.140	273.627
.12623E+09	283.318	279.287	272.803	272.714	272.637	272.137
.15779E+09	281.545	277.597	271.248	271.162	271.087	270.599
.18935E+09	279.375	275.511	269.297	269.212	269.140	268.664
.22090E+09	277.389	273.597	267.498	267.416	267.345	266.880
.25246E+09	275.479	271.754	265.764	265.683	265.614	265.158
.28402E+09	273.209	269.542	263.647	263.568	263.500	263.054
.31558E+09	271.278	267.660	261.845	261.767	261.701	261.262

.63115E+09	250.460	247.301	242.234	242.171	242.116	241.749
.94673E+09	231.619	228.832	224.362	224.308	224.262	223.949
.12623E+10	214.972	212.475	208.471	208.425	208.385	208.113
.15779E+10	200.424	198.178	194.582	194.542	194.508	194.270
.18935E+10	188.351	186.320	183.068	183.033	183.003	182.793
.22090E+10	178.122	176.272	173.313	173.282	173.256	173.068
.25246E+10	169.114	167.415	164.697	164.669	164.646	164.476
.28402E+10	161.912	160.335	157.812	157.787	157.766	157.611
.31558E+10	155.481	154.018	151.677	151.654	151.635	151.494
.63115E+10	123.968	123.049	121.582	121.569	121.558	121.475
.94673E+10	111.865	111.146	109.999	109.989	109.980	109.917
.12623E+11	104.799	104.198	103.239	103.230	103.223	103.171
.15779E+11	99.9113	99.3880	98.5534	98.5463	98.5403	98.4952
.18935E+11	95.6804	95.2194	94.4842	94.4781	94.4728	94.4334
.22090E+11	92.2982	91.8849	91.2260	91.2205	91.2159	91.1807
.25246E+11	89.3701	88.9980	88.4049	88.4000	88.3958	88.3644
.28402E+11	86.9211	86.5823	86.0421	86.0376	86.0339	86.0054
.31558E+11	84.8763	84.5648	84.0683	84.0643	84.0608	84.0348

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1934 TEMP a07i045	1832 TEMP s07i045	1859 TEMP h07i045	1871 TEMP c07i045	1883 TEMP h07o045	1816 TEMP s07o045
.10000E-05	239.587	239.506	244.952	246.825	239.609	229.504
.20000E-05	254.250	254.169	259.302	260.991	253.981	244.200
31.558	254.250	254.169	259.302	260.991	253.981	244.200
.31558E+07	265.881	265.801	270.679	272.232	265.430	255.975
.63116E+07	268.681	268.601	273.404	274.916	268.174	258.814
.94673E+07	270.236	270.157	274.907	276.393	269.699	260.414
.12623E+08	271.339	271.260	275.970	277.438	270.785	261.561
.15779E+08	272.160	272.081	276.755	278.208	271.591	262.424
.18935E+08	272.816	272.738	277.383	278.824	272.241	263.122
.22090E+08	273.314	273.236	277.853	279.283	272.732	263.660
.25246E+08	273.663	273.585	278.177	279.597	273.076	264.049
.28402E+08	273.931	273.854	278.423	279.834	273.342	264.357
.31558E+08	274.152	274.075	278.622	280.025	273.561	264.615
.63115E+08	274.628	274.554	278.938	280.288	274.050	265.426
.94673E+08	273.547	273.475	277.741	279.060	273.003	264.629
.12623E+09	272.060	271.990	276.162	277.459	271.554	263.392
.15779E+09	270.523	270.455	274.548	275.828	270.054	262.072
.18935E+09	268.590	268.524	272.541	273.806	268.163	260.360
.22090E+09	266.808	266.743	270.695	271.947	266.418	258.770
.25246E+09	265.088	265.025	268.916	270.157	264.733	257.229
.28402E+09	262.985	262.923	266.763	267.997	262.668	255.293
.31558E+09	261.194	261.134	264.931	266.159	260.910	253.643
.63115E+09	241.693	241.643	245.035	246.203	241.700	235.453
.94673E+09	223.903	223.861	226.918	228.024	224.104	218.646
.12623E+10	208.074	208.038	210.829	211.879	208.411	203.564
.15779E+10	194.236	194.205	196.750	197.739	194.655	190.337
.18935E+10	182.763	182.736	185.064	185.990	183.223	179.341
.22090E+10	173.041	173.017	175.157	176.024	173.523	170.006
.25246E+10	164.452	164.431	166.414	167.231	164.948	161.732
.28402E+10	157.589	157.570	159.424	160.197	158.089	155.115
.31558E+10	151.474	151.456	153.187	153.918	151.971	149.220
.63115E+10	121.463	121.453	122.565	123.055	121.857	120.157
.94673E+10	109.908	109.901	110.779	111.173	110.242	108.918
.12623E+11	103.164	103.158	103.896	104.231	103.456	102.352
.15779E+11	98.4892	98.4839	99.1285	99.4219	98.7496	97.7917
.18935E+11	94.4281	94.4235	94.9926	95.2526	94.6615	93.8189
.22090E+11	91.1760	91.1719	91.6829	91.9172	91.3881	90.6337

.25246E+11	88.3602	88.3565	88.8173	89.0292	88.5535	87.8751
.28402E+11	86.0016	85.9983	86.4185	86.6122	86.1795	85.5621
.31558E+11	84.0313	84.0282	84.4149	84.5936	84.1962	83.6291

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1907 TEMP a07o045	1896 TEMP t07o045	3415 TEMP t16i045	3397 TEMP a16i045	3295 TEMP s16i045	3322 TEMP h16i045
.10000E-05	229.284	229.081	227.719	227.515	227.318	231.149
.20000E-05	243.980	243.777	242.429	242.226	242.028	245.538
31.558	243.980	243.777	242.429	242.226	242.028	245.538
.31558E+07	255.757	255.556	254.233	254.031	253.835	257.099
.63116E+07	258.597	258.396	257.080	256.878	256.683	259.871
.94673E+07	260.198	259.998	258.683	258.488	258.293	261.431
.12623E+08	261.345	261.147	259.844	259.644	259.450	262.553
.15779E+08	262.209	262.011	260.714	260.515	260.322	263.393
.18935E+08	262.909	262.712	261.421	261.223	261.031	264.077
.22090E+08	263.447	263.251	261.966	261.769	261.577	264.600
.25246E+08	263.837	263.641	262.362	262.166	261.975	264.977
.28402E+08	264.145	263.951	262.677	262.481	262.291	265.275
.31558E+08	264.405	264.211	262.943	262.748	262.559	265.525
.63115E+08	265.223	265.035	263.812	263.624	263.441	266.288
.94673E+08	264.432	264.251	263.064	262.882	262.705	265.476
.12623E+09	263.201	263.025	261.871	261.694	261.522	264.235
.15779E+09	261.885	261.713	260.587	260.414	260.247	262.914
.18935E+09	260.179	260.012	258.914	258.746	258.583	261.207
.22090E+09	258.593	258.429	257.356	257.192	257.033	259.622
.25246E+09	257.056	256.896	255.846	255.686	255.530	258.086
.28402E+09	255.124	254.968	253.939	253.783	253.630	256.161
.31558E+09	253.477	253.323	252.313	252.159	252.010	254.520
.63115E+09	235.317	235.190	234.348	234.222	234.099	236.400
.94673E+09	218.531	218.425	217.707	217.601	217.498	219.629
.12623E+10	203.465	203.375	202.752	202.662	202.574	204.566
.15779E+10	190.253	190.175	189.632	189.553	189.478	191.320
.18935E+10	179.267	179.199	178.719	178.650	178.584	180.293
.22090E+10	169.941	169.881	169.452	169.392	169.333	170.922
.25246E+10	161.673	161.619	161.234	161.180	161.128	162.615
.28402E+10	155.061	155.012	154.661	154.612	154.564	155.966
.31558E+10	149.171	149.127	148.806	148.761	148.718	150.034
.63115E+10	120.129	120.103	119.914	119.888	119.863	120.730
.94673E+10	108.897	108.878	108.733	108.714	108.695	109.387
.12623E+11	102.335	102.319	102.200	102.184	102.169	102.754
.15779E+11	97.7769	97.7633	97.6610	97.6473	97.6342	98.1459
.18935E+11	93.8059	93.7940	93.7047	93.6927	93.6813	94.1341
.22090E+11	90.6222	90.6116	90.5320	90.5214	90.5112	90.9187
.25246E+11	87.8647	87.8553	87.7841	87.7746	87.7655	88.1335
.28402E+11	85.5528	85.5442	85.4797	85.4711	85.4629	85.7990
.31558E+11	83.6206	83.6127	83.5537	83.5459	83.5383	83.8480

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3334 TEMP c161045	3346 TEMP h160045	3279 TEMP s160045	3370 TEMP a160045	3359 TEMP t160045	4698 TEMP g161045
.10000E-05	230.652	220.503	208.539	208.342	208.165	169.550
.20000E-05	244.853	234.927	223.353	223.159	222.985	186.924
31.558	244.853	234.927	223.353	223.159	222.985	186.924
.31558E+07	256.301	246.619	235.410	235.219	235.049	201.242
.63116E+07	259.039	249.435	238.332	238.141	237.972	204.710
.94673E+07	260.581	251.044	240.028	239.839	239.671	206.814
.12623E+08	261.693	252.213	241.269	241.080	240.913	208.382
.15779E+08	262.525	253.098	242.220	242.033	241.866	209.617
.18935E+08	263.206	253.827	243.008	242.821	242.656	210.652
.22090E+08	263.726	254.391	243.629	243.444	243.279	211.501
.25246E+08	264.101	254.810	244.102	243.918	243.754	212.181
.28402E+08	264.398	255.148	244.492	244.308	244.144	212.762
.31558E+08	264.649	255.439	244.831	244.648	244.485	213.282
.63115E+08	265.429	256.548	246.337	246.160	246.004	216.157
.94673E+08	264.648	256.032	246.131	245.960	245.809	216.934
.12623E+09	263.440	255.051	245.414	245.247	245.100	217.012
.15779E+09	262.150	253.954	244.539	244.377	244.233	216.796
.18935E+09	260.479	252.478	243.287	243.129	242.989	216.183
.22090E+09	258.923	251.091	242.093	241.939	241.802	215.536
.25246E+09	257.416	249.739	240.923	240.772	240.638	214.871
.28402E+09	255.521	247.987	239.333	239.186	239.055	213.708
.31558E+09	253.904	246.490	237.972	237.827	237.699	212.704
.63115E+09	236.019	229.742	222.482	222.361	222.254	200.477
.94673E+09	219.421	214.005	207.695	207.593	207.502	188.174
.12623E+10	204.482	199.727	194.154	194.066	193.987	176.583
.15779E+10	191.317	187.126	182.191	182.114	182.046	166.352
.18935E+10	180.345	176.607	172.185	172.117	172.057	157.790
.22090E+10	171.011	167.650	163.656	163.595	163.542	150.505
.25246E+10	162.732	159.678	156.035	155.981	155.933	143.921
.28402E+10	156.102	153.292	149.930	149.881	149.837	138.664
.31558E+10	150.180	147.593	144.492	144.447	144.407	134.027
.63115E+10	120.877	119.310	117.411	117.384	117.360	110.767
.94673E+10	109.519	108.310	106.836	106.816	106.798	101.619
.12623E+11	102.873	101.870	100.644	100.627	100.612	96.2750
.15779E+11	98.2538	97.3853	96.3229	96.3086	96.2957	92.5178
.18935E+11	94.2320	93.4696	92.5359	92.5235	92.5122	89.1765
.22090E+11	91.0085	90.3270	89.4917	89.4806	89.4705	86.4749
.25246E+11	88.2161	87.6043	86.8535	86.8436	86.8346	84.1340
.28402E+11	85.8755	85.3195	84.6367	84.6277	84.6195	82.1570
.31558E+11	83.9193	83.4091	82.7821	82.7739	82.7664	80.5007

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5050 TEMP m161045	4983 TEMP m160045	5472 TEMP i161045	5547 TEMP i160045	6061 TEMP o160045	1662 TEMP c061045
.10000E-05	147.340	145.675	30.1261	28.1456	26.1414	251.816
.20000E-05	166.297	164.623	73.2197	71.2382	69.2255	265.949
31.558	166.297	164.623	73.2197	71.2382	69.2255	265.949
.31558E+07	181.995	180.335	103.537	101.625	99.6262	277.083
.63116E+07	185.802	184.148	110.304	108.409	106.438	279.746
.94673E+07	188.158	186.512	114.653	112.773	110.822	281.202
.12623E+08	189.930	188.290	117.961	116.095	114.163	282.225
.15779E+08	191.338	189.706	120.630	118.776	116.858	282.974
.18935E+08	192.527	190.902	122.880	121.038	119.136	283.570
.22090E+08	193.514	191.896	124.810	122.980	121.091	284.010
.25246E+08	194.320	192.709	126.456	124.638	122.761	284.304
.28402E+08	195.018	193.414	127.909	126.103	124.238	284.523

.31558E+08	195.649	194.051	129.231	127.435	125.581	284.695
.63115E+08	199.350	197.809	137.695	135.982	134.215	284.797
.94673E+08	200.713	199.222	142.105	140.456	138.757	283.432
.12623E+09	201.263	199.815	144.945	143.350	141.706	281.710
.15779E+09	201.435	200.024	146.918	145.368	143.771	279.976
.18935E+09	201.197	199.824	148.339	146.834	145.283	277.846
.22090E+09	200.868	199.528	149.385	147.919	146.407	275.895
.25246E+09	200.498	199.189	150.265	148.834	147.359	274.018
.28402E+09	199.582	198.302	150.312	148.913	147.470	271.778
.31558E+09	198.784	197.528	150.310	148.937	147.522	269.873
.63115E+09	188.424	187.391	146.693	145.559	144.389	249.293
.94673E+09	177.522	176.656	140.466	139.508	138.518	230.635
.12623E+10	167.032	166.296	133.443	132.616	131.762	214.127
.15779E+10	157.773	157.143	127.267	126.550	125.808	199.692
.18935E+10	150.015	149.467	122.090	121.459	120.805	187.708
.22090E+10	143.415	142.932	117.731	117.170	116.588	177.550
.25246E+10	137.396	136.964	113.555	113.052	112.528	168.602
.28402E+10	132.603	132.212	110.304	109.847	109.368	161.446
.31558E+10	128.405	128.049	107.598	107.181	106.744	155.056
.63115E+10	107.221	107.019	93.6342	93.3938	93.1420	123.720
.94673E+10	98.8414	98.6903	88.0259	87.8452	87.6560	111.677
.12623E+11	93.9516	93.8283	84.8191	84.6716	84.5168	104.645
.15779E+11	90.4971	90.3919	82.4910	82.3648	82.2325	99.7784
.18935E+11	87.3942	87.3030	80.2761	80.1664	80.0513	95.5642
.22090E+11	84.8754	84.7946	78.4445	78.3471	78.2448	92.1947
.25246E+11	82.6934	82.6216	76.8654	76.7785	76.6875	89.2775
.28402E+11	80.8441	80.7793	75.5048	75.4264	75.3441	86.8372
.31558E+11	79.2929	79.2338	74.3604	74.2888	74.2134	84.7995

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:03 APR 08, 1995 CP= 101044.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2916 TEMP	3125 TEMP	2080 TEMP	3738 TEMP	3933 TEMP
	c14i045	c15i045	c17i045	c22i045	c23i045
.10000E-05	246.348	240.818	237.172	235.204	226.672
.20000E-05	260.500	255.010	251.362	249.415	241.042
31.558	260.500	255.010	251.362	249.415	241.042
.31558E+07	271.659	266.295	262.754	260.683	252.571
.63116E+07	274.338	268.997	265.470	263.399	255.349
.94673E+07	275.813	270.497	266.984	264.921	256.923
.12623E+08	276.858	271.566	268.069	266.012	258.061
.15779E+08	277.628	272.359	268.876	266.826	258.917
.18935E+08	278.245	272.999	269.531	267.488	259.619
.22090E+08	278.705	273.480	270.026	267.989	260.158
.25246E+08	279.020	273.817	270.377	268.346	260.551
.28402E+08	279.258	274.076	270.650	268.626	260.865
.31558E+08	279.450	274.289	270.877	268.858	261.132
.63115E+08	279.727	274.744	271.449	269.488	262.040
.94673E+08	278.514	273.682	270.489	268.579	261.356
.12623E+09	276.926	272.227	269.122	267.258	260.229
.15779E+09	275.308	270.723	267.695	265.870	259.007
.18935E+09	273.299	268.831	265.883	264.097	257.403
.22090E+09	271.451	267.086	264.206	262.455	255.906
.25246E+09	269.671	265.400	262.585	260.867	254.452
.28402E+09	267.523	263.341	260.584	258.899	252.606
.31558E+09	265.694	261.586	258.879	257.220	251.029
.63115E+09	245.824	242.399	240.154	238.749	233.529
.94673E+09	227.710	224.808	222.917	221.707	217.229
.12623E+10	211.616	209.114	207.490	206.433	202.521
.15779E+10	197.513	195.336	193.929	192.997	189.561
.18935E+10	185.793	183.876	182.642	181.811	178.760
.22090E+10	175.850	174.145	173.051	172.305	169.573

.25246E+10	167.077	165.544	164.564	163.888	161.416
.28402E+10	160.058	158.661	157.769	157.149	154.883
.31558E+10	153.791	152.515	151.703	151.131	149.049
.63115E+10	122.982	122.235	121.765	121.419	120.173
.94673E+10	111.117	110.549	110.194	109.926	108.970
.12623E+11	104.185	103.718	103.427	103.205	102.415
.15779E+11	99.3827	98.9810	98.7309	98.5379	97.8553
.18935E+11	95.2184	94.8672	94.6483	94.4797	93.8812
.22090E+11	91.8868	91.5739	91.3796	91.2287	90.6943
.25246E+11	89.0019	88.7218	88.5482	88.4127	87.9335
.28402E+11	86.5874	86.3336	86.1764	86.0533	85.6182
.31558E+11	84.5708	84.3385	84.1948	84.0817	83.6829

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 101045.030 TIME= 20:25:04
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 928 ITEM= TEMP COMP= NAME= h01o090
 VARIABLE 4 IS AT NODE 453 ITEM= TEMP COMP= NAME= s01o090
 VARIABLE 5 IS AT NODE 930 ITEM= TEMP COMP= NAME= a01o090
 VARIABLE 6 IS AT NODE 926 ITEM= TEMP COMP= NAME= t01o090
 VARIABLE 7 IS AT NODE 484 ITEM= TEMP COMP= NAME= t05i090
 VARIABLE 8 IS AT NODE 492 ITEM= TEMP COMP= NAME= a05i090
 VARIABLE 9 IS AT NODE 491 ITEM= TEMP COMP= NAME= s05i090
 VARIABLE 10 IS AT NODE 490 ITEM= TEMP COMP= NAME= h05i090
 VARIABLE 11 IS AT NODE 488 ITEM= TEMP COMP= NAME= c05i090
 VARIABLE 12 IS AT NODE 1749 ITEM= TEMP COMP= NAME= h05o090
 VARIABLE 13 IS AT NODE 485 ITEM= TEMP COMP= NAME= s05o090
 VARIABLE 14 IS AT NODE 493 ITEM= TEMP COMP= NAME= a05o090
 VARIABLE 15 IS AT NODE 483 ITEM= TEMP COMP= NAME= t05i090
 VARIABLE 16 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090
 VARIABLE 17 IS AT NODE 2324 ITEM= TEMP COMP= NAME= a13i090
 VARIABLE 18 IS AT NODE 2322 ITEM= TEMP COMP= NAME= s13i090
 VARIABLE 19 IS AT NODE 2321 ITEM= TEMP COMP= NAME= h13i090
 VARIABLE 20 IS AT NODE 2319 ITEM= TEMP COMP= NAME= c13i090
 VARIABLE 21 IS AT NODE 3003 ITEM= TEMP COMP= NAME= h13o090
 VARIABLE 22 IS AT NODE 2316 ITEM= TEMP COMP= NAME= s13o090
 VARIABLE 23 IS AT NODE 2333 ITEM= TEMP COMP= NAME= a13o090
 VARIABLE 26 IS AT NODE 2315 ITEM= TEMP COMP= NAME= t13i090
 VARIABLE 27 IS AT NODE 574 ITEM= TEMP COMP= NAME= t21i090
 VARIABLE 28 IS AT NODE 582 ITEM= TEMP COMP= NAME= a21i090

VARIABLE 29 IS AT NODE 581 ITEM= TEMP COMP= NAME= s21i090
 VARIABLE 30 IS AT NODE 3829 ITEM= TEMP COMP= NAME= h21i090
 VARIABLE 31 IS AT NODE 578 ITEM= TEMP COMP= NAME= c21i090
 VARIABLE 32 IS AT NODE 576 ITEM= TEMP COMP= NAME= h21o090
 VARIABLE 33 IS AT NODE 573 ITEM= TEMP COMP= NAME= s21o090
 VARIABLE 34 IS AT NODE 573 ITEM= TEMP COMP= NAME= t21o090
 VARIABLE 35 IS AT NODE 4555 ITEM= TEMP COMP= NAME= g04i090
 VARIABLE 36 IS AT NODE 4516 ITEM= TEMP COMP= NAME= g04o090
 VARIABLE 37 IS AT NODE 4625 ITEM= TEMP COMP= NAME= m04i090
 VARIABLE 38 IS AT NODE 4873 ITEM= TEMP COMP= NAME= m04o090
 VARIABLE 39 IS AT NODE 5432 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 40 IS AT NODE 5431 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 41 IS AT NODE 6019 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	924 TEMP	c01i090	84.18	.3156E+11	277.9	.6312E+08
3	NSOL	928 TEMP	h01o090	84.17	.3156E+11	277.7	.6312E+08
4	NSOL	453 TEMP	s01o090	84.16	.3156E+11	277.5	.6312E+08
5	NSOL	930 TEMP	a01o090	84.15	.3156E+11	277.3	.6312E+08
6	NSOL	926 TEMP	t01o090	84.15	.3156E+11	277.3	.6312E+08
7	NSOL	484 TEMP	t05i090	84.14	.3156E+11	277.2	.6312E+08
8	NSOL	492 TEMP	a05i090	84.14	.3156E+11	277.2	.6312E+08
9	NSOL	491 TEMP	s05i090	84.14	.3156E+11	277.0	.6312E+08
10	NSOL	490 TEMP	h05i090	84.13	.3156E+11	276.8	.6312E+08
11	NSOL	488 TEMP	c05i090	84.10	.3156E+11	276.2	.6312E+08
12	NSOL	1749 TEMP	h05o090	84.06	.3156E+11	275.1	.6312E+08
13	NSOL	485 TEMP	s05o090	84.03	.3156E+11	274.5	.6312E+08
14	NSOL	493 TEMP	a05o090	84.01	.3156E+11	274.0	.6312E+08
15	NSOL	483 TEMP	t05i090	84.01	.3156E+11	274.0	.6312E+08
16	NSOL	2315 TEMP	t13i090	83.99	.3156E+11	273.6	.6312E+08
17	NSOL	2324 TEMP	a13i090	83.98	.3156E+11	273.5	.6312E+08
18	NSOL	2322 TEMP	s13i090	83.97	.3156E+11	273.1	.6312E+08
19	NSOL	2321 TEMP	h13i090	83.94	.3156E+11	272.5	.6312E+08
20	NSOL	2319 TEMP	c13i090	83.88	.3156E+11	271.1	.6312E+08
21	NSOL	3003 TEMP	h13o090	83.80	.3156E+11	269.2	.6312E+08
22	NSOL	2316 TEMP	s13o090	83.75	.3156E+11	268.2	.6312E+08
23	NSOL	2333 TEMP	a13o090	83.72	.3156E+11	267.4	.6312E+08
24	NSOL	3359 TEMP	t16o045	82.77	.3156E+11	246.0	.6312E+08
25	NSOL	4698 TEMP	g16i045	80.50	.3156E+11	217.0	.1262E+09
26	NSOL	2315 TEMP	t13i090	83.99	.3156E+11	273.6	.6312E+08
27	NSOL	574 TEMP	t21i090	83.69	.3156E+11	266.7	.6312E+08
28	NSOL	582 TEMP	a21i090	83.69	.3156E+11	266.7	.6312E+08
29	NSOL	581 TEMP	s21i090	83.66	.3156E+11	266.1	.6312E+08
30	NSOL	3829 TEMP	h21i090	83.62	.3156E+11	265.1	.6312E+08
31	NSOL	578 TEMP	c21i090	83.55	.3156E+11	263.3	.6312E+08
32	NSOL	576 TEMP	h21o090	83.46	.3156E+11	261.1	.6312E+08
33	NSOL	573 TEMP	s21o090	83.37	.3156E+11	259.0	.6312E+08
34	NSOL	573 TEMP	t21o090	83.37	.3156E+11	259.0	.6312E+08
35	NSOL	4555 TEMP	g04i090	81.29	.3156E+11	229.4	.9467E+08
36	NSOL	4516 TEMP	g04o090	81.22	.3156E+11	228.1	.9467E+08
37	NSOL	4625 TEMP	m04i090	79.01	.3156E+11	198.7	.1578E+09
38	NSOL	4873 TEMP	m04o090	78.85	.3156E+11	196.0	.1578E+09
39	NSOL	5432 TEMP	i04i090	29.81	.1000E-05	149.1	.3156E+09

40 NSOL 5431 TEMP i04o090 27.97 .1000E-05 147.8 .3156E+09
 41 NSOL 6019 TEMP o04o090 26.14 .1000E-05 146.5 .3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP c01i090	928 TEMP h01o090	453 TEMP s01o090	930 TEMP a01o090	926 TEMP t01o090	484 TEMP t05i090
.10000E-05	243.276	243.069	242.835	242.658	242.645	242.485
.20000E-05	257.917	257.711	257.477	257.301	257.288	257.129
31.558	257.917	257.711	257.477	257.301	257.288	257.129
.31558E+07	269.433	269.229	268.996	268.827	268.813	268.651
.63116E+07	272.214	272.011	271.778	271.609	271.596	271.434
.94673E+07	273.751	273.549	273.318	273.150	273.136	272.975
.12623E+08	274.835	274.634	274.404	274.237	274.223	274.063
.15779E+08	275.641	275.440	275.211	275.044	275.031	274.871
.18935E+08	276.280	276.081	275.853	275.687	275.673	275.515
.22090E+08	276.763	276.565	276.337	276.172	276.159	276.001
.25246E+08	277.097	276.899	276.672	276.508	276.495	276.337
.28402E+08	277.351	277.154	276.928	276.764	276.751	276.594
.31558E+08	277.556	277.360	277.135	276.973	276.959	276.803
.63115E+08	277.911	277.721	277.504	277.347	277.335	277.183
.94673E+08	277.726	276.543	276.332	276.180	276.168	276.021
.12623E+09	275.149	274.971	274.766	274.619	274.607	274.463
.15779E+09	273.536	273.362	273.162	273.018	273.006	272.866
.18935E+09	271.524	271.354	271.159	271.020	271.008	270.871
.22090E+09	269.673	269.507	269.317	269.180	269.169	269.035
.25246E+09	267.889	267.727	267.541	267.408	267.397	267.266
.28402E+09	265.728	265.569	265.387	265.256	265.246	265.117
.31558E+09	263.888	263.732	263.553	263.425	263.414	263.288
.63115E+09	243.924	243.795	243.647	243.541	243.532	243.426
.94673E+09	225.786	225.677	225.552	225.463	225.456	225.366
.12623E+10	209.694	209.600	209.493	209.417	209.410	209.332
.15779E+10	195.639	195.558	195.465	195.400	195.394	195.326
.18935E+10	183.996	183.926	183.844	183.786	183.781	183.721
.22090E+10	174.136	174.073	174.001	173.950	173.946	173.891
.25246E+10	165.436	165.379	165.314	165.268	165.264	165.216
.28402E+10	158.484	158.433	158.374	158.332	158.329	158.284
.31558E+10	152.289	152.242	152.188	152.150	152.147	152.106
.63115E+10	121.937	121.910	121.878	121.857	121.855	121.831
.94673E+10	110.267	110.247	110.223	110.206	110.205	110.187
.12623E+11	103.459	103.442	103.422	103.409	103.408	103.392
.15779E+11	98.7424	98.7279	98.7110	98.6994	98.6984	98.6853
.18935E+11	94.6494	94.6367	94.6220	94.6118	94.6110	94.5995
.22090E+11	91.3731	91.3618	91.3486	91.3396	91.3389	91.3286
.25246E+11	88.5365	88.5263	88.5146	88.5065	88.5058	88.4967
.28402E+11	86.1612	86.1521	86.1414	86.1341	86.1335	86.1252
.31558E+11	84.1773	84.1689	84.1592	84.1525	84.1520	84.1443

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.400
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	492 TEMP	491 TEMP	490 TEMP	488 TEMP	1749 TEMP	485 TEMP
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	a05i090	s05i090	h05i090	c05i090	h05o090	s05o090
.10000E-05	242.471	242.335	242.106	241.394	240.268	239.570
.20000E-05	257.116	256.979	256.750	256.039	254.915	254.219
31.558	257.116	256.979	256.750	256.039	254.915	254.219
.31558E+07	268.637	268.502	268.276	267.568	266.452	265.760
.63116E+07	271.420	271.286	271.060	270.355	269.243	268.552
.94673E+07	272.961	272.828	272.603	271.900	270.793	270.105
.12623E+08	274.049	273.916	273.692	272.992	271.890	271.205
.15779E+08	274.857	274.725	274.502	273.805	272.707	272.025
.18935E+08	275.501	275.369	275.147	274.453	273.359	272.680
.22090E+08	275.987	275.856	275.634	274.943	273.854	273.177
.25246E+08	276.323	276.193	275.972	275.283	274.199	273.525
.28402E+08	276.580	276.450	276.230	275.544	274.464	273.793
.31558E+08	276.789	276.660	276.441	275.757	274.681	274.013
.63115E+08	277.170	277.045	276.834	276.174	275.134	274.489
.94673E+08	276.008	275.887	275.682	275.042	274.035	273.409
.12623E+09	274.451	274.333	274.134	273.512	272.533	271.925
.15779E+09	272.854	272.740	272.545	271.939	270.984	270.391
.18935E+09	270.859	270.748	270.559	269.969	269.039	268.461
.22090E+09	269.024	268.915	268.730	268.154	267.246	266.682
.25246E+09	267.254	267.148	266.967	266.404	265.516	264.964
.28402E+09	265.106	265.002	264.826	264.274	263.405	262.865
.31558E+09	263.277	263.175	263.002	262.461	261.608	261.078
.63115E+09	243.418	243.334	243.191	242.745	242.041	241.602
.94673E+09	225.358	225.288	225.168	224.793	224.201	223.832
.12623E+10	209.326	209.266	209.164	208.843	208.335	208.018
.15779E+10	195.320	195.269	195.181	194.904	194.465	194.192
.18935E+10	183.716	183.671	183.594	183.351	182.966	182.726
.22090E+10	173.887	173.847	173.779	173.564	173.223	173.010
.25246E+10	165.212	165.176	165.115	164.923	164.617	164.426
.28402E+10	158.280	158.248	158.193	158.018	157.740	157.566
.31558E+10	152.103	152.074	152.023	151.864	151.611	151.453
.63115E+10	121.829	121.812	121.783	121.691	121.544	121.452
.94673E+10	110.185	110.172	110.150	110.081	109.970	109.900
.12623E+11	103.391	103.381	103.363	103.305	103.214	103.157
.15779E+11	98.6843	98.6753	98.6599	98.6107	98.5325	98.4834
.18935E+11	94.5986	94.5908	94.5773	94.5344	94.4660	94.4232
.22090E+11	91.3279	91.3209	91.3089	91.2707	91.2098	91.1717
.25246E+11	88.4960	88.4897	88.4790	88.4448	88.3904	88.3562
.28402E+11	86.1246	86.1189	86.1092	86.0782	86.0289	85.9980
.31558E+11	84.1438	84.1386	84.1297	84.1014	84.0562	84.0279

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.410
 FOR SUPPORT CALL ROBERT BAINNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	493 TEMP a05c090	483 TEMP t05i090	2315 TEMP t13i090	2324 TEMP a13i090	2322 TEMP s13i090	2321 TEMP h13i090
.10000E-05	239.078	239.039	238.572	238.533	238.099	237.434
.20000E-05	253.727	253.689	253.226	253.186	252.752	252.087
31.558	253.727	253.689	253.226	253.186	252.752	252.087
.31558E+07	265.270	265.232	264.775	264.735	264.304	263.644
.63116E+07	268.064	268.026	267.572	267.532	267.103	266.444
.94673E+07	269.619	269.581	269.129	269.089	268.662	268.006
.12623E+08	270.721	270.684	270.233	270.194	269.768	269.115
.15779E+08	271.543	271.505	271.057	271.018	270.594	269.943
.18935E+08	272.200	272.163	271.717	271.678	271.255	270.607
.22090E+08	272.699	272.662	272.218	272.179	271.758	271.113
.25246E+08	273.049	273.012	272.570	272.531	272.112	271.469
.28402E+08	273.319	273.282	272.841	272.803	272.385	271.745
.31558E+08	273.540	273.504	273.065	273.027	272.610	271.973

.63115E+08	274.033	273.997	273.574	273.537	273.135	272.519
.94673E+08	272.967	272.933	272.522	272.486	272.097	271.500
.12623E+09	271.495	271.462	271.062	271.027	270.649	270.069
.15779E+09	269.972	269.939	269.549	269.515	269.146	268.581
.18935E+09	268.053	268.021	267.641	267.607	267.248	266.698
.22090E+09	266.283	266.252	265.880	265.847	265.497	264.959
.25246E+09	264.574	264.544	264.180	264.148	263.805	263.279
.28402E+09	262.483	262.454	262.097	262.066	261.731	261.216
.31558E+09	260.703	260.674	260.323	260.292	259.963	259.459
.63115E+09	241.293	241.269	240.977	240.952	240.681	240.265
.94673E+09	223.571	223.551	223.302	223.282	223.054	222.705
.12623E+10	207.795	207.778	207.563	207.545	207.350	207.052
.15779E+10	193.998	193.984	193.796	193.781	193.613	193.356
.18935E+10	182.557	182.544	182.378	182.365	182.218	181.993
.22090E+10	172.860	172.848	172.700	172.688	172.558	172.359
.25246E+10	164.291	164.281	164.148	164.137	164.021	163.842
.28402E+10	157.443	157.434	157.313	157.303	157.198	157.035
.31558E+10	151.341	151.333	151.222	151.213	151.117	150.969
.63115E+10	121.387	121.383	121.317	121.312	121.257	121.172
.94673E+10	109.851	109.847	109.797	109.794	109.752	109.687
.12623E+11	103.117	103.114	103.073	103.070	103.036	102.983
.15779E+11	98.4488	98.4462	98.4109	98.4082	98.3788	98.3334
.18935E+11	94.3929	94.3907	94.3598	94.3575	94.3318	94.2921
.22090E+11	91.1447	91.1428	91.1153	91.1132	91.0903	91.0550
.25246E+11	88.3322	88.3304	88.3058	88.3039	88.2835	88.2519
.28402E+11	85.9761	85.9745	85.9523	85.9506	85.9320	85.9034
.31558E+11	84.0079	84.0064	83.9861	83.9845	83.9675	83.9414

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2319 TEMP c13i090	3003 TEMP h13o090	2316 TEMP s13o090	2333 TEMP a13o090	3359 TEMP t16o045	4698 TEMP g16i045
.10000E-05	235.857	233.867	232.734	231.952	208.165	169.550
.20000E-05	250.510	248.522	247.390	246.608	222.985	186.924
31.558	250.510	248.522	247.390	246.608	222.985	186.924
.31558E+07	262.075	260.099	258.973	258.194	235.049	201.242
.63116E+07	264.880	262.910	261.787	261.011	237.972	204.710
.94673E+07	266.447	264.486	263.368	262.594	239.671	206.814
.12623E+08	267.563	265.610	264.496	263.726	240.913	208.382
.15779E+08	268.397	266.452	265.343	264.576	241.866	209.617
.18935E+08	269.068	267.130	266.026	265.263	242.656	210.652
.22090E+08	269.579	267.649	266.550	265.789	243.279	211.501
.25246E+08	269.941	268.019	266.924	266.166	243.754	212.181
.28402E+08	270.223	268.309	267.218	266.463	244.144	212.762
.31558E+08	270.457	268.550	267.463	266.711	244.485	213.282
.63115E+08	271.056	269.214	268.164	267.438	246.004	216.157
.94673E+08	270.081	268.296	267.279	266.575	245.809	216.934
.12623E+09	268.690	266.955	265.966	265.282	245.100	217.012
.15779E+09	267.236	265.545	264.580	263.913	244.233	216.796
.18935E+09	265.389	263.742	262.803	262.153	242.989	216.183
.22090E+09	263.681	262.072	261.155	260.521	241.802	215.536
.25246E+09	262.030	260.457	259.560	258.940	240.638	214.871
.28402E+09	259.994	258.455	257.577	256.970	239.055	213.708
.31558E+09	258.259	256.748	255.887	255.291	237.699	212.704
.63115E+09	239.277	238.031	237.320	236.829	222.254	200.477
.94673E+09	221.875	220.828	220.229	219.816	207.502	188.174
.12623E+10	206.342	205.445	204.933	204.579	193.987	176.583
.15779E+10	192.743	191.970	191.527	191.221	182.046	166.352
.18935E+10	181.456	180.777	180.389	180.121	172.057	157.790
.22090E+10	171.883	171.282	170.938	170.701	163.542	150.505

38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.450
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	576 TEMP h21o090	573 TEMP s21o090	573 TEMP t21o090	4555 TEMP g04i090	4516 TEMP g04o090	4625 TEMP m04i090
.10000E-05	225.132	222.936	222.936	186.368	184.776	143.680
.20000E-05	239.766	237.568	237.568	202.802	201.261	163.067
31.558	239.766	237.568	237.568	202.802	201.261	163.067
.31558E+07	251.372	249.182	249.182	215.928	214.432	178.621
.63116E+07	254.203	252.019	252.019	219.174	217.692	182.490
.94673E+07	255.812	253.636	253.636	221.113	219.642	184.894
.12623E+08	256.970	254.803	254.803	222.543	221.081	186.703
.15779E+08	257.845	255.687	255.687	223.659	222.206	188.144
.18935E+08	258.559	256.408	256.408	224.587	223.143	189.360
.22090E+08	259.110	256.969	256.969	225.339	223.902	190.373
.25246E+08	259.513	257.380	257.380	225.927	224.497	191.199
.28402E+08	259.835	257.710	257.710	226.423	225.000	191.917
.31558E+08	260.109	257.992	257.992	226.863	225.447	192.567
.63115E+08	261.061	259.016	259.016	229.120	227.759	196.407
.94673E+08	260.394	258.412	258.412	229.440	228.123	197.866
.12623E+09	259.275	257.349	257.349	229.142	227.862	198.491
.15779E+09	258.056	256.179	256.179	228.612	227.365	198.723
.18935E+09	256.452	254.624	254.624	227.691	226.476	198.541
.22090E+09	254.954	253.169	253.169	226.781	225.593	198.260
.25246E+09	253.500	251.755	251.755	225.872	224.710	197.933
.28402E+09	251.650	249.943	249.943	224.502	223.363	197.057
.31558E+09	250.070	248.395	248.395	223.325	222.205	196.293
.63115E+09	232.539	231.161	231.161	209.507	208.565	186.209
.94673E+09	216.221	215.065	215.065	196.016	195.208	175.511
.12623E+10	201.511	200.523	200.523	183.522	182.816	165.192
.15779E+10	188.580	187.728	187.728	172.509	171.890	156.089
.18935E+10	177.811	177.065	177.065	163.309	162.760	148.464
.22090E+10	168.657	167.997	167.997	155.490	154.998	141.981
.25246E+10	160.529	159.939	159.939	148.470	148.025	136.062
.28402E+10	154.026	153.489	153.489	142.863	142.455	131.351
.31558E+10	148.231	147.743	147.743	137.902	137.528	127.232
.63115E+10	119.593	119.311	119.311	113.157	112.932	106.448
.94673E+10	108.493	108.280	108.280	103.474	103.301	98.2247
.12623E+11	102.004	101.830	101.830	97.8178	97.6747	93.4292
.15779E+11	97.4934	97.3437	97.3437	93.8565	93.7328	90.0398
.18935E+11	93.5590	93.4283	93.4283	90.3549	90.2466	86.9895
.22090E+11	90.4026	90.2864	90.2864	87.5308	87.4342	84.5110
.25246E+11	87.6686	87.5646	87.5646	85.0836	84.9970	82.3640
.28402E+11	85.3751	85.2809	85.2809	83.0210	82.9423	80.5426
.31558E+11	83.4579	83.3717	83.3717	81.2943	81.2222	79.0145

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.470
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4873 TEMP m04o090	5432 TEMP 104i090	5431 TEMP 104o090	6019 TEMP o04o090
.10000E-05	140.081	29.8089	27.9711	26.1414
.20000E-05	159.634	72.8675	71.0295	69.1943
31.558	159.634	72.8676	71.0295	69.1943
.31558E+07	175.319	101.936	100.118	98.2623

.25246E+10	163.417	162.878	162.570	162.357	155.933	143.921
.28402E+10	156.648	156.159	155.878	155.685	149.837	138.664
.31558E+10	150.617	150.171	149.916	149.740	144.407	134.027
.63115E+10	120.968	120.710	120.562	120.460	117.360	110.767
.94673E+10	109.533	109.338	109.226	109.149	106.798	101.619
.12623E+11	102.856	102.696	102.604	102.541	100.612	96.2750
.15779E+11	98.2249	98.0874	98.0084	97.9540	96.2957	92.5178
.18935E+11	94.1974	94.0773	94.0083	93.9608	92.5122	89.1765
.22090E+11	90.9707	90.8638	90.8024	90.7601	89.4705	86.4749
.25246E+11	88.1765	88.0809	88.0259	87.9881	86.8346	84.1340
.28402E+11	85.8351	85.7485	85.6987	85.6644	84.6195	82.1570
.31558E+11	83.8788	83.7996	83.7540	83.7226	82.7664	80.5007

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:11 APR 08, 1995 CP= 101052.440
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2315 TEMP t13i090	574 TEMP t21i090	582 TEMP a21i090	581 TEMP s21i090	3829 TEMP h21i090	578 TEMP c21i090
.10000E-05	238.572	231.168	231.108	230.489	229.456	227.502
.20000E-05	253.226	245.828	245.768	245.146	244.107	242.144
31.558	253.226	245.828	245.768	245.146	244.107	242.144
.31558E+07	264.775	257.421	257.361	256.741	255.704	253.743
.63116E+07	267.572	260.241	260.181	259.561	258.526	256.569
.94673E+07	269.129	261.828	261.768	261.151	260.119	258.169
.12623E+08	270.233	262.963	262.904	262.289	261.261	259.318
.15779E+08	271.057	263.817	263.757	263.145	262.120	260.185
.18935E+08	271.717	264.506	264.447	263.837	262.817	260.889
.22090E+08	272.218	265.036	264.977	264.369	263.353	261.432
.25246E+08	272.570	265.416	265.358	264.752	263.739	261.826
.28402E+08	272.841	265.716	265.658	265.054	264.045	262.139
.31558E+08	273.065	265.967	265.909	265.308	264.303	262.404
.63115E+08	273.574	266.720	266.664	266.083	265.112	263.277
.94673E+08	272.522	265.879	265.824	265.262	264.321	262.542
.12623E+09	271.062	264.605	264.552	264.005	263.091	261.362
.15779E+09	269.549	263.252	263.201	262.668	261.776	260.092
.18935E+09	267.641	261.509	261.458	260.940	260.072	258.433
.22090E+09	265.880	259.891	259.842	259.336	258.489	256.888
.25246E+09	264.180	258.324	258.276	257.782	256.954	255.390
.28402E+09	262.097	256.367	256.321	255.837	255.028	253.498
.31558E+09	260.323	254.699	254.653	254.178	253.385	251.884
.63115E+09	240.977	236.338	236.300	235.911	235.261	234.030
.94673E+09	223.302	219.400	219.368	219.043	218.500	217.470
.12623E+10	207.563	204.220	204.193	203.916	203.454	202.576
.15779E+10	193.796	190.909	190.886	190.649	190.251	189.497
.18935E+10	182.378	179.846	179.826	179.619	179.272	178.613
.22090E+10	172.700	170.456	170.438	170.255	169.949	169.366
.25246E+10	164.148	162.137	162.121	161.958	161.684	161.164
.28402E+10	157.313	155.485	155.470	155.322	155.074	154.602
.31558E+10	151.222	149.557	149.544	149.409	149.184	148.755
.63115E+10	121.317	120.354	120.346	120.269	120.140	119.894
.94673E+10	109.797	109.067	109.062	109.004	108.906	108.721
.12623E+11	103.073	102.474	102.470	102.422	102.343	102.191
.15779E+11	98.4109	97.8965	97.8926	97.8519	97.7837	97.6533
.18935E+11	94.3598	93.9106	93.9072	93.8717	93.8122	93.6985
.22090E+11	91.1153	90.7155	90.7124	90.6808	90.6279	90.5268
.25246E+11	88.3058	87.9482	87.9454	87.9172	87.8700	87.7796
.28402E+11	85.9523	85.6283	85.6253	85.6002	85.5575	85.4756
.31558E+11	83.9861	83.6895	83.6872	83.6639	83.6248	83.5499

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

.63116E+07	179.227	108.701	106.899	105.065
.94673E+07	181.663	113.062	111.274	109.459
.12623E+08	183.499	116.379	114.604	112.806
.15779E+08	184.963	119.058	117.295	115.511
.18935E+08	186.202	121.318	119.565	117.795
.22090E+08	187.235	123.257	121.515	119.757
.25246E+08	188.079	124.904	123.173	121.426
.28402E+08	188.815	126.364	124.644	122.908
.31558E+08	189.481	127.691	125.981	124.255
.63115E+08	193.454	136.214	134.582	132.937
.94673E+08	195.015	140.673	139.102	137.520
.12623E+09	195.724	143.551	142.032	140.501
.15779E+09	196.027	145.557	144.080	142.593
.18935E+09	195.915	147.006	145.572	144.128
.22090E+09	195.694	148.080	146.682	145.274
.25246E+09	195.423	148.982	147.617	146.243
.28402E+09	194.597	149.060	147.726	146.382
.31558E+09	193.873	149.082	147.773	146.455
.63115E+09	184.166	145.650	144.569	143.480
.94673E+09	173.750	139.558	138.644	137.722
.12623E+10	163.651	132.650	131.862	131.066
.15779E+10	154.732	126.563	125.878	125.186
.18935E+10	147.253	121.456	120.853	120.242
.22090E+10	140.890	117.153	116.616	116.072
.25246E+10	135.069	113.029	112.548	112.058
.28402E+10	130.437	109.816	109.377	108.930
.31558E+10	126.390	107.143	106.742	106.333
.63115E+10	105.938	93.3489	93.1171	92.8805
.94673E+10	97.8301	87.8005	87.6258	87.4475
.12623E+11	93.1019	84.6283	84.4854	84.3393
.15779E+11	89.7568	82.3248	82.2023	82.0774
.18935E+11	86.7412	80.1311	80.0245	79.9157
.22090E+11	84.2891	78.3149	78.2203	78.1235
.25246E+11	82.1648	76.7486	76.6641	76.5780
.28402E+11	80.3616	75.3977	75.3213	75.2434
.31558E+11	78.8484	74.2611	74.1914	74.1199

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 6 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 101052.670 TIME= 20:25:11
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 37 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 10 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 265 ITEM= TEMP COMP= NAME= a01o135

VARIABLE 6 IS AT NODE 461 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 7 IS AT NODE 1270 ITEM= TEMP COMP= NAME= t04i135

VARIABLE 8 IS AT NODE 1278 ITEM= TEMP COMP= NAME= a04i135

VARIABLE 9 IS AT NODE 1188 ITEM= TEMP COMP= NAME= s04i135

VARIABLE 10 IS AT NODE 1228 ITEM= TEMP COMP= NAME= h04i135

VARIABLE 11 IS AT NODE 1244 ITEM= TEMP COMP= NAME= c04i135

VARIABLE 12 IS AT NODE 1260 ITEM= TEMP COMP= NAME= h04o135

VARIABLE 13 IS AT NODE 1197 ITEM= TEMP COMP= NAME= s04o135

VARIABLE 14 IS AT NODE 1305 ITEM= TEMP COMP= NAME= a04o135

VARIABLE 15 IS AT NODE 1323 ITEM= TEMP COMP= NAME= t04o135
 VARIABLE 16 IS AT NODE 2733 ITEM= TEMP COMP= NAME= t11i135
 VARIABLE 17 IS AT NODE 2741 ITEM= TEMP COMP= NAME= a11i135
 VARIABLE 18 IS AT NODE 2651 ITEM= TEMP COMP= NAME= s11i135
 VARIABLE 19 IS AT NODE 2691 ITEM= TEMP COMP= NAME= h11i135
 VARIABLE 20 IS AT NODE 2707 ITEM= TEMP COMP= NAME= c11i135
 VARIABLE 21 IS AT NODE 2723 ITEM= TEMP COMP= NAME= h11o135
 VARIABLE 22 IS AT NODE 2660 ITEM= TEMP COMP= NAME= s11o135
 VARIABLE 23 IS AT NODE 2768 ITEM= TEMP COMP= NAME= a11o135
 VARIABLE 24 IS AT NODE 2786 ITEM= TEMP COMP= NAME= t11o135
 VARIABLE 25 IS AT NODE 4344 ITEM= TEMP COMP= NAME= g11i135
 VARIABLE 26 IS AT NODE 5109 ITEM= TEMP COMP= NAME= m11i135
 VARIABLE 27 IS AT NODE 4910 ITEM= TEMP COMP= NAME= m11o135
 VARIABLE 28 IS AT NODE 5767 ITEM= TEMP COMP= NAME= i11i135
 VARIABLE 29 IS AT NODE 5839 ITEM= TEMP COMP= NAME= i11o135
 VARIABLE 30 IS AT NODE 6280 ITEM= TEMP COMP= NAME= o11o135
 Add centers of assemblies 5, 10, 12, 13, 20, 21
 VARIABLE 31 IS AT NODE 102 ITEM= TEMP COMP= NAME= c06i135
 VARIABLE 32 IS AT NODE 102 ITEM= TEMP COMP= NAME= c14i135
 VARIABLE 33 IS AT NODE 2289 ITEM= TEMP COMP= NAME= c15i135
 VARIABLE 34 IS AT NODE 2498 ITEM= TEMP COMP= NAME= c17i135
 VARIABLE 35 IS AT NODE 228 ITEM= TEMP COMP= NAME= c22i135
 VARIABLE 36 IS AT NODE 3543 ITEM= TEMP COMP= NAME= c23i135

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	6 TEMP	c01i135	84.87	.3156E+11	286.4	.6312E+08
3 NSOL	37 TEMP	h01o135	84.55	.3156E+11	282.1	.6312E+08
4 NSOL	10 TEMP	s01o135	84.05	.3156E+11	275.2	.6312E+08
5 NSOL	265 TEMP	a01o135	84.05	.3156E+11	275.1	.6312E+08
6 NSOL	461 TEMP	t01o135	84.05	.3156E+11	275.1	.6312E+08
7 NSOL	1270 TEMP	t04i135	84.02	.3156E+11	274.5	.6312E+08
8 NSOL	1278 TEMP	a04i135	84.02	.3156E+11	274.4	.6312E+08
9 NSOL	1188 TEMP	s04i135	84.01	.3156E+11	274.3	.6312E+08
10 NSOL	1228 TEMP	h04i135	84.40	.3156E+11	278.7	.6312E+08
11 NSOL	1244 TEMP	c04i135	84.57	.3156E+11	280.0	.6312E+08
12 NSOL	1260 TEMP	h04o135	84.17	.3156E+11	273.7	.6312E+08
13 NSOL	1197 TEMP	s04o135	83.60	.3156E+11	265.1	.6312E+08
14 NSOL	1305 TEMP	a04o135	83.59	.3156E+11	264.9	.6312E+08
15 NSOL	1323 TEMP	t04o135	83.59	.3156E+11	264.7	.6312E+08
16 NSOL	2733 TEMP	t11i135	83.53	.3156E+11	263.4	.6312E+08
17 NSOL	2741 TEMP	a11i135	83.52	.3156E+11	263.3	.6312E+08
18 NSOL	2651 TEMP	s11i135	83.51	.3156E+11	263.1	.6312E+08
19 NSOL	2691 TEMP	h11i135	83.82	.3156E+11	265.9	.6312E+08
20 NSOL	2707 TEMP	c11i135	83.89	.3156E+11	265.0	.6312E+08

21	NSOL	2723	TEMP	h11o135	83.37	.3156E+11	256.1	.6312E+08
22	NSOL	2660	TEMP	s11o135	82.74	.3156E+11	245.8	.6312E+08
23	NSOL	2768	TEMP	a11o135	82.74	.3156E+11	245.7	.6312E+08
24	NSOL	2786	TEMP	t11o135	82.73	.3156E+11	245.5	.6312E+08
25	NSOL	4344	TEMP	g11i135	80.44	.3156E+11	216.3	.1262E+09
26	NSOL	5109	TEMP	m11i135	79.23	.3156E+11	200.6	.1578E+09
27	NSOL	4910	TEMP	m11o135	79.13	.3156E+11	198.9	.1578E+09
28	NSOL	5767	TEMP	i11i135	30.15	.1000E-05	148.9	.3156E+09
29	NSOL	5839	TEMP	i11o135	28.14	.1000E-05	147.5	.3156E+09
30	NSOL	6280	TEMP	o11o135	26.14	.1000E-05	146.1	.3156E+09
31	NSOL	102	TEMP	c06i135	84.79	.3156E+11	284.7	.6312E+08
32	NSOL	102	TEMP	c14i135	84.79	.3156E+11	284.7	.6312E+08
33	NSOL	2289	TEMP	c15i135	84.56	.3156E+11	279.6	.6312E+08
34	NSOL	2498	TEMP	c17i135	84.32	.3156E+11	274.5	.6312E+08
35	NSOL	228	TEMP	c22i135	84.07	.3156E+11	269.4	.6312E+08
36	NSOL	3543	TEMP	c23i135	83.66	.3156E+11	261.7	.6312E+08
37	NSOL	4625	TEMP	m04o1090	79.01	.3156E+11	198.7	.1578E+09
38	NSOL	4873	TEMP	m04o090	78.85	.3156E+11	196.0	.1578E+09
39	NSOL	5432	TEMP	i04i090	29.81	.1000E-05	149.1	.3156E+09
40	NSOL	5431	TEMP	i04o090	27.97	.1000E-05	147.8	.3156E+09
41	NSOL	6019	TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.460
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	6 TEMP c011i35	37 TEMP h01o135	10 TEMP s01o135	265 TEMP a01o135	461 TEMP t01o135	1270 TEMP t04i135
.10000E-05	253.632	248.576	240.429	240.325	240.235	239.634
.20000E-05	267.759	262.904	255.083	254.979	254.889	254.295
31.558	267.759	262.904	255.083	254.979	254.889	254.295
.31558E+07	278.819	274.117	266.566	266.462	266.372	265.782
.63116E+07	281.474	276.822	269.355	269.251	269.161	268.574
.94673E+07	282.922	278.308	270.904	270.801	270.711	270.128
.12623E+08	283.937	279.353	272.000	271.897	271.808	271.227
.15779E+08	284.679	280.123	272.816	272.714	272.625	272.047
.18935E+08	285.267	280.735	273.468	273.366	273.277	272.702
.22090E+08	285.700	281.191	273.962	273.860	273.772	273.200
.25246E+08	285.987	281.500	274.306	274.205	274.117	273.547
.28402E+08	286.198	281.731	274.570	274.469	274.382	273.814
.31558E+08	286.364	281.916	274.787	274.686	274.599	274.034
.63115E+08	286.406	282.112	275.234	275.137	275.053	274.507
.94673E+08	284.991	280.815	274.130	274.035	273.954	273.424
.12623E+09	283.225	279.148	272.623	272.532	272.453	271.937
.15779E+09	281.453	277.460	271.071	270.982	270.904	270.401
.18935E+09	279.284	275.375	269.121	269.034	268.959	268.467
.22090E+09	277.299	273.462	267.325	267.240	267.166	266.685
.25246E+09	275.390	271.620	265.591	265.508	265.436	264.966
.28402E+09	273.121	269.411	263.478	263.397	263.327	262.865
.31558E+09	271.191	267.531	261.679	261.599	261.530	261.076
.63115E+09	250.384	247.189	242.090	242.024	241.967	241.587
.94673E+09	231.553	228.733	224.235	224.180	224.132	223.808
.12623E+10	214.914	212.388	208.360	208.313	208.272	207.990
.15779E+10	200.372	198.101	194.484	194.442	194.407	194.160
.18935E+10	188.305	186.251	182.980	182.944	182.913	182.694
.22090E+10	178.079	176.209	173.232	173.200	173.173	172.978
.25246E+10	169.076	167.358	164.624	164.595	164.571	164.395
.28402E+10	161.877	160.282	157.745	157.719	157.696	157.535
.31558E+10	155.448	153.968	151.614	151.590	151.570	151.423
.63115E+10	123.947	123.018	121.543	121.529	121.518	121.430
.94673E+10	111.849	111.122	109.968	109.957	109.948	109.882
.12623E+11	104.785	104.177	103.212	103.204	103.196	103.142

.15779E+11	99.8991	99.3700	98.5305	98.5232	98.5169	98.4695
.18935E+11	95.6697	95.2036	94.4643	94.4578	94.4524	94.4110
.22090E+11	92.2887	91.8708	91.2082	91.2025	91.1976	91.1607
.25246E+11	89.3615	88.9854	88.3888	88.3837	88.3793	88.3464
.28402E+11	86.9132	86.5707	86.0274	86.0227	86.0188	85.9889
.31558E+11	84.8690	84.5540	84.0547	84.0505	84.0468	84.0195

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.470
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1278 TEMP a04i135	1188 TEMP s04i135	1228 TEMP h04i135	1244 TEMP c04i135	1260 TEMP h04o135	1197 TEMP s04o135
.10000E-05	239.543	239.461	244.902	246.771	239.551	229.445
.20000E-05	254.204	254.122	259.249	260.933	253.919	244.135
31.558	254.204	254.122	259.249	260.933	253.919	244.135
.31558E+07	265.691	265.609	270.459	271.979	265.140	255.654
.63116E+07	268.484	268.402	273.174	274.652	267.872	258.479
.94673E+07	270.037	269.955	274.675	276.126	269.394	260.076
.12623E+08	271.137	271.056	275.735	277.168	270.476	261.219
.15779E+08	271.958	271.876	276.520	277.937	271.281	262.080
.18935E+08	272.613	272.532	277.147	278.551	271.929	262.777
.22090E+08	273.110	273.030	277.616	279.010	272.420	263.314
.25246E+08	273.458	273.378	277.939	279.322	272.762	263.700
.28402E+08	273.726	273.646	278.184	279.558	273.027	264.006
.31558E+08	273.946	273.866	278.382	279.749	273.245	264.264
.63115E+08	274.422	274.345	278.696	280.010	273.732	265.073
.94673E+08	273.342	273.267	277.502	278.784	272.686	264.278
.12623E+09	271.857	271.784	275.924	277.185	271.241	263.045
.15779E+09	270.322	270.252	274.314	275.557	269.744	261.728
.18935E+09	268.391	268.323	272.308	273.538	267.856	260.020
.22090E+09	266.611	266.544	270.465	271.682	266.114	258.433
.25246E+09	264.893	264.827	268.688	269.893	264.431	256.895
.28402E+09	262.794	262.730	266.540	267.739	262.373	254.966
.31558E+09	261.006	260.943	264.711	265.905	260.619	253.321
.63115E+09	241.530	241.478	244.844	245.981	241.447	235.173
.94673E+09	223.759	223.716	226.750	227.829	223.881	218.400
.12623E+10	207.948	207.911	210.682	211.709	208.217	203.349
.15779E+10	194.125	194.093	196.619	197.587	194.482	190.147
.18935E+10	182.663	182.635	184.946	185.853	183.067	179.170
.22090E+10	172.950	172.925	175.050	175.899	173.381	169.850
.25246E+10	164.370	164.348	166.317	167.118	164.819	161.590
.28402E+10	157.513	157.493	159.333	160.092	157.970	154.983
.31558E+10	151.402	151.384	153.103	153.820	151.859	149.097
.63115E+10	121.419	121.408	122.512	122.994	121.787	120.080
.94673E+10	109.873	109.865	110.737	111.124	110.186	108.858
.12623E+11	103.134	103.128	103.861	104.189	103.409	102.301
.15779E+11	98.4632	98.4576	99.0977	99.3860	98.7087	97.7471
.18935E+11	94.4054	94.4005	94.9657	95.2213	94.6258	93.7800
.22090E+11	91.1558	91.1514	91.6589	91.8892	91.3562	90.5990
.25246E+11	88.3419	88.3380	88.7957	89.0039	88.5248	87.8437
.28402E+11	85.9849	85.9813	86.3987	86.5891	86.1532	85.5334
.31558E+11	84.0158	84.0126	84.3965	84.5721	84.1718	83.6025

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1305 TEMP a04o135	1323 TEMP t04o135	2733 TEMP t11i135	2741 TEMP a11i135	2651 TEMP s11i135	2691 TEMP h11i135
.10000E-05	229.225	229.022	227.660	227.457	227.260	231.096
.20000E-05	243.915	243.713	242.366	242.162	241.965	245.479
31.558	243.915	243.713	242.366	242.162	241.965	245.479
.31558E+07	255.434	255.232	253.899	253.695	253.498	256.748
.63116E+07	258.261	258.059	256.732	256.529	256.332	259.505
.94673E+07	259.858	259.657	258.336	258.134	257.938	261.061
.12623E+08	261.002	260.802	259.488	259.287	259.091	262.178
.15779E+08	261.863	261.664	260.356	260.156	259.961	263.015
.18935E+08	262.561	262.363	261.061	260.862	260.668	263.698
.22090E+08	263.099	262.901	261.605	261.407	261.214	264.220
.25246E+08	263.487	263.289	261.999	261.801	261.609	264.594
.28402E+08	263.793	263.597	262.312	262.115	261.923	264.890
.31558E+08	264.052	263.856	262.577	262.380	262.189	265.139
.63115E+08	264.868	264.679	263.444	263.254	263.070	265.899
.94673E+08	264.080	263.897	262.699	262.515	262.337	265.089
.12623E+09	262.852	262.674	261.509	261.330	261.157	263.851
.15779E+09	261.540	261.366	260.229	260.054	259.885	262.534
.18935E+09	259.837	259.668	258.559	258.389	258.224	260.830
.22090E+09	258.254	258.089	257.005	256.839	256.679	259.249
.25246E+09	256.720	256.559	255.498	255.336	255.179	257.716
.28402E+09	254.795	254.637	253.598	253.440	253.286	255.798
.31558E+09	253.153	252.998	251.977	251.822	251.671	254.163
.63115E+09	235.035	234.908	234.056	233.928	233.804	236.088
.94673E+09	218.284	218.177	217.450	217.343	217.239	219.355
.12623E+10	203.250	203.159	202.529	202.437	202.348	204.327
.15779E+10	190.062	189.983	189.433	189.354	189.277	191.107
.18935E+10	179.095	179.026	178.540	178.470	178.404	180.101
.22090E+10	169.784	169.723	169.289	169.228	169.169	170.747
.25246E+10	161.531	161.476	161.086	161.031	160.978	162.456
.28402E+10	154.929	154.880	154.524	154.474	154.426	155.818
.31558E+10	149.048	149.003	148.678	148.632	148.589	149.896
.63115E+10	120.052	120.026	119.834	119.808	119.782	120.644
.94673E+10	108.836	108.817	108.670	108.650	108.631	109.318
.12623E+11	102.283	102.267	102.147	102.130	102.115	102.696
.15779E+11	97.7320	97.7182	97.6143	97.6004	97.5871	98.0954
.18935E+11	93.7668	93.7547	93.6639	93.6518	93.6401	94.0900
.22090E+11	90.5873	90.5765	90.4957	90.4849	90.4745	90.8793
.25246E+11	87.8333	87.8236	87.7514	87.7417	87.7324	88.0981
.28402E+11	85.5239	85.5152	85.4497	85.4410	85.4326	85.7665
.31558E+11	83.5938	83.5858	83.5259	83.5179	83.5102	83.8178

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.500
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2707 TEMP c11i135	2723 TEMP h11o135	2660 TEMP s11o135	2768 TEMP a11o135	2786 TEMP t11o135	4344 TEMP g11i135
.10000E-05	230.608	220.467	208.509	208.311	208.135	169.569
.20000E-05	244.801	234.882	223.314	223.119	222.946	186.920
31.558	244.801	234.882	223.314	223.119	222.946	186.920
.31558E+07	255.927	246.213	234.976	234.784	234.613	200.576
.63116E+07	258.650	249.011	237.877	237.686	237.516	204.016
.94673E+07	260.187	250.615	239.568	239.378	239.209	206.111
.12623E+08	261.294	251.778	240.802	240.613	240.445	207.671
.15779E+08	262.123	252.659	241.750	241.562	241.395	208.901
.18935E+08	262.802	253.386	242.535	242.348	242.182	209.933

.22090E+08	263.321	253.949	243.156	242.969	242.803	210.780
.25246E+08	263.693	254.365	243.625	243.439	243.274	211.455
.28402E+08	263.988	254.701	244.011	243.826	243.662	212.032
.31558E+08	264.237	254.989	244.349	244.165	244.001	212.551
.63115E+08	265.013	256.094	245.850	245.672	245.515	215.421
.94673E+08	264.234	255.581	245.647	245.475	245.322	216.203
.12623E+09	263.030	254.603	244.933	244.766	244.618	216.288
.15779E+09	261.743	253.510	244.063	243.900	243.755	216.079
.18935E+09	260.075	252.036	242.814	242.656	242.515	215.473
.22090E+09	258.523	250.654	241.626	241.471	241.333	214.833
.25246E+09	257.019	249.306	240.459	240.307	240.172	214.173
.28402E+09	255.132	247.562	238.879	238.730	238.598	213.025
.31558E+09	253.521	246.072	237.525	237.379	237.250	212.032
.63115E+09	235.684	229.377	222.093	221.971	221.863	199.890
.94673E+09	219.126	213.684	207.353	207.250	207.158	187.654
.12623E+10	204.224	199.446	193.856	193.767	193.687	176.127
.15779E+10	191.087	186.876	181.926	181.849	181.779	165.944
.18935E+10	180.138	176.382	171.946	171.878	171.817	157.421
.22090E+10	170.822	167.444	163.438	163.377	163.323	150.167
.25246E+10	162.561	159.492	155.838	155.784	155.735	143.612
.28402E+10	155.943	153.120	149.747	149.698	149.653	138.376
.31558E+10	150.031	147.431	144.321	144.276	144.235	133.757
.63115E+10	120.783	119.209	117.303	117.277	117.252	110.594
.94673E+10	109.445	108.229	106.751	106.731	106.712	101.481
.12623E+11	102.810	101.801	100.572	100.555	100.540	96.1573
.15779E+11	98.1990	97.3258	96.2601	96.2457	96.2327	92.4148
.18935E+11	94.1841	93.4178	92.4812	92.4687	92.4573	89.0865
.22090E+11	90.9658	90.2808	89.4429	89.4317	89.4215	86.3945
.25246E+11	88.1775	87.5626	86.8095	86.7995	86.7904	84.0614
.28402E+11	85.8401	85.2812	84.5964	84.5873	84.5790	82.0903
.31558E+11	83.8865	83.3736	82.7447	82.7364	82.7288	80.4386

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5109 TEMP m11i135	4910 TEMP m11o135	5767 TEMP i11i135	5839 TEMP i11o135	6280 TEMP o11i135	102 TEMP c06i135
.10000E-05	147.387	145.164	30.1482	28.1402	26.1414	251.797
.20000E-05	166.314	164.145	73.1846	71.1751	69.1678	265.929
.31558E+07	166.314	164.145	73.1847	71.1751	69.1678	265.929
.63116E+07	181.257	179.142	101.687	99.7127	97.7075	276.998
.94673E+07	185.034	182.937	108.453	106.496	104.513	279.658
.12623E+08	187.381	185.299	112.819	110.877	108.915	281.113
.15779E+08	189.143	187.076	116.140	114.212	112.269	282.135
.18935E+08	190.548	188.493	118.824	116.908	114.980	282.884
.22090E+08	191.733	189.690	121.087	119.183	117.269	283.479
.25246E+08	192.719	190.687	123.031	121.138	119.238	283.919
.28402E+08	193.520	191.498	124.680	122.799	120.911	284.213
.31558E+08	194.214	192.202	126.138	124.269	122.393	284.431
.63115E+08	194.843	192.841	127.467	125.609	123.744	284.603
.94673E+08	198.541	196.618	136.002	134.228	132.451	284.704
.12623E+09	199.911	198.052	140.468	138.761	137.051	283.340
.15779E+09	200.470	198.665	143.353	141.702	140.048	281.619
.18935E+09	200.650	198.890	145.364	143.759	142.152	279.885
.22090E+09	200.420	198.706	146.816	145.256	143.696	277.757
.25246E+09	200.100	198.425	147.892	146.373	144.852	275.806
.28402E+09	199.736	198.098	148.796	147.312	145.828	273.930
.31558E+09	198.836	197.232	148.880	147.429	145.978	271.692
.63115E+09	198.050	196.474	148.906	147.483	146.059	269.788
.94673E+09	187.784	186.464	145.493	144.317	143.140	249.219
.12623E+10	176.956	175.828	139.412	138.417	137.421	230.570

.12623E+10	166.536	165.560	132.517	131.659	130.800	214.070
.15779E+10	157.330	156.479	126.438	125.694	124.947	199.641
.18935E+10	149.614	148.861	121.337	120.681	120.023	187.662
.22090E+10	143.047	142.374	117.039	116.456	115.870	177.508
.25246E+10	137.060	136.451	112.922	112.399	111.872	168.564
.28402E+10	132.290	131.733	109.713	109.237	108.755	161.411
.31558E+10	128.111	127.600	107.043	106.609	106.169	155.023
.63115E+10	107.032	106.729	93.2769	93.0263	92.7727	123.699
.94673E+10	98.6909	98.4587	87.7396	87.5510	87.3603	111.661
.12623E+11	93.8232	93.6316	84.5748	84.4208	84.2646	104.631
.15779E+11	90.3848	90.2199	82.2769	82.1450	82.0116	99.7663
.18935E+11	87.2962	87.1520	80.0886	79.9739	79.8579	95.5537
.22090E+11	84.7878	84.6593	78.2765	78.1748	78.0716	92.1854
.25246E+11	82.6142	82.4992	76.7133	76.6225	76.5307	89.2690
.28402E+11	80.7713	80.6671	75.3649	75.2828	75.1999	86.8294
.31558E+11	79.2252	79.1297	74.2300	74.1551	74.0791	84.7923

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:18 APR 08, 1995 CP= 101059.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	102 TEMP	2289 TEMP	2498 TEMP	228 TEMP	3543 TEMP
	c14i135	c15i135	c17i135	c22i135	c23i135
.10000E-05	251.797	246.332	240.770	235.190	226.597
.20000E-05	265.929	260.483	254.959	249.399	240.965
31.558	265.929	260.483	254.959	249.399	240.965
.31558E+07	276.998	271.577	266.052	260.598	252.285
.63116E+07	279.658	274.252	268.743	263.311	255.053
.94673E+07	281.113	275.727	270.240	264.832	256.625
.12623E+08	282.135	276.770	271.307	265.922	257.760
.15779E+08	282.884	277.540	272.098	266.735	258.614
.18935E+08	283.479	278.156	272.737	267.396	259.316
.22090E+08	283.919	278.616	273.217	267.898	259.854
.25246E+08	284.213	278.930	273.552	268.254	260.246
.28402E+08	284.431	279.168	273.810	268.533	260.559
.31558E+08	284.603	279.360	274.023	268.765	260.824
.63115E+08	284.704	279.636	274.476	269.395	261.732
.94673E+08	283.340	278.424	273.416	268.486	261.051
.12623E+09	281.619	276.837	271.963	267.165	259.927
.15779E+09	279.885	275.220	270.462	265.779	258.708
.18935E+09	277.757	273.211	268.572	264.007	257.106
.22090E+09	275.806	271.365	266.829	262.366	255.612
.25246E+09	273.930	269.585	265.146	260.778	254.161
.28402E+09	271.692	267.439	263.091	258.811	252.320
.31558E+09	269.788	265.611	261.340	257.134	250.747
.63115E+09	249.219	245.752	242.184	238.674	233.282
.94673E+09	230.570	227.646	224.619	221.640	217.011
.12623E+10	214.070	211.560	208.948	206.375	202.329
.15779E+10	199.641	197.463	195.188	192.944	189.388
.18935E+10	187.662	185.748	183.742	181.764	178.604
.22090E+10	177.508	175.809	174.023	172.262	169.430
.25246E+10	168.564	167.039	165.433	163.849	161.286
.28402E+10	161.411	160.023	158.558	157.112	154.762
.31558E+10	155.023	153.758	152.419	151.097	148.936
.63115E+10	123.699	122.962	122.175	121.397	120.101
.94673E+10	111.661	111.101	110.501	109.909	108.913
.12623E+11	104.631	104.171	103.678	103.190	102.366
.15779E+11	99.7663	99.3707	98.9455	98.5251	97.8132
.18935E+11	95.5537	95.2079	94.8362	94.4685	93.8444
.22090E+11	92.1854	91.8774	91.5462	91.2187	90.6614
.25246E+11	89.2690	88.9934	88.6969	88.4037	87.9038
.28402E+11	86.8294	86.5797	86.3108	86.0450	85.5910
.31558E+11	84.7923	84.5636	84.3173	84.0741	83.6576

* Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 924 ITEM= TEMP COMP= NAME= t02i000

*** WARNING *** CP= 101059.730 TIME= 20:25:18
NSOL command erases all previously stored or calculated data
unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 253 ITEM= TEMP COMP= NAME= a02i000

VARIABLE 4 IS AT NODE 1 ITEM= TEMP COMP= NAME= s02i000

VARIABLE 5 IS AT NODE 4 ITEM= TEMP COMP= NAME= h02i000

VARIABLE 6 IS AT NODE 6 ITEM= TEMP COMP= NAME= c02i000

VARIABLE 7 IS AT NODE 8 ITEM= TEMP COMP= NAME= h02o000

VARIABLE 8 IS AT NODE 2 ITEM= TEMP COMP= NAME= s02o000

VARIABLE 9 IS AT NODE 263 ITEM= TEMP COMP= NAME= a02o000

VARIABLE 10 IS AT NODE 459 ITEM= TEMP COMP= NAME= t08i000

VARIABLE 11 IS AT NODE 669 ITEM= TEMP COMP= NAME= a08i000

VARIABLE 12 IS AT NODE 623 ITEM= TEMP COMP= NAME= s08i000

VARIABLE 13 IS AT NODE 626 ITEM= TEMP COMP= NAME= h08i000

VARIABLE 14 IS AT NODE 628 ITEM= TEMP COMP= NAME= c08i000

VARIABLE 15 IS AT NODE 630 ITEM= TEMP COMP= NAME= h08o000

VARIABLE 16 IS AT NODE 624 ITEM= TEMP COMP= NAME= s08o000

VARIABLE 17 IS AT NODE 688 ITEM= TEMP COMP= NAME= a08o000

VARIABLE 18 IS AT NODE 698 ITEM= TEMP COMP= NAME= t18i000

VARIABLE 19 IS AT NODE 782 ITEM= TEMP COMP= NAME= a18i000

VARIABLE 20 IS AT NODE 736 ITEM= TEMP COMP= NAME= s18i000

VARIABLE 21 IS AT NODE 739 ITEM= TEMP COMP= NAME= h18i000

VARIABLE 22 IS AT NODE 741 ITEM= TEMP COMP= NAME= c18i000

VARIABLE 23 IS AT NODE 743 ITEM= TEMP COMP= NAME= h18o000

VARIABLE 24 IS AT NODE 737 ITEM= TEMP COMP= NAME= s18o000

VARIABLE 25 IS AT NODE 801 ITEM= TEMP COMP= NAME= a18o000

VARIABLE 26 IS AT NODE 811 ITEM= TEMP COMP= NAME= t24i000

VARIABLE 27 IS AT NODE 351 ITEM= TEMP COMP= NAME= a24i000

VARIABLE 28 IS AT NODE 127 ITEM= TEMP COMP= NAME= s24i000

VARIABLE 29 IS AT NODE 130 ITEM= TEMP COMP= NAME= h24i000

VARIABLE 30 IS AT NODE 132 ITEM= TEMP COMP= NAME= c24i000

VARIABLE 31 IS AT NODE 134 ITEM= TEMP COMP= NAME= h24o000

VARIABLE 32 IS AT NODE 128 ITEM= TEMP COMP= NAME= s24o000

VARIABLE 33 IS AT NODE 361 ITEM= TEMP COMP= NAME= t24o000
 VARIABLE 34 IS AT NODE 4271 ITEM= TEMP COMP= NAME= g24i000
 VARIABLE 35 IS AT NODE 4269 ITEM= TEMP COMP= NAME= g24o000
 VARIABLE 36 IS AT NODE 5135 ITEM= TEMP COMP= NAME= m24i000
 VARIABLE 37 IS AT NODE 4872 ITEM= TEMP COMP= NAME= m24o000
 VARIABLE 38 IS AT NODE 5728 ITEM= TEMP COMP= NAME= i24i000
 VARIABLE 39 IS AT NODE 5727 ITEM= TEMP COMP= NAME= i24o000
 VARIABLE 40 IS AT NODE 6241 ITEM= TEMP COMP= NAME= o24o000

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	924 TEMP	t02i000	84.18	.3156E+11	277.9	.6312E+08
3 NSOL	253 TEMP	a02i000	84.18	.3156E+11	277.9	.6312E+08
4 NSOL	1 TEMP	s02i000	84.18	.3156E+11	278.0	.6312E+08
5 NSOL	4 TEMP	h02i000	84.73	.3156E+11	284.9	.6312E+08
6 NSOL	6 TEMP	c02i000	84.87	.3156E+11	286.4	.6312E+08
7 NSOL	8 TEMP	h02o000	84.68	.3156E+11	283.7	.6312E+08
8 NSOL	2 TEMP	s02o000	84.07	.3156E+11	275.6	.6312E+08
9 NSOL	263 TEMP	a02o000	84.06	.3156E+11	275.4	.6312E+08
10 NSOL	459 TEMP	t08i000	84.06	.3156E+11	275.4	.6312E+08
11 NSOL	669 TEMP	a08i000	84.06	.3156E+11	275.4	.6312E+08
12 NSOL	623 TEMP	s08i000	84.07	.3156E+11	275.5	.6312E+08
13 NSOL	626 TEMP	h08i000	84.56	.3156E+11	281.3	.6312E+08
14 NSOL	628 TEMP	c08i000	84.65	.3156E+11	281.7	.6312E+08
15 NSOL	630 TEMP	h08o000	84.40	.3156E+11	277.9	.6312E+08
16 NSOL	624 TEMP	s08o000	83.74	.3156E+11	268.4	.6312E+08
17 NSOL	688 TEMP	a08o000	83.74	.3156E+11	268.3	.6312E+08
18 NSOL	698 TEMP	t18i000	83.74	.3156E+11	268.3	.6312E+08
19 NSOL	782 TEMP	a18i000	83.73	.3156E+11	268.2	.6312E+08
20 NSOL	736 TEMP	s18i000	83.74	.3156E+11	268.3	.6312E+08
21 NSOL	739 TEMP	h18i000	84.17	.3156E+11	273.0	.6312E+08
22 NSOL	741 TEMP	c18i000	84.20	.3156E+11	272.3	.6312E+08
23 NSOL	743 TEMP	h18o000	83.89	.3156E+11	267.0	.6312E+08
24 NSOL	737 TEMP	s18o000	83.15	.3156E+11	255.7	.6312E+08
25 NSOL	801 TEMP	a18o000	83.14	.3156E+11	255.6	.6312E+08
26 NSOL	811 TEMP	t24i000	83.14	.3156E+11	255.5	.6312E+08
27 NSOL	351 TEMP	a24i000	83.14	.3156E+11	255.5	.6312E+08
28 NSOL	127 TEMP	s24i000	83.14	.3156E+11	255.6	.6312E+08
29 NSOL	130 TEMP	h24i000	83.39	.3156E+11	257.7	.6312E+08
30 NSOL	132 TEMP	c24i000	83.21	.3156E+11	253.9	.6312E+08
31 NSOL	134 TEMP	h24o000	82.60	.3156E+11	244.3	.6312E+08
32 NSOL	128 TEMP	s24o000	81.37	.3156E+11	225.7	.9467E+08
33 NSOL	361 TEMP	t24o000	81.35	.3156E+11	225.4	.9467E+08
34 NSOL	4271 TEMP	g24i000	80.43	.3156E+11	213.7	.1262E+09
35 NSOL	4269 TEMP	g24o000	80.41	.3156E+11	213.4	.1262E+09
36 NSOL	5135 TEMP	m24i000	79.77	.3156E+11	204.0	.1578E+09
37 NSOL	4872 TEMP	m24o000	79.71	.3156E+11	202.8	.1578E+09
38 NSOL	5728 TEMP	i24i000	29.83	.1000E-05	148.3	.3156E+09
39 NSOL	5727 TEMP	i24o000	28.10	.1000E-05	147.1	.3156E+09
40 NSOL	6241 TEMP	o24o000	26.14	.1000E-05	145.7	.3156E+09
41 NSOL	6019 TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	924 TEMP t02i000	253 TEMP a02i000	1 TEMP s02i000	4 TEMP h02i000	6 TEMP c02i000	8 TEMP h02o000
.10000E-05	243.276	243.280	243.390	251.709	253.632	250.465
.20000E-05	257.917	257.920	258.030	265.945	267.759	264.708
31.558	257.917	257.920	258.030	265.945	267.759	264.708
.31558E+07	269.433	269.436	269.543	277.109	278.819	275.851
.63116E+07	272.214	272.217	272.323	279.790	281.474	278.535
.94673E+07	273.751	273.754	273.860	281.256	282.922	280.006
.12623E+08	274.835	274.839	274.944	282.284	283.937	281.040
.15779E+08	275.641	275.644	275.748	283.039	284.679	281.799
.18935E+08	276.280	276.284	276.388	283.637	285.267	282.402
.22090E+08	276.763	276.766	276.870	284.079	285.700	282.849
.25246E+08	277.097	277.100	277.203	284.375	285.987	283.149
.28402E+08	277.351	277.354	277.456	284.595	286.198	283.373
.31558E+08	277.556	277.559	277.662	284.768	286.364	283.550
.63115E+08	277.911	277.914	278.012	284.867	286.406	283.689
.94673E+08	276.726	276.729	276.825	283.493	284.991	282.349
.12623E+09	275.149	275.152	275.245	281.759	283.225	280.646
.15779E+09	273.536	273.538	273.629	280.014	281.453	278.928
.18935E+09	271.524	271.526	271.615	277.872	279.284	276.812
.22090E+09	269.673	269.675	269.762	275.910	277.299	274.874
.25246E+09	267.889	267.891	267.977	274.022	275.390	273.008
.28402E+09	265.728	265.730	265.814	271.771	273.121	270.778
.31558E+09	263.888	263.890	263.972	269.856	271.191	268.880
.63115E+09	243.924	243.926	243.995	249.187	250.384	248.374
.94673E+09	225.786	225.787	225.846	230.474	231.553	229.784
.12623E+10	209.694	209.695	209.747	213.929	214.914	213.334
.15779E+10	195.639	195.640	195.685	199.472	200.372	198.955
.18935E+10	183.996	183.997	184.038	187.481	188.305	187.025
.22090E+10	174.136	174.137	174.173	177.322	178.079	176.916
.25246E+10	165.436	165.436	165.469	168.374	169.076	168.009
.28402E+10	158.484	158.485	158.515	161.220	161.877	160.888
.31558E+10	152.289	152.290	152.317	154.835	155.448	154.531
.63115E+10	121.937	121.938	121.954	123.552	123.947	123.374
.94673E+10	110.267	110.268	110.280	111.537	111.849	111.401
.12623E+11	103.459	103.459	103.469	104.523	104.785	104.411
.15779E+11	98.7424	98.7426	98.7515	99.6698	99.8991	99.5735
.18935E+11	94.6494	94.6496	94.6573	95.4672	95.6697	95.3830
.22090E+11	91.3731	91.3733	91.3802	92.1068	92.2887	92.0317
.25246E+11	88.5365	88.5366	88.5428	89.1975	89.3615	89.1303
.28402E+11	86.1612	86.1614	86.1670	86.7636	86.9132	86.7027
.31558E+11	84.1773	84.1775	84.1826	84.7313	84.8690	84.6755

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2 TEMP s02o000	263 TEMP a02o000	459 TEMP t08i000	669 TEMP a08i000	623 TEMP s08i000	626 TEMP h08i000
.10000E-05	240.784	240.660	240.655	240.646	240.745	247.873
.20000E-05	255.437	255.314	255.310	255.300	255.397	262.133
31.558	255.437	255.314	255.310	255.300	255.397	262.133
.31558E+07	266.914	266.793	266.788	266.779	266.873	273.266
.63116E+07	269.701	269.581	269.576	269.566	269.660	275.957
.94673E+07	271.249	271.129	271.124	271.115	271.208	277.439
.12623E+08	272.343	272.224	272.219	272.210	272.303	278.482
.15779E+08	273.158	273.040	273.035	273.026	273.118	279.252

.18935E+08	273.808	273.690	273.686	273.676	273.768	279.865
.22090E+08	274.301	274.183	274.179	274.169	274.261	280.321
.25246E+08	274.643	274.527	274.522	274.513	274.603	280.631
.28402E+08	274.906	274.790	274.785	274.776	274.866	280.865
.31558E+08	275.121	275.006	275.001	274.992	275.082	281.051
.63115E+08	275.557	275.445	275.441	275.432	275.518	281.273
.94673E+08	274.442	274.334	274.330	274.321	274.405	280.005
.12623E+09	272.927	272.822	272.818	272.809	272.891	278.365
.15779E+09	271.367	271.264	271.260	271.252	271.332	276.701
.18935E+09	269.409	269.309	269.305	269.297	269.375	274.642
.22090E+09	267.606	267.508	267.504	267.496	267.573	272.752
.25246E+09	265.866	265.770	265.766	265.759	265.834	270.931
.28402E+09	263.747	263.653	263.649	263.642	263.716	268.744
.31558E+09	261.943	261.850	261.846	261.839	261.912	266.883
.63115E+09	242.308	242.230	242.227	242.221	242.283	246.709
.94673E+09	224.418	224.352	224.350	224.345	224.398	228.375
.12623E+10	208.517	208.459	208.457	208.453	208.500	212.120
.15779E+10	194.618	194.568	194.566	194.563	194.604	197.899
.18935E+10	183.098	183.053	183.052	183.049	183.085	186.095
.22090E+10	173.337	173.297	173.296	173.293	173.326	176.089
.25246E+10	164.717	164.682	164.680	164.678	164.708	167.265
.28402E+10	157.830	157.797	157.796	157.794	157.821	160.210
.31558E+10	151.691	151.662	151.661	151.659	151.684	153.912
.63115E+10	121.588	121.570	121.569	121.568	121.583	123.011
.94673E+10	110.002	109.988	109.988	109.987	109.998	111.125
.12623E+11	103.240	103.229	103.229	103.228	103.237	104.184
.15779E+11	98.5542	98.5447	98.5444	98.5438	98.5520	99.3779
.18935E+11	94.4850	94.4766	94.4764	94.4759	94.4830	95.2121
.22090E+11	91.2266	91.2192	91.2190	91.2185	91.2249	91.8795
.25246E+11	88.4053	88.3987	88.3985	88.3981	88.4038	88.9940
.28402E+11	86.0423	86.0363	86.0361	86.0357	86.0409	86.5791
.31558E+11	84.0684	84.0629	84.0627	84.0624	84.0671	84.5622

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	628 TEMP c08i000	630 TEMP h08o000	624 TEMP s08o000	688 TEMP a08o000	698 TEMP t18i000	782 TEMP a18i000
.10000E-05	248.617	244.185	233.015	232.878	232.872	232.850
.20000E-05	262.775	258.469	247.709	247.573	247.567	247.545
31.558	262.775	258.469	247.709	247.573	247.567	247.545
.31558E+07	273.812	269.603	259.205	259.070	259.064	259.042
.63116E+07	276.481	272.306	262.020	261.886	261.880	261.858
.94673E+07	277.949	273.803	263.603	263.469	263.463	263.441
.12623E+08	278.983	274.862	264.731	264.599	264.593	264.570
.15779E+08	279.745	275.645	265.578	265.446	265.440	265.418
.18935E+08	280.353	276.273	266.261	266.130	266.124	266.102
.22090E+08	280.804	276.744	266.785	266.654	266.648	266.626
.25246E+08	281.110	277.068	267.158	267.027	267.021	266.999
.28402E+08	281.339	277.315	267.450	267.320	267.314	267.293
.31558E+08	281.523	277.515	267.695	267.565	267.559	267.538
.63115E+08	281.725	277.856	268.386	268.261	268.255	268.234
.94673E+08	280.448	276.689	267.489	267.368	267.362	267.342
.12623E+09	278.804	275.139	266.165	266.048	266.042	266.023
.15779E+09	277.137	273.553	264.770	264.655	264.650	264.631
.18935E+09	275.076	271.573	262.981	262.869	262.864	262.846
.22090E+09	273.185	269.752	261.325	261.215	261.210	261.192
.25246E+09	271.364	267.996	259.722	259.615	259.610	259.592
.28402E+09	269.178	265.870	257.731	257.627	257.622	257.604
.31558E+09	267.318	264.060	256.035	255.932	255.927	255.910
.63115E+09	247.153	244.358	237.406	237.321	237.317	237.304

.94673E+09	228.816	226.385	220.274	220.201	220.198	220.187
.12623E+10	212.556	210.407	204.950	204.888	204.885	204.875
.15779E+10	198.321	196.410	191.527	191.472	191.470	191.462
.18935E+10	186.497	184.784	180.377	180.329	180.327	180.320
.22090E+10	176.471	174.922	170.919	170.876	170.874	170.868
.25246E+10	167.630	166.217	162.546	162.507	162.506	162.500
.28402E+10	160.559	159.254	155.851	155.816	155.815	155.810
.31558E+10	154.245	153.040	149.887	149.855	149.853	149.849
.63115E+10	123.241	122.500	120.535	120.516	120.515	120.512
.94673E+10	111.311	110.736	109.201	109.187	109.186	109.184
.12623E+11	104.343	103.864	102.582	102.570	102.570	102.568
.15779E+11	99.5182	99.1029	97.9886	97.9783	97.9779	97.9766
.18935E+11	95.3368	94.9717	93.9907	93.9817	93.9814	93.9802
.22090E+11	91.9921	91.6653	90.7865	90.7785	90.7782	90.7771
.25246E+11	89.0959	88.8022	88.0113	88.0042	88.0040	88.0030
.28402E+11	86.6724	86.4053	85.6852	85.6788	85.6785	85.6777
.31558E+11	84.6484	84.4030	83.7414	83.7355	83.7352	83.7345

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	736 TEMP s18i000	739 TEMP h18i000	741 TEMP c18i000	743 TEMP h18o000	737 TEMP s18o000	801 TEMP a18o000
.10000E-05	232.937	238.926	238.384	232.381	219.107	218.951
.20000E-05	247.630	253.240	252.605	246.736	233.922	233.768
31.558	247.630	253.240	252.605	246.736	233.922	233.768
.31558E+07	259.124	264.397	263.686	257.949	245.523	245.370
.63116E+07	261.940	267.118	266.388	260.695	248.397	248.245
.94673E+07	263.522	268.636	267.897	262.241	250.046	249.895
.12623E+08	264.651	269.717	268.974	263.351	251.240	251.089
.15779E+08	265.498	270.522	269.776	264.182	252.147	251.997
.18935E+08	266.181	271.171	270.425	264.859	252.890	252.741
.22090E+08	266.705	271.662	270.915	265.375	253.471	253.322
.25246E+08	267.078	272.006	271.259	265.744	253.899	253.751
.28402E+08	267.371	272.272	271.527	266.035	254.246	254.098
.31558E+08	267.616	272.492	271.748	266.279	254.544	254.397
.63115E+08	268.309	273.001	272.277	267.000	255.695	255.553
.94673E+08	267.415	271.980	271.281	266.159	255.188	255.050
.12623E+09	266.094	270.557	269.883	264.894	254.204	254.070
.15779E+09	264.700	269.081	268.430	263.554	253.101	252.971
.18935E+09	262.914	267.214	266.589	261.827	251.612	251.485
.22090E+09	261.259	265.492	264.888	260.226	250.215	250.091
.25246E+09	259.657	263.827	263.244	258.674	248.853	248.732
.28402E+09	257.669	261.787	261.227	256.741	247.089	246.970
.31558E+09	255.973	260.049	259.506	255.090	245.582	245.465
.63115E+09	237.357	241.015	240.635	236.878	228.719	228.623
.94673E+09	220.233	223.552	223.290	220.041	212.910	212.828
.12623E+10	204.917	207.965	207.791	204.935	198.600	198.529
.15779E+10	191.498	194.286	194.172	191.646	186.010	185.949
.18935E+10	180.352	182.912	182.841	180.584	175.515	175.461
.22090E+10	170.897	173.256	173.216	171.183	166.592	166.544
.25246E+10	162.527	164.720	164.703	162.855	158.656	158.613
.28402E+10	155.834	157.889	157.890	156.188	152.304	152.265
.31558E+10	149.871	151.793	151.806	150.238	146.647	146.612
.63115E+10	120.526	121.769	121.809	120.854	118.636	118.615
.94673E+10	109.195	110.179	110.221	109.483	107.756	107.740
.12623E+11	102.577	103.406	103.446	102.833	101.394	101.381
.15779E+11	97.9840	98.7086	98.7454	98.2147	96.9656	96.9544
.18935E+11	93.9867	94.6269	94.6610	94.1950	93.0963	93.0865
.22090E+11	90.7830	91.3582	91.3900	90.9733	89.9897	89.9810
.25246E+11	88.0082	88.5273	88.5568	88.1826	87.2981	87.2903

.28402E+11	85.6824	86.1560	86.1836	85.8434	85.0385	85.0314
.31558E+11	83.7388	84.1747	84.2007	83.8885	83.1491	83.1426

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	811 TEMP t24i000	351 TEMP a24i000	127 TEMP s24i000	130 TEMP h24i000	132 TEMP c24i000	134 TEMP h24o000
.10000E-05	218.943	218.897	218.956	221.936	217.784	206.379
.20000E-05	233.759	233.713	233.770	236.464	232.367	221.387
.31558E+07	233.759	233.713	233.770	236.464	232.367	221.387
.63116E+07	245.362	245.315	245.370	247.831	243.777	233.133
.94673E+07	248.237	248.190	248.244	250.641	246.606	236.066
.12623E+08	249.886	249.840	249.894	252.249	248.235	237.782
.15779E+08	251.080	251.034	251.087	253.414	249.422	239.042
.18935E+08	251.988	251.943	251.995	254.295	250.323	240.007
.22090E+08	252.732	252.687	252.739	255.020	251.068	240.811
.25246E+08	253.313	253.268	253.320	255.581	251.648	241.446
.28402E+08	253.742	253.697	253.749	255.993	252.078	241.928
.31558E+08	254.090	254.045	254.096	256.326	252.427	242.326
.63115E+08	254.388	254.344	254.395	256.610	252.728	242.674
.94673E+08	255.545	255.502	255.551	257.671	253.926	244.252
.12623E+09	255.042	255.000	255.048	257.109	253.477	244.097
.15779E+09	254.063	254.022	254.069	256.086	252.552	243.419
.18935E+09	252.963	252.923	252.969	254.951	251.501	242.578
.22090E+09	251.478	251.439	251.484	253.434	250.068	241.355
.25246E+09	250.084	250.046	250.090	252.013	248.721	240.189
.28402E+09	248.725	248.688	248.731	250.629	247.406	239.042
.31558E+09	246.964	246.928	246.970	248.849	245.691	237.478
.63115E+09	245.459	245.424	245.465	247.329	244.225	236.137
.94673E+09	228.618	228.589	228.624	230.347	227.749	220.827
.12623E+10	212.823	212.799	212.830	214.444	212.230	206.193
.15779E+10	198.526	198.505	198.532	200.051	198.127	192.775
.18935E+10	185.945	185.927	185.952	187.363	185.685	180.933
.22090E+10	175.459	175.443	175.465	176.784	175.301	171.039
.25246E+10	166.542	166.527	166.548	167.781	166.461	162.607
.28402E+10	158.611	158.598	158.616	159.779	158.591	155.075
.31558E+10	152.263	152.251	152.268	153.369	152.284	149.035
.63115E+10	146.610	146.599	146.615	147.649	146.654	143.654
.94673E+10	118.614	118.608	118.617	119.307	118.721	116.876
.12623E+11	107.739	107.735	107.742	108.296	107.849	106.418
.15779E+11	101.380	101.376	101.382	101.853	101.485	100.293
.18935E+11	96.9538	96.9505	96.9559	97.3674	97.0503	96.0172
.22090E+11	93.0860	93.0832	93.0878	93.4526	93.1752	92.2672
.25246E+11	89.9805	89.9780	89.9821	90.3108	90.0637	89.2512
.28402E+11	87.2899	87.2876	87.2913	87.5885	87.3673	86.6372
.31558E+11	85.0311	85.0290	85.0324	85.3041	85.1035	84.4395
	83.1423	83.1404	83.1435	83.3940	83.2103	82.6005

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	128 TEMP	361 TEMP	4271 TEMP	4269 TEMP	5135 TEMP	4872 TEMP
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	s24o000	t24o000	g24i000	g24o000	m24i000	m24o000
.10000E-05	183.327	182.997	167.153	166.883	154.221	152.711
.20000E-05	199.400	199.080	184.282	184.016	172.034	170.544
31.558	199.400	199.080	184.282	184.016	172.034	170.544
.31558E+07	212.017	211.705	197.717	197.457	186.021	184.557
.63116E+07	215.206	214.897	201.133	200.875	189.594	188.140
.94673E+07	217.124	216.817	203.221	202.965	191.806	190.363
.12623E+08	218.546	218.242	204.781	204.527	193.469	192.034
.15779E+08	219.659	219.356	206.013	205.760	194.791	193.364
.18935E+08	220.591	220.290	207.050	206.799	195.908	194.489
.22090E+08	221.348	221.048	207.903	207.652	196.835	195.423
.25246E+08	221.942	221.643	208.584	208.335	197.584	196.179
.28402E+08	222.445	222.148	209.168	208.920	198.232	196.833
.31558E+08	222.894	222.598	209.694	209.447	198.818	197.426
.63115E+08	225.262	224.978	212.645	212.407	202.241	200.901
.94673E+08	225.708	225.432	213.510	213.280	203.457	202.160
.12623E+09	225.530	225.263	213.673	213.449	203.908	202.649
.15779E+09	225.108	224.847	213.532	213.314	204.008	202.779
.18935E+09	224.301	224.047	212.999	212.786	203.711	202.514
.22090E+09	223.491	223.242	212.423	212.215	203.336	202.167
.25246E+09	222.675	222.431	211.822	211.619	202.923	201.779
.28402E+09	221.402	221.163	210.734	210.534	201.997	200.877
.31558E+09	220.305	220.070	209.790	209.595	201.190	200.089
.63115E+09	207.232	207.034	198.115	197.951	190.758	189.838
.94673E+09	194.293	194.122	186.232	186.091	179.811	179.026
.12623E+10	182.219	182.070	174.983	174.860	169.291	168.612
.15779E+10	171.533	171.402	165.018	164.911	159.955	159.366
.18935E+10	162.581	162.465	156.660	156.566	152.109	151.589
.22090E+10	154.943	154.839	149.533	149.449	145.412	144.948
.25246E+10	148.065	147.971	143.080	143.004	139.312	138.894
.28402E+10	142.556	142.469	137.919	137.850	134.437	134.055
.31558E+10	137.669	137.590	133.363	133.299	130.146	129.796
.63115E+10	113.174	113.126	110.439	110.401	108.455	108.249
.94673E+10	103.536	103.499	101.388	101.359	99.8475	99.6905
.12623E+11	97.8925	97.8621	96.0932	96.0692	94.8108	94.6816
.15779E+11	93.9351	93.9089	92.3675	92.3468	91.2560	91.1448
.18935E+11	90.4360	90.4131	89.0514	89.0333	88.0742	87.9773
.22090E+11	87.6120	87.5916	86.3678	86.3517	85.4930	85.4069
.25246E+11	85.1633	85.1450	84.0411	84.0267	83.2549	83.1779
.28402E+11	83.0984	83.0818	82.0746	82.0616	81.3594	81.2896
.31558E+11	81.3688	81.3535	80.4261	80.4142	79.7691	79.7053

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:25:26 APR 08, 1995 CP= 101067.370
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

40 BWR MPC/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	5728 TEMP	5727 TEMP	6241 TEMP
	i24i000	i24o000	o24o000
.10000E-05	29.8297	28.0998	26.1414
.20000E-05	72.8321	71.1045	69.1405
31.558	72.8322	71.1045	69.1405
.31558E+07	100.846	99.1334	97.1372
.63116E+07	107.617	105.921	103.947
.94673E+07	111.991	110.308	108.355
.12623E+08	115.320	113.650	111.717
.15779E+08	118.011	116.352	114.434
.18935E+08	120.280	118.632	116.730
.22090E+08	122.232	120.593	118.705
.25246E+08	123.886	122.259	120.382
.28402E+08	125.347	123.729	121.865
.31558E+08	126.680	125.072	123.219
.63115E+08	135.250	133.717	131.951

.94673E+08	139.745	138.269	136.570
.12623E+09	142.654	141.226	139.583
.15779E+09	144.684	143.295	141.698
.18935E+09	146.154	144.804	143.252
.22090E+09	147.247	145.930	144.418
.25246E+09	148.163	146.878	145.401
.28402E+09	148.264	147.007	145.562
.31558E+09	148.304	147.069	145.651
.63115E+09	144.993	143.968	142.791
.94673E+09	138.984	138.113	137.113
.12623E+10	132.146	131.393	130.527
.15779E+10	126.111	125.455	124.700
.18935E+10	121.044	120.465	119.798
.22090E+10	116.773	116.258	115.662
.25246E+10	112.680	112.217	111.680
.28402E+10	109.489	109.067	108.576
.31558E+10	106.834	106.449	106.000
.63115E+10	93.1456	92.9221	92.6619
.94673E+10	87.6353	87.4668	87.2707
.12623E+11	84.4866	84.3488	84.1879
.15779E+11	82.1996	82.0816	81.9440
.18935E+11	80.0208	79.9181	79.7985
.22090E+11	78.2158	78.1247	78.0183
.25246E+11	76.6581	76.5769	76.4821
.28402E+11	75.3142	75.2408	75.1551
.31558E+11	74.1828	74.1157	74.0371

***** ROUTINE COMPLETED ***** CP = 101067.380

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ma40h1.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 20
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

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*-----*
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|               REV. 5.0 A               |               HP 9000/7XX               |
| CP TIME      (sec) = 101073.830      | TIME = 20:25:33      |
| ELAPSED TIME (sec) = 105026.000      | DATE  = 04/08/95      |
|-----|
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