

COMMONWEALTH EDISON COMPANY
CALCULATION TITLE PAGE

CALCULATION NO. BRW-97-0624-M, BYR97-277		PAGE NO.: 1
<input checked="" type="checkbox"/> SAFETY RELATED <input type="checkbox"/> REGULATORY RELATED <input type="checkbox"/> NON- SAFETY RELATED		
CALCULATION TITLE: Determination of the Division 11 and 12 Miscellaneous Electrical Equipment Rooms' Transient Temperature Profiles Following a Loss of Ventilation		
STATION/UNIT: BYR/BRW 1 & 2	SYSTEM ABBREVIATION: VE	
EQUIPMENT NO.: (IF APPL.) N/A	PROJECT NO.: (IF APPL.) 09050-059	
REV: 0	STATUS: Verified	QA SERIAL NO. OR CHRON NO. N/A
PREPARED BY: Chad J. Mitts <i>chad j mitts</i>		DATE: <u>6/25/97</u>
REVISION SUMMARY: Revision 0 Text pages 1-13, Attachment A pages A-1 - A-5, Attachment B pages B-1 - B-3, Attachment C pages C-1 - C-75		
ELECTRONIC CALCULATION DATA FILES REVISED: (Name.ext/size/date/hour:min/verification method/remarks)		
DO ANY ASSUMPTIONS IN THIS CALCULATION REQUIRE LATER VERIFICATION YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
REVIEWED BY: Michael J. Duffy <i>M. J. Duffy</i>	DATE: <u>6/25/97</u>	
REVIEW METHOD: <i>Detailed Review</i>	COMMENTS (C, NC OR CI): <u>CZ</u>	
APPROVED BY: Robert J. Peterson <i>Robert J. Peterson</i>	DATE: <u>6/25/97</u>	

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1. PURPOSE/OBJECTIVE

The purpose of this calculation is to determine the transient temperature profiles of the Byron and Braidwood Div. 11/12 Miscellaneous Electrical Equipment Rooms (MEERs) following a loss of the Miscellaneous Electrical Room Ventilation (VE) and Switchgear Heat Removal (VX) Systems. The VX and VE Systems are disabled by fire damage to the power circuits. The fire is assumed to be physically separated from the VE and VX envelope, therefore, it does not have an impact on the temperature transient other than causing the loss of ventilation.
2. METHODOLOGY/ACCEPTANCE CRITERIA
 - 2.1. Thermal Modeling of the Miscellaneous Electrical Equipment Rooms

Following a loss of ventilation, the primary means of dissipating the heat load from each of the rooms are transmission through the walls, ceilings, and floors and air exchange with surrounding rooms through openings such as ducts, cable penetrations, and doors. As the air temperature begins to increase, mass contained within the rooms such as equipment and structural steel also serves as a heat sink. In addition, the energy dissipation dynamics of the heat generating equipment within the rooms has an impact on the characteristics of the transient temperature profile. However, the interaction of the electrical equipment with the room air and the heat capacity of the mass contained within the room are conservatively neglected in the current analysis. A thermal model is constructed that includes only the room volumes, walls, ceilings, and floors, and therefore, the results of the model represent a conservative bound of the actual temperatures in the Div. 11/12 MEERs.

The methodology used to develop the model is summarized in the following steps.

 - 2.1.1. First, the general room arrangements, the wall, floor and ceiling surface areas, and the room volumes are determined from Reference 5.1. The rooms volumes and heat structures are assigned node numbers and the information is developed into a KITTY6 (Ref. 5.12) thermal model.
 - 2.1.2. The applicable heat transfer mechanisms between the room volumes and each of the heat structures are identified and the heat transfer coefficient data are built into heat transfer paths in the KITTY6 (Ref. 5.12) thermal model.
 - 2.1.3. The initial temperatures of the MEERs, Battery Rooms, and their associated boundaries are used to generate initial temperature distributions through the room partitions.
 - 2.1.4. The duration of the transient is set at eight hours and the model is executed.
 - 2.2. Acceptance Criteria

There are no specific acceptance criteria that apply to the results of this calculation.

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3. ASSUMPTIONS

- 3.1. All of the room dimensions are determined from Braidwood drawings, however, a sample of the Byron drawings were examined and there were no observed differences in the configuration or construction of the rooms modeled that would impact the results of the analysis. Furthermore, the heat loads utilized are the maximum values based on both plants. Therefore, the results presented in this calculation are applicable to both Byron and Braidwood.
- 3.2. It is conservatively assumed that the heat generated from the electrical equipment within the Div. 11/12 MEERs and Battery Rooms is transferred directly to the room air.
- 3.3. Following the loss of ventilation, the maximum temperatures of the diesel generator exhaust shaft and silencer room are conservatively assumed to be the maximum temperatures present when the diesel generators are operating. These temperatures are taken from Reference 5.9.
- 3.4. The temperature of the cable spreading room following the loss of ventilation is conservatively assumed to instantaneously increase to 200°F and then remain constant for the duration of the transient (Ref. 5.10).
- 3.5. Water vapor to surface radiation heat transfer is modeled by assuming an initial relative humidity of 40%. This is not the minimum value listed in Reference 5.3, however, when combined with the maximum design temperatures it is appropriately conservative.
- 3.6. The total volumes of the MEERs and Battery Rooms are conservatively reduced by 10% and 20% respectively to account for equipment.
- 3.7. The Non-ESF Switchgear Room is assumed to heat up at a rate less than or equal to the heat up of the Div. 11/12 MEERs and Battery Rooms. Therefore, an adiabatic boundary condition is imposed at the midpoint of the walls separating the Non-ESF Switchgear Room from the Div. 11/12 MEERs and Battery Rooms. The initial temperature of the walls bounding the Non-ESF Switchgear Room is conservatively assumed to be 109°F, which is the maximum initial temperature between the rooms.
- 3.8. Air exchange between the Miscellaneous Electrical Equipment Rooms and their various boundaries is conservatively neglected.
- 3.9. Heat transmission through the doors and fire dampers is conservatively neglected.
- 3.10. The tunnels above the Division 11/12 Battery Rooms are modeled as closed volumes with no internal heat load. This is conservative since the tunnels are connected to constant temperature boundaries with lower temperatures (i.e., the Turbine Building and the HVAC air intake shaft).
- 3.11. The thermal properties of the 8" and 12" hollow block walls are determined by combining the properties of the air within the cores and the properties of the concrete face shell and web. This is conservative since it underestimates the thermal diffusivity of the walls near the surface, therefore, it reduces the heat transfer to the walls during the early stages of the transient.

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4. DESIGN INPUT

- 4.1. The dimensions of the various rooms and the constructions of the walls, ceilings, and floors are obtained from Reference 5.1. The resulting surface areas and volumes are detailed in Attachment A.
- 4.2. The initial and relevant transient temperatures of the Division 11/12 MEERs, Division 11/12 Battery Rooms, and their associated boundaries are:

<u>Room/Area</u>	<u>Initial Temperature</u>	<u>Transient Temperature</u>
Div. 11 MEER:	108 °F (Ref. 5.3)	Calculated
Div. 12 MEER:	108 °F (Ref. 5.3)	Calculated
Div. 11 Battery Room:	108 °F (Ref. 5.3)	Calculated
Div. 12 Battery Room:	108 °F (Ref. 5.3)	Calculated
Tunnel Above Div. 11 Batt. Room	108 °F (Ref. 5.3)	Calculated
Tunnel Above Div. 12 Batt. Room	108 °F (Ref. 5.3)	Calculated
Ambient	95 °F (Ref. 5.3)	95 °F (Ref. 5.3)
Non-ESF Switchgear Room	109 °F (Ref. 5.3)	Adiabatic Boundary
Turbine Bldg. (Above El. 451')	104 °F (Ref. 5.3)	104 °F (Ref. 5.3)
Cable Spreading Room	108 °F (Ref. 5.3)	200 °F (Ref. 5.10)
Diesel Generator Exhaust Shaft	108.5 °F (Ref. 5.9)	150 °F (Ref. 5.9)
Diesel Generator Silencer Room	162 °F (Ref. 5.9)	960 °F (Ref. 5.9)
HVAC Air Intake Shaft	95 °F (Ref. 5.3)	95 °F (Ref. 5.3)

- 4.3. The bounding Byron/Braidwood equipment heat loads for the Division 11/12 MEERs and Battery Rooms are:

Div. 11 MEER:	12,777 W (43,599 Btu/hr)	(Ref. 5.4)
Div. 12 MEER:	34,780 W (118,680 Btu/hr)	(Ref. 5.4 and 5.5, Attachment B)
Div. 11 Battery Room:	410.1 W (1,399 Btu/hr)	(Ref. 5.4)
Div. 12 Battery Room:	410.1 W (1,399 Btu/hr)	(Ref. 5.4)

The value for the Div. 12 MEER heat load is reduced to account for equipment that will not be energized during the loss of HVAC. The heat load reduction is based on Reference 5.5 and it is detailed in Table B-2 of Attachment B.

- 4.4. The thermophysical properties of dry air are obtained from Reference 5.7.
- 4.5. The density, specific heat, and thermal conductivity of steel and steel reinforced concrete are obtained from Reference 5.11.
- 4.6. The emissivities of painted steel and concrete are obtained from References 5.7 and 5.8.
- 4.7. The sol-air temperature for the exposed roof is 162 °F (Ref. 5.6, page 26.6). The corresponding heat transfer coefficient is 3.0 Btu/hr-°F-ft².

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- 4.8. The effective thermal conductivity, specific heat, and density of the 8" and 12" hollow blocks are (Ref. 5.10):

	Thermal Conductivity (Btu/hr-ft-°F)	Specific Heat (Btu/lb _m -°F)	Density (lb _m /ft ³)
8" Block	0.0839	0.200	60.64
12" Block	0.0662	0.200	35.56

5. REFERENCES

5.1. Braidwood Drawings

	<u>Drawing No.</u>	<u>Rev.</u>
5.1.1.	A-100	N
5.1.2.	A-261	AD
5.1.3.	A-266	BG
5.1.4.	A-281	T
5.1.5.	A-290	K
5.1.6.	A-1200	K
5.1.7.	A-1201	H
5.1.8.	A-1202	G
5.1.9.	M-1293, Sht. 2	BC
5.1.10.	S-724	AF
5.1.11.	S-727	W
5.1.12.	S-1309	BN
5.1.13.	S-1347	AT
5.1.14.	S-1348	AN

Latest drawing revisions verified through EWCS by Florinda Bonsol on 6/23/97.

5.2. Byron Drawings

	<u>Drawing No.</u>	<u>Rev.</u>
5.2.1.	A-261	AD
5.2.2.	A-266	AV
5.2.3.	A-281	T
5.2.4.	A-290	L
5.2.5.	A-1200	B
5.2.6.	A-1202	C

Latest drawing revisions verified through EWCS by Florinda Bonsol on 6/23/97.

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<p>5.3. Byron/Braidwood UFSAR, Section 3.11, Revision 6.</p> <p>5.4. DIT BB-EPED-0173-003, Rev. 3, "Heat Loads of Electrical Equipment in the Miscellaneous Electrical Equipment Rooms and Battery Rooms," 11/23/93.</p> <p>5.5. NDIT No. BRW-DIT-97-199, Rev. 0 "Electrical Equipment in the Division 11 & 22 Miscellaneous Electrical Equipment Rooms That is De-Energized After A Reactor Trip and Would Contribute Negligible Heat Load," 6/19/97.</p> <p>5.6. 1993 ASHRAE Handbook: Fundamentals, I-P Edition, American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Atlanta, 1993.</p> <p>5.7. Incropera, F. P. and D. P. DeWitt, <i>Introduction to Heat Transfer</i>, 2nd edition., John Wiley & Sons, New York, 1990.</p> <p>5.8. McAdams, W. H., <i>Heat Transmission</i>, 3rd edition., McGraw-Hill Inc., New York, 1954.</p> <p>5.9. S&L Calc. No. 3C8-0691-001, "ESF Switchgear Room Temperature Transient Following Turbine Bldg. HELB," approved 7/10/91.</p> <p>5.10. S&L Calc. No. ATD-0072, Rev. 1, "Miscellaneous Electrical Equipment (MEE) Rooms Transient Temperature Following a HELB," approved 6/1/92.</p> <p>5.11. NUREG-0800, Section 6.2.1.5, Minimum Containment Pressure Analysis for Emergency Core Cooling System Performance Capability Studies, Table II, Revision 2, July 1981.</p> <p>5.12. KITTY6: Thermal-Hydraulic Transients in Arbitrary Solid and/or Fluid Channel Configurations, Sargent & Lundy Program No. 03.7.481-6.0, October, 1996.</p>		
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6. CALCULATIONS

6.1. Nomenclature

A	Surface area (ft^2)
c_p	Specific heat of air at constant pressure ($\text{Btu/lb}_m\text{-}^\circ\text{F}$)
g	Gravitational acceleration ($= 4.17 \cdot 10^8 \text{ ft/hr}^2$)
h_{horz}	Natural convection heat transfer coefficient for a horizontal plate ($\text{Btu/hr-ft}^2\text{-}^\circ\text{F}$)
h_r	Radiation heat transfer coefficient ($\text{Btu/hr-ft}^2\text{-}^\circ\text{F}$)
h_{vert}	Natural convection heat transfer coefficient for a vertical plate ($\text{Btu/hr-ft}^2\text{-}^\circ\text{F}$)
k	Thermal conductivity ($\text{Btu/hr-ft-}^\circ\text{F}$)
L	Mean beam length defined for a gas volume radiating to a surface (ft)
P_{sat}	Saturation pressure of water vapor at T_∞ (psia)
P_{wv}	Partial pressure of water vapor in air (psia)
P_∞	Ambient pressure (psia)
Pr	Prandtl number of air ($= c_p \mu / k_a$)
q	Heat transfer rate (Btu/hr)
T_s	Heat structure surface temperature ($^\circ\text{F}$)
T_{sat}	Saturation temperature of water vapor at P_∞ ($^\circ\text{F}$)
T_∞	Average room temperature ($^\circ\text{F}$)
ΔT	Temperature difference between the room air and the heat structure surface ($^\circ\text{F}$)
V	Room volume (ft^3)

Greek:

α_w	Water vapor absorptivity
ϵ_s	Heat structure surface emissivity
ϵ_w	Water vapor emissivity
ϕ	Relative humidity
μ	Dynamic viscosity of air ($\text{lb}_m/\text{ft-hr}$)
ν	Kinematic viscosity of air (ft^2/hr)
ρ	Density (lb_m/ft^3)
σ	Stefan-Boltzman constant ($= 0.1714 \cdot 10^{-8} \text{ Btu/hr-ft}^2\text{-}^\circ\text{R}^4$)

Subscripts:

a	Air
ss	Steady-state
w	Water vapor

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6.2. Transient Temperature Calculation of the Div. 11/12 MEERs

As stated in Section 2, the transient temperature profiles of the Div. 11/12 Miscellaneous Electrical Equipment Rooms are determined using KITTY6 (Ref. 5.12). The model consists of 101 nodes and 140 heat transfer paths. The nodes are described in detail in Attachment A. The KITTY6 input file is given in Attachment C.

The heat transfer coefficients utilized in the KITTY6 model for natural convection and water vapor to surface radiation between the room volumes and the various heat sinks are detailed in Sections 6.3 and 6.4 respectively.

6.3. Natural Convection Heat Transfer Coefficient

Natural convection heat transfer between the vertical heat structures and the room volumes is modeled using the simplified correlation for air shown below in Equation (1) (Ref. 5.8, pg. 173).

$$h_{\text{vert}} = 0.19(\Delta T)^{1/3} \quad (1)$$

Natural convection heat transfer between horizontal heat structures that are heated and facing upwards or cooled and facing downwards and the room volumes is modeled using the simplified correlation for air given in Equation (2) (Ref. 5.8, pg. 180)

$$h_{\text{horz}} = 0.22(\Delta T)^{1/3} \quad (2)$$

The correlations of Equations (1) and (2) are applicable for turbulent conditions and they are applied at the surfaces of the walls, ceilings, and floors. Heat transfer between the room volumes and horizontal heat structures that are cooled and facing upwards or heated and facing downwards is modeled using conduction.

6.4. Water Vapor to Surface Radiation Heat Transfer Coefficient

Radiation heat transfer between water vapor in the rooms and exposed heat structure surfaces is modeled using the fundamental relation shown below in Equation (3) (Ref. 5.8).

$$q = A\sigma[(1 + \epsilon_s)/2] \cdot [\epsilon_w T_w^4 - \alpha_w T_s^4] \quad (3)$$

The parameter $(1 + \epsilon_s)/2$ accounts for the gray body effects of the heat structure surfaces where ϵ_s is the emissivity of the surface. The parameters ϵ_w and α_w are the water vapor emissivity and absorptivity respectively. In the current model, the water vapor absorptivity and emissivity are conservatively assumed to be equal. This assumption underestimates the absorptivity by less than 5 % and it greatly simplifies the analysis by allowing an effective radiation heat transfer coefficient to be defined as shown in Equation (4).

$$h_r = \sigma\epsilon_w[(1 + \epsilon_s)/2](T_w + T_s)(T_w^2 + T_s^2) \quad (4)$$

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The emissivity of the water vapor is a function of the vapor temperature, vapor partial pressure, total pressure, and mean beam length. The mean beam length, L , for an arbitrary room of volume V and surface area A is given by Equation (5) (Ref. 5.7, pg. 788).

$$L = 3.6 \cdot V / A \quad (5)$$

The relationship given in Equation (5) is a fundamental description of the mean beam length for a simple enclosure. However, the interference of equipment, cable trays, ducts, and partitions can affect the applicability of Equation (5). Therefore, the value of L determined from Equation (5) is reduced by 20 % in the current analysis.

Once the values of the mean beam length, the vapor temperature, the vapor partial pressure, and the total pressure are known, the value of the water vapor emissivity is estimated from Figure 4-15 of Reference 5.8. The detailed calculation of the water vapor emissivities is given in Attachment B.

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7. SUMMARY AND CONCLUSIONS

The transient temperature profiles of the Byron and Braidwood Div. 11/12 Miscellaneous Electrical Equipment Rooms (MEERs) following a loss of the Miscellaneous Electrical Room Ventilation (VE) and Switchgear Heat Removal (VX) Systems are given in Figure 1. The corresponding temperatures at various times are summarized in Table I. The KITTY6 output file is included in Attachment C.

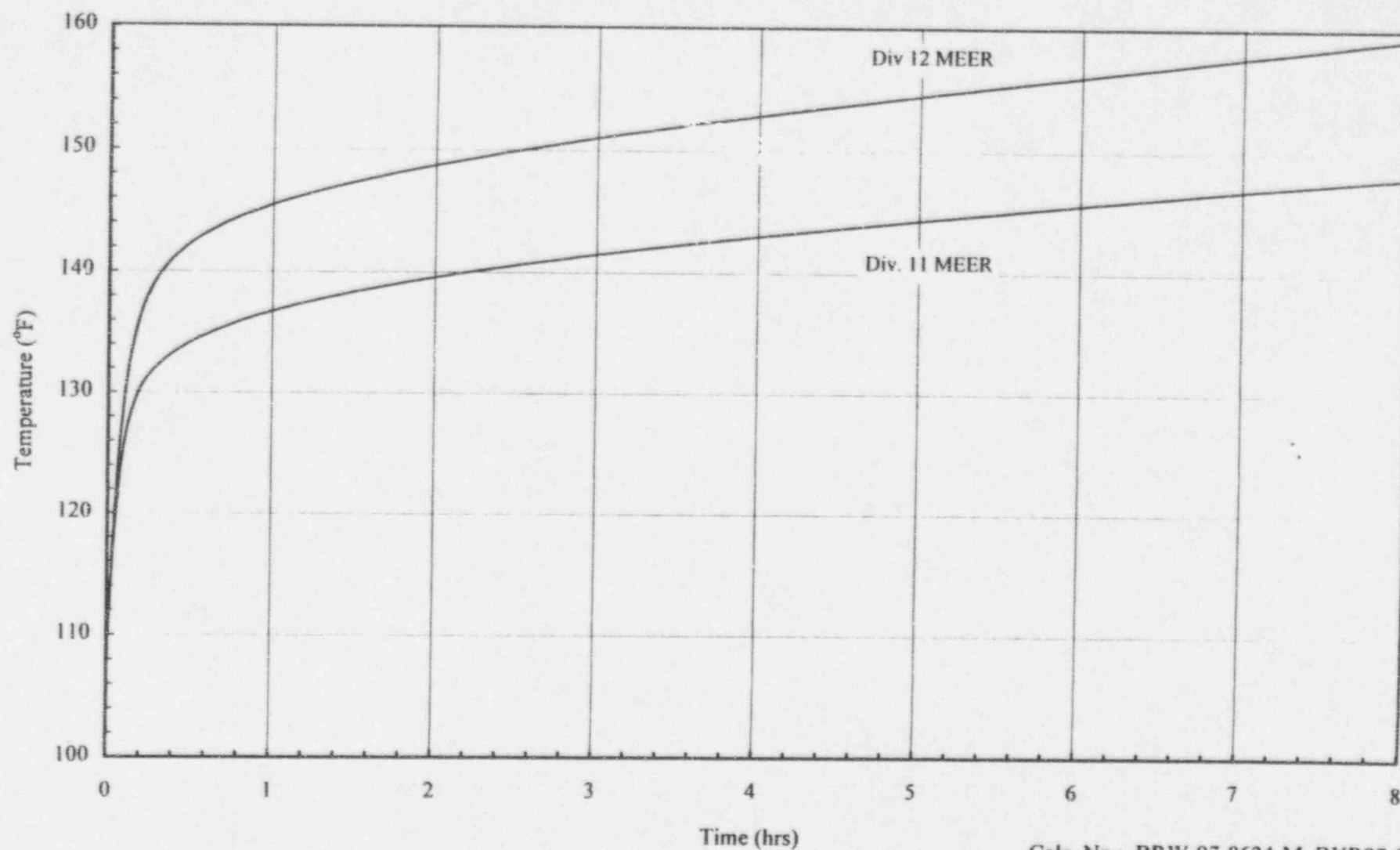
**Table I: Transient Temperature Summary For the Byron/Braidwood
Div. 11/12 MEERs**

Time (hours)	Div. 11 MEER (°F)	Div. 12 MEER (°F)
0.0	108.0	108.0
0.5	134.2	142.3
1.0	136.8	145.4
2.0	139.6	148.7
3.0	141.5	151.0
4.0	143.0	152.9
6.0	145.6	156.1
8.0	147.8	159.3

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**Figure 1. Transient Temperature Profiles of the Div. 11 and 12 Miscellaneous Electrical Equipment Rooms
Following a Loss of the VE and VX Systems**



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Attachment A

Heat Structure Surface Area and Room Volume Details

Attachment A Contents:

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A-1	Room Volume Details	A-2
A-2	Wall Surface Area Details	A-3
A-3	Floor and Ceiling Surface Area Details	A-5

Table A-1: Room Volume Details

Node Number	Room Description				Enclosed Structures			Volume Reduction For Equipment (%)	Net Room Volume (ft ³)	Reference Drawings
		Length (ft)	Width (ft)	Height (ft)	Length (ft)	Width (ft)	Height (ft)			
1	Div. 12 MEER	41.28	35.28	24.00	23.00	12.00	12.00	10%	31965.9	A-266, S-1347
		11.03	16.25	24.00	23.00	5.03	3.67			
2	Div. 11 MEER	22.00	35.28	24.00	22.00	12.00	12.00	10%	13119.0	A-266, S-724
					22.00	5.88	6.83			
3	Div. 12 Bat. Rm.	22.00	11.36	11.33				20%	2265.9	A-266, S-1347
4	Tunnel Above Div. 12 Bat. Rm.	22.00	4.00	3.00				10%	237.6	A-266, S-1347
10	Div. 11 Bat. Rm.	22.00	10.87	11.33				20%	2167.1	A-266, S-724
11	Tunnel Above Div. 11 Bat. Rm.	22.00	4.00	6.16				10%	487.9	A-266, S-724

Nodes 5 through 9 are not actively calculated in the model, therefore, the volumes are not determined.

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Table A-2: Wall Surface Area Details

Head Node Tail Node	Description	Length (ft)	Height (ft)	Thickness (ft)	Construction	Doors			Openings		Net Wall Surface Area (ft ²)	Reference Drawings
						Door #	Width (ft)	Height (ft)	Width (ft)	Height (ft)		
19 20	Wall Between Div. 12 MEER & Cntrl. Rm. HVAC Intake Plenum	6.00	24.00	2.5	Concrete						144.0	A-266, S-1309
21 22	Wall Between Div. 12 MEER & Non-ESF SWGR Rm.	18.25	24.00	0.969	Unreinforced Hollow Concrete Block	D 413	3.33	7.33	4.50	2.00	404.6	A-266, S-1309
23 24	Wall Between Div. 12 MEER & Div. 11 Bat. Rm.	11.18	12.00	1	Concrete						134.2	A-266, S-1309
25 26	Wall Between Div. 12 MEER & Div. 11 MEER	35.28	24.00	0.969	Unreinforced Hollow Concrete Block	D 463	6.33	8.67	6.00 11.18 1.58	6.83 12.00 4.50	609.6	A-266, S-1309
27 28	Wall Between Div. 12 MEER & HVAC Eq. Rm. #3	47.28	24.00	2.5	Concrete						1134.8	A-266, S-1309
29 30	Wall Between Div. 12 MEER & Ambient	16.25	24.00	3	Concrete						390.0	A-266, S-1309
31 32	Wall Between Div. 12 MEER & Air Intake Shaft (Sum of West and South Walls)	15.78	24.00	0.969	Unreinforced Hollow Concrete Block	D 417	4.00	7.33	5.03 11.36	3.67 12.00	194.6	A-266, S-1309
33 34	Wall Between Div. 12 MEER & DG Exhaust (Sum of West and South Walls)	15.00	24.00	1	Concrete						360.0	A-266, S-1309
35 36	Wall Between Div. 12 MEER & Div. 12 Bat. Rm.	22.50	12.00	0.635	Reinforced Hollow Concrete Block	D 761	3.33	7.33	1.25 1.25	1.67 1.67	241.4	A-266, S-1309
37 38	Wall Between Div. 12 MEER & Tunnel Above Div. 12 Bat. Rm.	22.50	3.67	1	Concrete						82.5	A-266, S-1309
39 40	Wall Between Div. 12 MEER & Non-ESF SWGR Rm.	23.00	8.33	0.969	Unreinforced Hollow Concrete Block				3.50 4.50	3.42 3.42	164.3	A-266, S-1309
41 42	Wall Between Tunnel Above Div. 12 Bat. Rm. & Non-ESF SWGR Rm.	22.50	3.67	1	Concrete						82.5	A-266, S-1309
43 44	Wall Between Div. 12 Bat. Rm. & Non-ESF SWGR Rm.	22.50	11.33	1	Concrete						255.0	A-266, S-1309
45 46	Wall Between Div. 12 MEER & Div. 12 Bat. Rm.	12.00	12.00	1	Concrete						144.0	A-266, S-1309
47 48	Wall Between Div. 11 MEER & Div. 11 Bat. Rm.	22.00	12.00	0.635	Reinforced Hollow Concrete Block	D 780	3.33	7.33	1.25 1.25	1.67 1.67	235.4	A-266, S-1309
49 50	Wall Between Div. 11 MEER & Tunnel Above Div. 11 Bat. Rm.	44.00	6.83	1	Concrete						300.7	A-266, S-1309

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Table A-2: Wall Surface Area Details

Head Node Tail Node	Description	Length (ft)	Height (ft)	Thickness (ft)	Construction	Doors			Openings		Net Wall Surface Area (ft ²)	Reference Drawings
						Door #	Width (ft)	Height (ft)	Width (ft)	Height (ft)		
51 52	Wall Between Div. 11 MEER & Non-ESF SWGR Rm.	22.00	12.00	0.969	Unreinforced Hollow Concrete Block						264.0	A-266, S-1309
53 54	Wall Between Div. 11 Bat. Rm. & Non-ESF SWGR Rm.	22.00	11.33	1	Concrete						249.3	A-266, S-1309
55 56	Wall Between Div. 11 MEER & Turbine Bldg.	35.28	24.00	3.5	Concrete	D 856 SD 208**	8.33	8.67	11.50 5.88 3.58	12.00 6.83 2.33	588.0	A-266, S-1309 M-1293
57 58	Wall Between Div. 11 Bat. Rm. & Turbine Bldg.	10.86	11.33	3.5	Concrete						123.1	A-266, S-1309
59 60	Wall Between Div. 11 MEER & HVAC Eq. Rm.	22.00	24.00	2.5	Concrete	D 418	3.33	7.33			503.6	A-266, S-1309
61 62	Wall Between Div. 12 Bat. Rm. & HVAC Air Intake Shaft	11.38	12.00	0.969	Unreinforced Hollow Concrete Block						136.5	A-266, S-1309

** The given dimensions are the combined values for D 856 and SD 208.

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Table A-3: Floor and Ceiling Surface Area Details

Head Node Tail Node	Description	Length (ft)	Width (ft)	Thickness (ft)	Construction	Enclosed Structure Width (ft) Length (ft)		Reduction for Eq. and Obstructions (%)	Net Surface Area (ft ²)	Reference Drawings
63 64	Slab Between Cable Spread Rm. & Div. 12 MEER	53.28	35.28	1.25	Concrete	12.00	22.97		1375.76	A-261, A-266
65 66	Slab Between Cable Spread Rm. & Div. 11 MEER	22.00	35.28	1.25	Concrete	22.00	11.50		523.16	A-261, A-266
67 68	Slab Between Cable Spread Rm. & Div. 12 Bat. Rm.	22.00	11.36	1.25	Concrete				250.02	A-261, A-266
69 70	Slab Between Cable Spread Rm. & Div. 11 Bat. Rm.	22.00	10.86	1.25	Concrete				239.02	A-261, A-266
71 72	Slab Between Div. 12 MEER & Div. 12 Bat. Rm.	22.50	6.00	0.667	Concrete				135.00	A-266, S-724
73 74	Slab Between Tunnel & Div. 12 Bat. Rm.	22.00	4.00	0.667	Concrete				88.00	A-266, S-724
75 76	Slab Between Tunnel & Div. 12 MEER	22.50	4.00	0.667	Concrete				90.00	A-266, S-724
77 78	Slab Between Div. 11 MEER & Div. 11 Bat. Rm.	22.50	5.50	0.667	Concrete				123.75	A-266, S-1347
79 80	Slab Between Tunnel & Div. 11 Bat. Rm.	22.00	4.00	0.667	Concrete				88.00	A-266, S-1347
81 82	Slab Between Tunnel & Div. 11 MEER	22.50	4.00	0.667	Concrete				90.00	A-266, S-1347
92 93	Slab Between Div. 11 MEER & DG Exhaust Silencer	17.29 4.71	15.33 8.67	2.25	Concrete					A-266, A-281, A-290
	Total								305.94	
94 95	Slab Between Div. 11 MEER & Ambient Sol-Air	22.00	35.28	2	Concrete	15.33 4.71	17.29 8.67		470.22	A-266, A-281 A-290
96 97	Slab Between Div. 12 MEER & Ambient Sol-Air	53.28	35.28	2	Concrete	15.25 27.03 27.86 14.25 12.00	11.04 7.36 15.33 9.33 19.03		723.68	A-266, A-281, A-290
98 99	Slab Between Div. 12 MEER & HVAC Air Intake	15.25 27.03	11.04 7.36	2	Concrete				367.47	A-266, A-281 A-290
100 101	Slab Between Div. 12 MEER & DG Exhaust Silencer	27.86 14.25	15.33 9.33	2.25	Concrete				560.20	A-266, A-281 A-290

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Attachment B

Auxiliary Calculations

Attachment B Contents:

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Table B-2: Summary of the Div. 12 MEER Heat Load Revision	B-3

Table B-1: Determination of Water Vapor Emissivity

Div 11 MEER

Initial Temperature:	108 °F	(Design Input 4.2)
Initial Pressure:	14.7 psia	(Atmospheric)
Initial Relative Humidity:	40%	(Assumption 3.5)
Saturation Pressure:	1.2030 psia	(ASME Steam Tables)
P_{wv} :	0.4812 psia =	0.03274 bar
P_{air} :	14.2188 psia =	0.96746 bar
$V_{MEER\ 1}$:	14570 ft ³	(Attachment A (No Volume Reduction))
$A_{MEER\ 1}$:	4000 ft ²	(Conservatively Estimated from Attachment A)
V/A:	3.64 ft	
Mean Beam Length Reduction:	20%	
Mean Beam Length, L:	13.11 ft	(= 3.6*V/A, Reference 5.7, pg. 788)
Reduced Mean Beam Length, L_{red} :	10.49 ft	(=L*(1-Mean Beam Length Reduction))
$P_{wv}L_{red}$:	0.34 ft-bar	
ϵ_w :	0.2	(Approximate, Reference 5.8, Figure 4-15)

Div. 12 MEER

Initial Temperature:	108 °F	(Design Input 4.2)
Initial Pressure:	14.7 psia	(Atmospheric)
Initial Relative Humidity:	40%	(Assumption 3.5)
Saturation Pressure:	1.2030 psia	(ASME Steam Tables)
P_{wv} :	0.4812 psia =	0.03274 bar
P_{air} :	14.2188 psia =	0.96746 bar
$V_{MEER\ 2}$:	35500 ft ³	(Attachment A (No Volume Reduction))
$A_{MEER\ 2}$:	7500 ft ²	(Conservatively Estimated from Attachment A)
V/A:	4.73 ft	
Mean Beam Length Reduction:	20%	
Mean Beam Length, L:	17.04 ft	(= 3.6*V/A, Reference 5.7, pg. 788)
Reduced Mean Beam Length, L_{red} :	13.63 ft	(=L*(1-Mean Beam Length Reduction))
$P_{wv}L_{red}$:	0.45 ft-bar	
ϵ_w :	0.22	(Approximate, Reference 5.8, Figure 4-15)

Value of ϵ_w used for all rooms in the model: **0.2**

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Table B-2: Summary of the Div. 12 MEER Heat Load Revision Based on NDIT BRW-DIT-97-199

Total Div. 12 MEER Heat Loads (DIT BB-EPED-0173-3, Ref. 5.4)		44596 W
Equipment Numbers and Heat Loads for Components That Will Not Contribute to the Div. 12 MEER Heat Load. (Heat Load Source: DIT BB-EPED-0173-3, Ref. 5.4) (Non-Energized Equipment Source: BRW-DIT-97-199, Ref. 5.5)	1RD02J	1215 W
	1RD03J	1215 W
	1RD04J	1215 W
	1RD05E	500 W
	1RD05J	1215 W
	1RD06J	1215 W
	1RD08J	1215 W
	1RD08JA	0 W
3 Phase Bus Duct		2026 W
Reduced Heat Load (Total - Contribution of Eq. Listed Above)		34780 W 118680 Btu/hr

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Attachment C

KITTY6 Input and Output Files for the MEER Transient Temperature Model

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KITTY6 Output File for the MEER Transient Temperature Model	C-7

Braidwood Control Rm. and AREA Transient After a Loss of the VC system
 101 140 11 27 0 0 8. 0 0 16 144. 0 0
 /NV NP NH NF NG NW XMAX ECH IVIP NSSE PCF NQB NMB

8 0. .5 1. 2. 3. 4. 6. 8.

1 31966. 108. 3.71269 0 0 1	/5-1 MRRR 12 AIR NODE (MOD. TO ACCOUNT FOR NON HELB)
1 13119. 108. 3.32335 0 0 1	/5-2 MRRR 11 AIR (MOD. TO ACCOUNT FOR NON HELB)
1 2256. 108. 0.61756 0 0 1	/5-3 BAT RM DIV 12 AIR
1 237.6 108. 0. 0 0 1	/5-4 TUNN "BAT RM DIV 12 AIR
2 1. 22 1	/5-5 EXHAUST STACK AIR
2 95. 0 1	/5-6 HVAC AIR SUP AIR
2 95. 0 1	/5-7 AMBIENT AIR
2 104. 0 1	/5-8 CR AC AREA AIR
-1	/5-9 NON-ESP SWGR RM AIR
1 2167. 108. 0.64559 0 0 1	/5-10 BAT RM DIV 11 AIR (MOD. TO ACCOUNT FOR NON HELB)
1 486. 108. 0. 0 0 1	/5-11 TUNN "BAT RM DIV 11 AIR
2 104. 0 1	/5-12 TB AIR
2 162. 0 1	/5-13 AMBIENTWOLAIR TEMP
2 1. 26 1	/5-14 CABLE SPREAD RM AIR
2 1. 27 1	/5-15 DG SILENCER AIR
-1	/5-16 NULL NODE NOT USED
-1	/5-17 NULL NODE NOT USED
-1	/5-18 NULL NODE NOT USED
6 0. 0 0 5	/5-19 CONC WALL BETW 1 & 8
7	/5-20
6 0. 0 0 9	/5-21 FIRE WALL BETW 1 & 9
7	/5-22
6 0. 0 0 5	/5-23 CONC WALL BETW 1 & 10
7	/5-24
6 0. 0 0 9	/5-25 FIRE WALL BETW 1 & 2
7	/5-26
6 0. 0 0 5	/5-27 CONC WALL BETW 1 & 8
7	/5-28
6 0. 0 0 5	/5-29 CONC WALL BETW 1 & 7
7	/5-30
6 0. 0 0 9	/5-31 FIRE WALL BETW 1 & 6
7	/5-32
6 0. 0 0 5	/5-33 CONC WALL BETW 1 & 5
7	/5-34
6 0. 0 0 13	/5-35 8" FIRE WALL BETW 1 & 3
7	/5-36
6 0. 0 0 5	/5-37 CONC WALL BETW 1 & 4
7	/5-38
6 0. 0 0 9	/5-39 FIRE WALL BETW 1 & 9
7	/5-40
6 0. 0 0 5	/5-41 CONC WALL BETW 4 & 9
7	/5-42
6 0. 0 0 5	/5-43 CONC WALL BETW 3 & 9
7	/5-44
6 0. 0 0 5	/5-45 CONC WALL BETW 1 & 3
7	/5-46
6 0. 0 0 13	/5-47 8" WALL BETW 2 & 10
7	/5-48
6 0. 0 0 5	/5-49 CONC WALL BETW 2 & 11
7	/5-50
6 0. 0 0 9	/5-51 FIRE WALL BETW 2 & 9
7	/5-52
6 0. 0 0 5	/5-53 CONC WALL BETW 10 & 9
7	/5-54
6 0. 0 0 5	/5-55 CONC WALL BETW 2 & 12
7	/5-56
6 0. 0 0 5	/5-57 CONC WALL BETW 10 & 12
7	/5-58
6 0. 0 0 5	/5-59 CONC WALL BETW 2 & 8
7	/5-60
6 0. 0 0 9	/5-61 FIRE WALL BETW 3 & 6
7	/5-62
6 0. 0 0 5	/5-63 CONC SLAB BETW 14 & 1
7	/5-64
6 0. 0 0 5	/5-65 CONC SLAB BETW 14 & 2
7	/5-66
6 0. 0 0 5	/5-67 CONC SLAB BETW 14 & 3
7	/5-68
6 0. 0 0 5	/5-69 CONC SLAB BETW 14 & 10
7	/5-70
6 0. 0 0 5	/5-71 CONC SLAB BETW 1 & 3
7	/5-72
6 0. 0 0 5	/5-73 CONC SLAB BETW 3 & 4
7	/5-74
6 0. 0 0 5	/5-75 CONC SLAB BETW 4 & 1
7	/5-76

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6 0. 0 0 5	/5-77 CONC SLAB BETW 10 & 2
7	/5-78
6 0. 0 0 5	/5-79 CONC SLAB BETW 10 & 13
7	/5-80
6 0. 0 0 5	/5-81 CONC SLAB BETW 11 & 2
7	/5-82
-1	/5-83 NULL NODE NOT USED
-1	/5-84 NULL NODE NOT USED
-1	/5-85 NULL NODE NOT USED
-1	/5-86 NULL NODE NOT USED
-1	/5-87 NULL NODE NOT USED
-1	/5-88 NULL NODE NOT USED
-1	/5-89 NULL NODE NOT USED
-1	/5-90 NULL NODE NOT USED
-1	/5-91 NULL NODE NOT USED
6 0. 0 0 5	/5-92 CONC CEIL BETW 2 & 15
7	/5-93
6 0. 0 0 5	/5-94 CONC CEIL BETW 2 & 13
7	/5-95
6 0. 0 0 5	/5-96 CONC CEIL BETW 1 & 13
7	/5-97
6 0. 0 0 5	/5-98 CONC CEIL BETW 1 & 7
7	/5-99
6 0. 0 0 5	/5-100 CONC CEIL BETW 1 & 15
7	/5-101
2 1 19 1 144.	/6-1 CW
8 19 20 30 144. 2.5	/6-2
2 20 8 1 144.	/6-3
2 1 21 1 405.	/6-4 CW
6 21 22 6 405. 0.5	/6-5 half thck used for trans
-2 22 9 1 405.	/6-6 NULL (Adiabatic Assumption)
2 1 23 1 134.	/6-7 CW
8 23 24 12 134. 1.	/6-8
2 24 10 1 134.	/6-9
2 1 25 1 610.	/6-10 PW
8 25 26 12 610. 1.	/6-11
2 26 2 1 610.	/6-12
2 1 27 1 1135.	/6-13 CW
8 27 28 30 1135. 2.5	/6-14
2 28 8 1 1135.	/6-15
2 1 29 1 390.	/6-16 CW
8 29 30 36 390. 3.0	/6-17
2 30 7 1 390.	/6-18
2 1 31 1 195.	/6-19 PW
8 31 32 12 195. 1.	/6-20
2 32 6 1 195.	/6-21
2 1 33 1 360.	/6-22 CW
8 33 34 12 360. 1.	/6-23
2 34 5 1 360.	/6-24
2 1 35 1 241.	/6-25 PW
8 35 36 8 241. 0.635	/6-26
2 36 3 1 241.	/6-27
2 1 37 1 83.	/6-28 CW
8 37 38 12 83. 1.	/6-29
2 38 4 1 83.	/6-30
2 1 39 1 164.	/6-31 PW
8 39 40 6 164. 0.5	/6-32
-2 40 9 1	/6-33 NULL (Adiabatic Assumption)
2 4 41 1 8	/6-34 PW
8 41 42 6 83. 0.5	/6-35
-2 42 9 1 83.	/6-36 NULL (Adiabatic Assumption)
2 3 43 1 255.	/6-37 CW
8 43 44 6 255. 0.5	/6-38
-2 44 9 1 255.	/6-39 NULL (Adiabatic Assumption)
2 1 45 1 144.	/6-40 CW
8 45 46 12 144. 1.	/6-41
2 46 3 1 144.	/6-42
2 2 47 1 235.	/6-43 PW
8 47 48 8 235. .635	/6-44
2 48 10 1 235.	/6-45
2 2 49 1 301.	/6-46 CW
8 49 50 12 301. 1.	/6-47
2 50 11 1 301.	/6-48
2 2 51 1 264.	/6-49 PW
8 51 52 6 264. 0.5	/6-50
-2 52 9 1 264.	/6-51 NULL (Adiabatic Assumption)
2 10 53 1 249.	/6-52 CW
8 53 54 6 249. 0.5	/6-53
-2 54 9 1 249.	/6-54 NULL (Adiabatic Assumption)
2 2 55 1 588.	/6-55 CW
8 55 56 42 588. 3.5	/6-56
2 56 12 1 588.	/6-57

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2 10 57 1 123.	/6-58 CW
8 57 58 42 123. 3.5	/6-59
2 58 12 1 123.	/6-60
2 2 59 1 504.	/6-61 CW
8 59 60 30 504. 2.5	/6-62
2 60 8 1 504.	/6-63
2 3 61 1 137.	/6-64 PW
8 61 62 12 137. 1.	/6-65
2 62 6 1 137.	/6-66
2 14 63 9 1376.	/6-67 CEILING BTWN CABLE SPR RM & MEER11
8 63 64 15 1376. 1.25	/6-68
2 64 1 2 1376.	/6-69
2 14 65 9 523.	/6-70 CEILING BTWN CSR & MEER11
8 65 66 15 523. 1.25	/6-71
2 66 2 2 523.	/6-72
2 14 67 9 250.	/6-73 CEILING BTWN CSR & BAT DIV 12
8 67 68 15 250. 1.25	/6-74
2 68 3 9 250.	/6-75
2 14 69 9 239.	/6-76 CEILING BTWN CSR & BAT DIV 11
8 69 70 15 239. 1.25	/6-77
2 70 10 9 239.	/6-78
2 3 71 9 135.	/6-79 SLAB BTWN BAT DIV 12 & MEER 12
8 71 72 8 135. .667	/6-80
2 72 1 9 135.	/6-81
2 3 73 9 88.	/6-82 SLAB BTWN BAT DIV 12 & TUN 12
8 73 74 8 88. .667	/6-83
2 74 4 9 88.	/6-84
2 4 75 9 90.	/6-85 SLAB BTWN TUN 12 & MEER 12
8 75 76 8 90. .667	/6-86
2 76 1 9 90.	/6-87
2 10 77 9 124.	/6-88 STAIR BTWN BAT DIV 11 & MEER 11
8 77 78 8 124. .667	/6-89
2 78 2 9 124.	/6-90
2 10 79 9 88.	/6-91 SLAB BTWN BAT DIV 11 & TUN 11
8 79 80 8 88. .667	/6-92
2 80 11 9 88.	/6-93
2 11 81 9 90.	/6-94 SLAB BTWN TUN 11 & MEER 11
8 81 82 8 90. .667	/6-95
2 82 2 9 90.	/6-96
2 2 92 2 306.	/6-97 CEILING
8 92 93 27 306. 2.25	/6-98 BTWN MEER 11 & DG SILENCER
2 93 15 5 306.	/6-99 RAD PATH
2 2 94 2 470.	/6-100 CEILING
8 94 95 24 470. 2.	/6-101 BTWN MEER 11 & SOL-AIR
2 95 13 11 470.	/6-102
2 1 96 2 724.	/6-103 CEILING
8 96 97 24 724. 2.	/6-104 BTWN MEER 12 & SOL-AIR
2 97 13 11 724.	/6-105
2 1 98 2 367.	/6-106 CEILING
8 98 99 24 367. 2.	/6-107 BTWN MEER 12 & AIR INTAKE
2 99 7 2 367.	/6-108
2 1 100 2 560.	/6-109 CEILING
8 100 101 27 560. 2.25	/6-110 BTWN MEER 12 & DG SILENCER
2 101 15 5 560.	/6-111 RAD PATH
2 1 21 6 405.	/6-112 WV TO SUR RAD. PW
2 1 23 7 134.	/6-113 WV TO SUR RAD. CW
2 1 25 6 610.	/6-114 WV TO SUR RAD. PW
2 2 26 6 610.	/6-115 WV TO SUR RAD. PW
2 1 27 7 1135.	/6-116 WV TO SUR RAD. CW
2 1 28 7 390.	/6-117 WV TO SUR RAD. CW
2 1 31 6 195.	/6-118 WV TO SUR RAD. PW
2 1 33 7 360.	/6-119 WV TO SUR RAD. CW
2 1 35 6 241.	/6-120 WV TO SUR RAD. PW
2 1 37 7 83.	/6-121 WV TO SUR RAD. CW
2 1 39 6 164.	/6-122 WV TO SUR RAD. PW
2 1 45 6 144.	/6-123 WV TO SUR RAD. PW
2 2 47 6 235.	/6-124 WV TO SUR RAD. PW
2 2 49 7 301.	/6-125 WV TO SUR RAD. CW
2 2 51 6 264.	/6-126 WV TO SUR RAD. PW
2 2 55 7 588.	/6-127 WV TO SUR RAD. CW
2 2 59 7 504.	/6-128 WV TO SUR RAD. CW
2 1 64 7 1376.	/6-129 WV TO SUR RAD. CW
2 2 66 7 523.	/6-130 WV TO SUR RAD. CW
2 1 72 7 135.	/6-131 WV TO SUR RAD. CW
2 1 76 7 90.	/6-132 WV TO SUR RAD. CW
2 2 78 7 124.	/6-133 WV TO SUR RAD. CW
2 2 82 7 306.	/6-134 WV TO SUR RAD. CW
2 2 82 7 90.	/6-135 WV TO SUR RAD. CW
2 2 94 7 470.	/6-136 WV TO SUR RAD. CW
2 1 96 7 724.	/6-137 WV TO SUR RAD. CW
2 1 98 7 367.	/6-138 WV TO SUR RAD. CW
2 1 100 7 560.	/6-139 WV TO SUR RAD. CW

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2 1 19 7 144.
 3 0 0 0 0
 0.19 0.33
 3 0 1 3 0
 0.22 0.33
 1 0 0 0 0
 0.0013
 1 0 0 0 0
 1120.
 4 0 0 0 0
 1.0
 4 23 0 0 0
 0.2
 4 24 0 0 0
 0.2
 4 26 0 0 0
 0.2
 3 0 1 10 0
 0.22 0.33
 1 0 0 0 0
 0.0027
 1 0 0 0 0
 3.0
 1 0. 0.066
 2 0. 0.17
 1 0. 0.0154
 1 0. 0.24
 1 0. 145.
 1 0. 0.156
 2 0. 0.92
 1 0. 0.156
 1 0. 35.56
 1 0. 0.20
 1 0. 0.0662
 1 0. 0.20
 1 0. 60.64
 1 0. 0.20
 1 0. 0.0839
 1 0. 0.20
 1 0. 490.
 1 0. 0.12
 1 0. 27.
 1 0. 0.12
 3 32. 1.94 100. 1.667 200. 1.477
 2 0. 108.5 1.E-5 150.
 1 0. 0.95
 1 0. 0.95
 1 0. 0.95
 2 1.e-6 108. 1.E-5 200.
 2 1.e-6 162. 1.E-5 860.

/6-140 MV TO SUR RAD. CW
 / 7A-1 MC Vertical Plate, Turbulent
 / 7B-1
 / 7A-2 MC Horizontal Plate, Turbulent
 / 7B-2
 / 7A-3 Cnd from Air (12' Cnd Length)
 / 7B-3
 / 7A-4 Condensation
 / 7B-4
 / 7A-5 Surface to Surface Rad
 / 7B-5 Conservatively Assumes All Emissivities Are One
 / 7A-6 MV To Sur Rad (Sur Em. Given in SF 23)
 / 7B-6 MV Emissivity & Absorbtivity
 / 7A-7 MV To Sur Rad (Sur Em. Given in SF 24)
 / 7B-7 MV Emissivity & Absorbtivity
 / 7A-8 MV To Sur Rad (Sur Em. Given in SF 25)
 / 7B-8 MV Emissivity & Absorbtivity
 / 7A-9 MC Horizontal Plate, Turbulent
 / 7B-9
 / 7A-10 Cnd to Air (6' Cnd Length)
 / 7B-10
 / 7A-11 Sol-air htc
 / 7B-11
 /8-1 RHO AIR
 /8-2 Cv
 /8-3 k
 /8-4 Cp
 /8-5 RHO CONCRETE
 /8-6 Cv
 /8-7 k
 /8-8 Cp
 /8-9 RHO 12" FIRE WALL
 /8-10 Cv
 /8-11 k
 /8-12 Cp
 /8-13 Rho 8" FIRE WALL
 /8-14 Cv
 /8-15 k
 /8-16 Cp
 /8-17 Rho STEEL
 /8-18 Cv
 /8-19 k
 /8-20 Cp
 /8-21 MC HTF COEFF
 /8-22 Exhaust Stack Air
 /8-23 (1+EPSILON_S) OVNR 2 (FIRE WALL)
 /8-24 (1+EPSILON_S) OVNR 2 (CONC WALL)
 /8-25 (1+EPSILON_S) OVNR 2 (FIRE DAMP)
 /8-26 Cable Spreading Room Air
 /8-27 DG Exhaust Silencer

&NAME1 IPONV=-1, IPONC=-1, IPOPCV=-1, IPOQLT=-1, IPOYMF=-1, IPOCHK=-1,
 IPOCPM=-1, IPOPT=-1, IPOVI=0, IPOVI=0, KACMN=1.E-10, NETPMG=50000,
 IPOP=-1, MPOP=2, IPOPK=-1, IPON=-1, MLCSSIT=2000 / 9 NAMELIST

108.0000	108.0000	108.0000	108.0000	108.5000	95.00000	95.00000	104.0000	108.0000	108.0000
108.0000	104.0000	129.0000	108.0000	129.0000	108.0000	108.0000	108.0000	107.0004	105.8393
109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	107.0004	108.0000	104.9487	99.86634
106.6357	97.40658	108.1278	108.1742	108.0000	108.0000	108.0000	108.0000	109.0000	109.0000
109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
109.0000	109.0000	109.0000	109.0000	107.1051	105.6725	106.5775	105.4225	107.0004	105.8393
105.7413	97.25870	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	129.7868	126.9062	120.9540	127.9303	120.9540	127.9303	104.5168	100.2132	119.7868
126.9062	106.9617	106.9230	106.8843	106.8456	106.8069	106.7582	106.7295	106.6908	106.6521
106.6134	106.5747	106.5360	106.4973	106.4586	106.4199	106.3812	106.3425	106.3038	106.2650
106.2263	106.1876	106.1489	106.1102	106.0715	106.0328	105.9941	105.9554	105.9167	105.8780
105.0000	109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
106.8456	106.8069	106.7682	106.7295	106.6908	106.6521	106.6134	106.5747	106.5360	106.4973
106.4586	106.4199	106.3812	106.3425	106.3038	106.2650	106.2263	106.1876	106.1489	106.1102
106.0715	106.0328	105.9941	105.9554	105.9167	105.8780	105.8393	105.8006	105.7619	105.7232
104.2428	104.1017	103.9605	103.8193	103.6781	103.5369	103.3958	103.2546	103.1134	102.9722
102.8311	102.6899	102.5487	102.4075	102.2664	102.1252	101.9840	101.8428	101.7016	101.5605
101.4193	101.2781	101.1369	100.9958	100.8546	100.7134	100.5722	100.4310	100.2899	100.1487
100.0075	105.8666	105.0975	104.3284	103.5593	102.7902	102.0211	101.2520	100.4829	99.71385
98.94476	98.17567	108.1336	108.1355	108.1394	108.1433	108.1471	108.1510	108.1549	108.1587
108.1626	108.1665	108.1704	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000

Listing of Input Data for Case 1 from File meer-tr.inp

1. Title:

Braidwood Control Rm. and ABER Transient After a Loss of the VC system

2. Problem Counters and Options:

Number of Nodes, NV:	101	Number of Paths, NP:	140
Number of Heat Transfer Functions (HTF), NH:	11	Number of Simple Functions (SF), NF:	27
Number of Non-condensable Gas (NCG) Species, NG:	0	Presence of Water Option (0=no, 1=yes), NW:	0
Choking Flow Option (0=off, 1=on), KChoke:	0	Record Type 6a Input Option (0=no, 1=yes), TVIP:	0
Calculation End Time (hr), KMax:	8.000000	Number of Node Series for Initial Steady State, MSSS:	16
Pressure Conversion Factor, PCF:	144.0000	Number of Mass Blowdowns, NMB:	0
Number of Internal Heat Gains, NIB:	0		

Units for all pres/area unless otherwise noted: as specified by PCF psf/units

3. Since NG = 0, there are NO Perfect Gas Species present in the model

4. Times for 8 Printouts (hr):

0.000000	0.500000	1.000000	2.000000	3.000000	4.000000	6.000000	8.000000
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5. Input data for NV #101 Volume Nodes (IVT = node type):

Node 1: IVT 1 AI V 31966.00 TF 108.0000 GB 3.712690 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
MEER 12 AIR NODE (MOD. TO ACCOUNT FOR NON HELB)

Node 2: IVT 1 AI V 13219.00 TF 108.0000 GB 3.323350 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
MEER 11 AIR (MOD. TO ACCOUNT FOR NON HELB)

Node 3: IVT 1 AI V 2266.000 TF 108.0000 GB 0.6175600 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
BAT RM DIV 12 AIR

Node 4: IVT 1 AI V 237.6000 TF 108.0000 GB 0.0000000 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
TURN "BAT RM DIV 12 AIR

Node 5: IVT 2 BI TFB 1.000000 IV1 F(X) 22 IV2 F(T) 1 EXHAUST STACK AIR

Node 6: IVT 2 BI TFB 95.00000 IV1 F(X) 0 IV2 F(T) 1 HVAC AIR SUP AIR

Node 7: IVT 2 BI TFB 95.00000 IV1 F(X) 0 IV2 F(T) 1 AMBIENT AIR

Node 8: IVT 2 BI TFB 104.0000 IV1 F(X) 0 IV2 F(T) 1 CR AC AREA AIR

Node 9: IVT -1 (null) NON-ESP SWGE RM AIR

Node 10: IVT 1 AI V 2167.000 TF 108.0000 GB 0.6455900 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
BAT RM DIV 11 AIR (MOD. TO ACCOUNT FOR NON HELB)

Node 11: IVT 1 AI V 488.0000 TF 108.0000 GB 0.0000000 IV1=F(X) 0 IV2=F(T) 0 IV3=F(T) 1
TURN "BAT RM DIV 11 AIR

Node 12: IVT 2 BI TFB 104.0000 IV1 F(X) 0 IV2 F(T) 1 TB AIR

Node 13: IVT 2 BI TFB 162.0000 IV1 F(X) 0 IV2 F(T) 1 AMBIENT SOLAIR TEMP

Node 14: IVT 2 BI TFB 1.000000 IV1 F(X) 26 IV2 F(T) 1 CABLE SPREAD RM AIR

Node 15: IVT 2 BI TFB 1.000000 IV1 F(X) 27 IV2 F(T) 1 DG SILENCER AIR

Node 16: IVT -1 (null) NULL NODE NOT USED

Node 17: IVT -1 (null) NULL NODE NOT USED

Node 18: IVT -1 (null) NULL NODE NOT USED

Node 19: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 Conc Wall Betw 1 & 8

Node 20: IVT 7 WH

Node 21: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 9 FIRE WALL BETW 1 & 9

Node 22: IVT 7 WH

Node 23: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC WALL BETW 1 & 10

Node 24: IVT 7 WH

Node 25:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	9	FIRE WALL BETW 1 & 2
Node 26:	IVT 7 WH									
Node 27:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 1 & 8
Node 28:	IVT 7 WH									
Node 29:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 1 & 7
Node 30:	IVT 7 WH									
Node 31:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	9	FIRE WALL BETW 1 & 6
Node 32:	IVT 7 WH									
Node 33:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 1 & 5
Node 34:	IVT 7 WH									
Node 35:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	13	8" FIRE WALL BETW 1 & 3
Node 36:	IVT 7 WH									
Node 37:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 1 & 4
Node 38:	IVT 7 WH									
Node 39:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	9	FIRE WALL BETW 1 & 9
Node 40:	IVT 7 WH									
Node 41:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 4 & 9
Node 42:	IVT 7 WH									
Node 43:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 3 & 9
Node 44:	IVT 7 WH									
Node 45:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 1 & 3
Node 46:	IVT 7 WH									
Node 47:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	13	8" WALL BETW 2 & 10
Node 48:	IVT 7 WH									
Node 49:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 2 & 11
Node 50:	IVT 7 WH									
Node 51:	IVT 6 WT	GP	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	9	FIRE WALL BETW 2 & 9
Node 52:	IVT 7 WH									

Node 53:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 10 & 9
Node 54:	IVT 7 WH									
Node 55:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 2 & 12
Node 56:	IVT 7 WH									
Node 57:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 10 & 12
Node 58:	IVT 7 WH									
Node 59:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC WALL BETW 2 & 8
Node 60:	IVT 7 WH									
Node 61:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	9	FIRE WALL BETW 3 & 6
Node 62:	IVT 7 WH									
Node 63:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 14 & 1
Node 64:	IVT 7 WH									
Node 65:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 14 & 2
Node 66:	IVT 7 WH									
Node 67:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 14 & 3
Node 68:	IVT 7 WH									
Node 69:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 14 & 10
Node 70:	IVT 7 WH									
Node 71:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 1 & 3
Node 72:	IVT 7 WH									
Node 73:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 3 & 4
Node 74:	IVT 7 WH									
Node 75:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 4 & 1
Node 76:	IVT 7 WH									
Node 77:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 10 & 2
Node 78:	IVT 7 WH									
Node 79:	IVT 6 WT	GB	0.0000000	IV1 F(X)	0	IV2 F(D)	0	IV3 F(T)	5	CONC SLAB BETW 10 & 11
Node 80:	IVT 7 WH									

Node 81: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC SLAB BETW 11 & 2
Node 82: IVT 7 WH
Node 83: IVT -1 (null) NULL NODE NOT USED
Node 84: IVT -1 (null) NULL NODE NOT USED
Node 85: IVT -1 (null) NULL NODE NOT USED
Node 86: IVT -1 (null) NULL NODE NOT USED
Node 87: IVT -1 (null) NULL NODE NOT USED
Node 88: IVT -1 (null) NULL NODE NOT USED
Node 89: IVT -1 (null) NULL NODE NOT USED
Node 90: IVT -1 (null) NULL NODE NOT USED
Node 91: IVT -1 (null) NULL NODE NOT USED
Node 92: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC CEIL BETW 2 & 15
Node 93: IVT 7 WH
Node 94: IVT 6 WT GB 0.0010000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC CEIL BETW 2 & 13
Node 95: IVT 7 WH
Node 96: IVT 6 WT GB 0.0010000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC CEIL BETW 1 & 13
Node 97: IVT 7 WH
Node 98: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC CEIL BETW 1 & 7
Node 99: IVT 7 WH
Node 100: IVT 6 WT GB 0.0000000 IV1 F(X) 0 IV2 F(D) 0 IV3 F(T) 5 CONC CEIL BETW 1 & 15
Node 101: IVT 7 WH

6. Input data for NF = 140 Paths (IPT = path type, IT = tail node, IH = head node):

Path 1:	IPT 2 CR IT 1	IH 19	IP1=HTF 1 A	144.0000	Fp 1.000000	CW
Path 2:	IPT 8 WF IT 19	IH 20	IP1=ND 30 A	144.0000	DT 2.500000	
Path 3:	IPT 2 CR IT 20	IH 8	IP1=HTF 1 A	144.0000	Fp 1.000000	
Path 4:	IPT 2 CR IT 1	IH 21	IP1=HTF 1 A	405.0000	Fp 1.000000	CW
Path 5:	IPT 8 WF IT 21	IH 22	IP1=ND 6 A	405.0000	DT 0.500000	half thck used for trans
Path 6:	IPT -2 (null) NULL (Adiabatic Assumption)					
Path 7:	IPT 2 CR IT 1	IH 23	IP1=HTF 1 A	134.0000	Fp 1.000000	CW
Path 8:	IPT 8 WF IT 23	IH 24	IP1=ND 12 A	134.0000	DT 1.000000	
Path 9:	IPT 2 CR IT 24	IH 10	IP1=HTF 1 A	134.0000	Fp 1.000000	
Path 10:	IPT 2 CR IT 1	IH 25	IP1=HTF 1 A	610.0000	Fp 1.000000	FW
Path 11:	IPT 8 WF IT 25	IH 26	IP1=ND 12 A	610.0000	DT 1.000000	
Path 12:	IPT 2 CR IT 26	IH 2	IP1=HTF 1 A	610.0000	Fp 1.000000	
Path 13:	IPT 2 CR IT 1	IH 27	IP1=HTF 1 A	1135.000	Fp 1.000000	CW
Path 14:	IPT 8 WF IT 27	IH 28	IP1=ND 30 A	1135.000	DT 2.500000	
Path 15:	IPT 2 CR IT 28	IH 8	IP1=HTF 1 A	1135.000	Fp 1.000000	
Path 16:	IPT 2 CR IT 1	IH 29	IP1=HTF 1 A	390.0000	Fp 1.000000	CW
Path 17:	IPT 8 WF IT 29	IH 30	IP1=ND 06 A	390.0000	DT 3.000000	
Path 18:	IPT 2 CR IT 30	IH 7	IP1=HTF 1 A	390.0000	Fp 1.000000	
Path 19:	IPT 2 CR IT 1	IH 31	IP1=HTF 1 A	195.0000	Fp 1.000000	FW
Path 20:	IPT 8 WF IT 31	IH 32	IP1=ND 12 A	195.0000	DT 1.000000	
Path 21:	IPT 2 CR IT 32	IH 6	IP1=HTF 1 A	195.0000	Fp 1.000000	
Path 22:	IPT 2 CR IT 1	IH 33	IP1=HTF 1 A	360.0000	Fp 1.000000	CW
Path 23:	IPT 8 WF IT 33	IH 34	IP1=ND 12 A	360.0000	DT 1.000000	
Path 24:	IPT 2 CR IT 34	IH 5	IP1=HTF 1 A	360.0000	Fp 1.000000	
Path 25:	IPT 2 CR IT 1	IH 35	IP1=HTF 1 A	241.0000	Fp 1.000000	FW
Path 26:	IPT 8 WF IT 35	IH 36	IP1=ND 8 A	241.0000	DT 0.635000	
Path 27:	IPT 2 CR IT 36	IH 3	IP1=HTF 1 A	241.0000	Fp 1.000000	

Path 28: IPT 2 CR IT 1 IN 37 IP1=HTF 1 A 83.00000	Fp 1.000000	CW
Path 29: IPT 8 WP IT 37 IN 38 IP1=ND 12 A 83.00000	DT 1.000000	
Path 30: IPT 2 CR IT 38 IN 4 IP1=HTF 1 A 83.00000	Fp 1.000000	
Path 31: IPT 2 CR IT 1 IN 39 IP1=HTF 1 A 164.0000	Fp 1.000000	PW
Path 32: IPT 8 WP IT 39 IN 40 IP1=ND 6 A 164.0000	DT 0.500000	
Path 33: IPT -2 (null) NULL (Adiabatic Assumption)		
Path 34: IPT 2 CR IT 4 IN 41 IP1=HTF 1 A 83.00000	Fp 1.000000	PW
Path 35: IPT 8 WP IT 41 IN 42 IP1=ND 6 A 83.00000	DT 0.500000	
Path 36: IPT -2 (null) NULL (Adiabatic Assumption)		
Path 37: IPT 2 CR IT 3 IN 43 IP1=HTF 1 A 255.0000	Fp 1.000000	CW
Path 38: IPT 8 WP IT 43 IN 44 IP1=ND 6 A 255.0000	DT 0.500000	
Path 39: IPT -2 (null) NULL (Adiabatic Assumption)		
Path 40: IPT 2 CR IT 1 IN 45 IP1=HTF 1 A 144.0000	Fp 1.000000	CW
Path 41: IPT 8 WP IT 45 IN 46 IP1=ND 12 A 144.0000	DT 1.000000	
Path 42: IPT 2 CR IT 46 IN 3 IP1=HTF 1 A 144.0000	Fp 1.000000	
Path 43: IPT 2 CR IT 2 IN 47 IP1=HTF 1 A 235.0000	Fp 1.000000	PW
Path 44: IPT 8 WP IT 47 IN 48 IP1=ND 8 A 235.0000	DT 0.635000	
Path 45: IPT 2 CR IT 48 IN 10 IP1=HTF 1 A 235.0000	Fp 1.000000	
Path 46: IPT 2 CR IT 2 IN 49 IP1=HTF 1 A 301.0000	Fp 1.000000	CW
Path 47: IPT 8 WP IT 49 IN 50 IP1=ND 12 A 301.0000	DT 1.000000	
Path 48: IPT 2 CR IT 50 IN 11 IP1=HTF 1 A 301.0000	Fp 1.000000	
Path 49: IPT 2 CR IT 2 IN 51 IP1=HTF 1 A 264.0000	Fp 1.000000	PW
Path 50: IPT 8 WP IT 51 IN 52 IP1=ND 6 A 264.0000	DT 0.500000	
Path 51: IPT -2 (null) NULL (Adiabatic Assumption)		
Path 52: IPT 2 CR IT 10 IN 53 IP1=HTF 1 A 249.0000	Fp 1.000000	CW
Path 53: IPT 8 WP IT 53 IN 54 IP1=ND 6 A 249.0000	DT 0.500000	
Path 54: IPT -2 (null) NULL (Adiabatic Assumption)		
Path 55: IPT 2 CR IT 2 IN 55 IP1=HTF 1 A 588.0000	Fp 1.000000	CW

Path 56:	IPT 8 WP	IT 55	IN 56	IP1=ND	42	A	588.0000	DT	3.500000	
Path 57:	IPT 2 CR	IT 56	IN 12	IP1=HTF	1	A	588.0000	Fp	1.000000	
Path 58:	IPT 2 CR	IT 10	IN 57	IP1=HTF	1	A	123.0000	Fp	1.000000	CW
Path 59:	IPT 8 WP	IT 57	IN 58	IP1=ND	42	A	123.0000	DT	3.500000	
Path 60:	IPT 2 CR	IT 58	IN 12	IP1=HTF	1	A	123.0000	Fp	1.000000	
Path 61:	IPT 2 CR	IT 2	IN 59	IP1=HTF	1	A	504.0000	Fp	1.000000	CW
Path 62:	IPT 8 WP	IT 59	IN 60	IP1=ND	30	A	504.0000	DT	2.500000	
Path 63:	IPT 2 CR	IT 60	IN 8	IP1=HTF	1	A	504.0000	Fp	1.000000	
Path 64:	IPT 2 CR	IT 3	IN 61	IP1=HTF	1	A	137.0000	Fp	1.000000	PW
Path 65:	IPT 8 WP	IT 61	IN 62	IP1=ND	12	A	137.0000	DT	1.000000	
Path 66:	IPT 2 CR	IT 62	IN 6	IP1=HTF	1	A	137.0000	Fp	1.000000	
Path 67:	IPT 2 CR	IT 14	IN 63	IP1=HTF	9	A	1376.0000	Fp	1.000000	CEILING BETW CABLE SPR RM & MEER12
Path 68:	IPT 8 WP	IT 63	IN 64	IP1=ND	15	A	1376.0000	DT	1.250000	
Path 69:	IPT 2 CR	IT 64	IN 1	IP1=HTF	2	A	1376.0000	Fp	1.000000	
Path 70:	IPT 2 CR	IT 14	IN 65	IP1=HTF	9	A	523.0000	Fp	1.000000	CEILING BETW CSR & MEER11
Path 71:	IPT 8 WP	IT 65	IN 66	IP1=ND	15	A	523.0000	DT	1.250000	
Path 72:	IPT 2 CR	IT 66	IN 2	IP1=HTF	2	A	523.0000	Fp	1.000000	
Path 73:	IPT 2 CR	IT 14	IN 67	IP1=HTF	9	A	250.0000	Fp	1.000000	CEILING BETW CSR & BAT DIV 12
Path 74:	IPT 8 WP	IT 67	IN 68	IP1=ND	15	A	250.0000	DT	1.250000	
Path 75:	IPT 2 CR	IT 68	IN 3	IP1=HTF	9	A	250.0000	Fp	1.000000	
Path 76:	IPT 2 CR	IT 14	IN 69	IP1=HTF	9	A	239.0000	Fp	1.000000	CEILING BETW CSR & BAT DIV 11
Path 77:	IPT 8 WP	IT 69	IN 70	IP1=ND	15	A	239.0000	DT	1.250000	
Path 78:	IPT 2 CR	IT 70	IN 10	IP1=HTF	9	A	239.0000	Fp	1.000000	
Path 79:	IPT 2 CR	IT 3	IN 71	IP1=HTF	9	A	135.0000	Fp	1.000000	SLAB BETW BAT DIV 12 & MEER 12
Path 80:	IPT 8 WP	IT 71	IN 72	IP1=ND	8	A	135.0000	DT	0.6670000	
Path 81:	IPT 2 CR	IT 72	IN 1	IP1=HTF	9	A	135.0000	Fp	1.000000	
Path 82:	IPT 2 CR	IT 3	IN 73	IP1=HTF	9	A	88.000000	Fp	1.000000	SLAB BETW BAT DIV 12 & TUN 12
Path 83:	IPT 8 WP	IT 73	IN 74	IP1=ND	8	A	88.000000	DT	0.6670000	

Path 84:	IPT 2 CR IT 74	IN 4	IP1=HTF	9 A	88.00000	Fp	1.000000	
Path 85:	IPT 2 CR IT 4	IN 75	IP1=HTF	9 A	90.00000	Fp	1.000000	SLAB BETW TUN 12 & MEER 12
Path 86:	IPT 8 WP IT 75	IN 76	IP1=ND	8 A	90.00000	DT	0.6670000	
Path 87:	IPT 2 CR IT 76	IN 1	IP1=HTF	9 A	90.00000	Fp	1.000000	
Path 88:	IPT 2 CR IT 10	IN 77	IP1=HTF	9 A	124.00000	Fp	1.000000	SLAB BETW BAT DIV 11 & MEER 11
Path 89:	IPT 8 WP IT 77	IN 78	IP1=ND	8 A	124.00000	DT	0.6670000	
Path 90:	IPT 2 CR IT 78	IN 2	IP1=HTF	9 A	124.00000	Fp	1.000000	
Path 91:	IPT 2 CR IT 10	IN 79	IP1=HTF	9 A	88.00000	Fp	1.000000	SLAB BETW BAT DIV 11 & TUN 11
Path 92:	IPT 8 WP IT 79	IN 80	IP1=ND	8 A	88.00000	DT	0.6670000	
Path 93:	IPT 2 CR IT 80	IN 11	IP1=HTF	9 A	88.00000	Fp	1.000000	
Path 94:	IPT 2 CR IT 11	IN 81	IP1=HTF	9 A	90.00000	Fp	1.000000	SLAB BETW TUN 11 & MEER 11
Path 95:	IPT 8 WP IT 81	IN 82	IP1=ND	8 A	90.00000	DT	0.6670000	
Path 96:	IPT 2 CR IT 82	IN 2	IP1=HTF	9 A	90.00000	Fp	1.000000	
Path 97:	IPT 2 CR IT 2	IN 92	IP1=HTF	2 A	306.00000	Fp	1.000000	CEILING
Path 98:	IPT 8 WP IT 92	IN 93	IP1=ND	27 A	306.00000	DT	2.250000	BETW MEE 11 & DG SILENCER
Path 99:	IPT 2 CR IT 93	IN 15	IP1=HTF	5 A	306.00000	Fp	1.000000	RAD PATH
Path 100:	IPT 2 CR IT 2	IN 94	IP1=HTF	2 A	470.00000	Fp	1.000000	CEILING
Path 101:	IPT 8 WP IT 94	IN 95	IP1=ND	24 A	470.00000	DT	2.000000	BETW MEE 11 & SOL-AIR
Path 102:	IPT 2 CR IT 95	IN 13	IP1=HTF	11 A	470.00000	Fp	1.000000	
Path 103:	IPT 2 CR IT 1	IN 96	IP1=HTF	2 A	724.00000	Fp	1.000000	CEILING
Path 104:	IPT 8 WP IT 96	IN 97	IP1=ND	24 A	724.00000	DT	2.000000	BETW MEE 12 & SOL-AIR
Path 105:	IPT 2 CR IT 97	IN 13	IP1=HTF	11 A	724.00000	Fp	1.000000	
Path 106:	IPT 2 CR IT 1	IN 98	IP1=HTF	2 A	367.00000	Fp	1.000000	CEILING
Path 107:	IPT 8 WP IT 98	IN 99	IP1=ND	24 A	367.00000	DT	2.000000	BETW MEE 12 & AIR INTAKE
Path 108:	IPT 2 CR IT 99	IN 7	IP1=HTF	2 A	367.00000	Fp	1.000000	
Path 109:	IPT 2 CR IT 1	IN 100	IP1=HTF	2 A	560.00000	Fp	1.000000	CEILING
Path 110:	IPT 8 WP IT 100	IN 101	IP1=ND	27 A	560.00000	DT	2.250000	BETW MEE 12 & DG SILENCER
Path 111:	IPT 2 CR IT 101	IN 15	IP1=HTF	5 A	560.00000	Fp	1.000000	RAD PATH

Path 112:	IPT 2 CR IT	1	IN 21	IP1=MTF	6	A 405.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 113:	IPT 2 CR IT	1	IN 23	IP1=MTF	7	A 134.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 114:	IPT 2 CR IT	1	IN 25	IP1=MTF	6	A 610.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 115:	IPT 2 CR IT	2	IN 26	IP1=MTF	6	A 610.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 116:	IPT 2 CR IT	1	IN 27	IP1=MTF	7	A 1135.000	Fp 1.000000	WV TO SUR RAD, CW
Path 117:	IPT 2 CR IT	1	IN 29	IP1=MTF	7	A 390.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 118:	IPT 2 CR IT	1	IN 31	IP1=MTF	6	A 195.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 119:	IPT 2 CR IT	1	IN 33	IP1=MTF	7	A 360.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 120:	IPT 2 CR IT	1	IN 35	IP1=MTF	6	A 241.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 121:	IPT 2 CR IT	1	IN 37	IP1=MTF	7	A 83.00000	Fp 1.000000	WV TO SUR RAD, CW
Path 122:	IPT 2 CR IT	1	IN 39	IP1=MTF	6	A 164.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 123:	IPT 2 CR IT	1	IN 45	IP1=MTF	6	A 144.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 124:	IPT 2 CR IT	2	IN 47	IP1=MTF	6	A 235.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 125:	IPT 2 CR IT	2	IN 49	IP1=MTF	7	A 301.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 126:	IPT 2 CR IT	2	IN 51	IP1=MTF	6	A 264.0000	Fp 1.000000	WV TO SUR RAD, FW
Path 127:	IPT 2 CR IT	2	IN 55	IP1=MTF	7	A 588.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 128:	IPT 2 CR IT	2	IN 59	IP1=MTF	7	A 504.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 129:	IPT 2 CR IT	1	IN 64	IP1=MTF	7	A 1376.000	Fp 1.000000	WV TO SUR RAD, CW
Path 130:	IPT 2 CR IT	2	IN 66	IP1=MTF	7	A 523.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 131:	IPT 2 CR IT	1	IN 72	IP1=MTF	7	A 135.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 132:	IPT 2 CR IT	1	IN 76	IP1=MTF	7	A 90.00000	Fp 1.000000	WV TO SUR RAD, CW
Path 133:	IPT 2 CR IT	2	IN 78	IP1=MTF	7	A 124.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 134:	IPT 2 CR IT	2	IN 92	IP1=MTF	7	A 306.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 135:	IPT 2 CR IT	2	IN 82	IP1=MTF	7	A 90.00000	Fp 1.000000	WV TO SUR RAD, CW
Path 136:	IPT 2 CR IT	2	IN 94	IP1=MTF	7	A 470.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 137:	IPT 2 CR IT	1	IN 96	IP1=MTF	7	A 724.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 138:	IPT 2 CR IT	1	IN 98	IP1=MTF	7	A 367.0000	Fp 1.000000	WV TO SUR RAD, CW
Path 139:	IPT 2 CR IT	1	IN 100	IP1=MTF	7	A 560.0000	Fp 1.000000	WV TO SUR RAD, CW

Path 140: IPT 2 CR IT 1 IH 19 IP1=HTF 7 A 144.0000 Pp 1.000000 MV TO SUR RAD, CW

6a. Input Array Controls: IVIP = 0; there are no input arrays.

7. Input data for NM = 11 Heat Transfer Functions (HTF):

HTF 1: INT 3 Natural Convection: 7A-1 NC Vertical Plate, Turbulent 7B-1

7a. IN1, X-function 0 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 0.1900000 C2, Exponent 0.3300000

HTF 2: INT 3 Natural Convection: 7A-2 NC Horizontal Plate, Turbulent 7B-2

7a. IN1, X-function 0 IN2, Direction control 1 IN3, Alternate HTF 3 IN4, T-function 0

7b. C1, Constant factor 0.2200000 C2, Exponent 0.3300000

HTF 3: INT 1 Specified Time (X) and/or Temperature (T) function: 7A-3 Cnd from Air (12' Cnd Length) 7B-3

7a. IN1, X-function 0 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 1.3000000E-03

HTF 4: INT 1 Specified Time (X) and/or Temperature (T) function: 7A-4 Condensation 7B-4

7a. IN1, X-function 0 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 1120.000

HTF 5: INT 4 General Radiation: 7A-5 Surface to Surface Rad 7B-5 Conservatively Assumes All Emissivities Are One

7a. IN1, X-function 0 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 1.000000 See respective Path data for constant factor Fp.

HTF 6: INT 4 General Radiation: 7A-6 WV To Sur Rad (Sur Em. Given in SF 23) 7B-6 WV Emissivity & Absorbtivity

7a. IN1, X-function 23 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 0.2000000

HTF 7: INT 4 General Radiation: 7A-7 WV To Sur Rad (Sur Em. Given in SF 24) 7B-7 WV Emissivity & Absorbtivity

7a. IN1, X-function 24 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 0.2000000

HTF 8: INT 4 General Radiation: 7A-8 WV To Sur Rad (Sur Em. Given in SF 25) 7B-8 WV Emissivity & Absorbtivity

7a. IN1, X-function 26 IN2, Direction control 0 IN3, Alternate HTF 0 IN4, T-function 0

7b. C1, Constant factor 0.2000000

HTF 9: INT 3 Natural Convection: 7A-9 NC Horizontal Plate, Turbulent 7B-9

7a. IN1, X-function 0 IN2, Direction control 1 IN3, Alternate HTF 10 IN4, T-function 0

7b. C1, Constant factor 0.2200000 C2, Exponent 0.3300000

MTF 10: INT 1 Specified Time (X) and/or Temperature (T) function: 7A-10 Cnd to Air (6' Cnd Length) 7B-10

7a. IH1, X-function 0 IH2, Direction control 0 IH3, Alternate MTF 0 IH4, T-function 0

7b. C1, Constant factor 2.7000001E-03

MTF 11: INT 1 Specified Time (X) and/or Temperature (T) function: 7A-11 Sol-air htc 7B-11

7a. IH1, X-function 0 IH2, Direction control 0 IH3, Alternate MTF 0 IH4, T-function 0

7b. C1, Constant factor 3.000000

For any Constant Factor or Dimension C1 = 0, see respective Path data for value Fp.

7.1 There are NO Internal Heat Gains (type 7.1) in the model.

7.2 There are NO Mass Blowdowns (type 7.2) in the model.

8. Input data for NF = 27 Simple Functions (SF):

SF No. 1	T (eF)	0.000000
1 pts.	Rho (lb/cf)	6.00000E-02
SF No. 2	T (eF)	0.000000
1 pts.	Cv (B/lbeF)	0.170000
SF No. 3	T (eF)	0.000000
1 pts.	FMT	1.540000E-02
SF No. 4	T (eF)	0.000000
1 pts.	Cp (B/lbeF)	0.240000
SF No. 5	T (eF)	0.000000
1 pts.	Rho (lb/cf)	145.000
SF No. 6	T (eF)	0.000000
1 pts.	Cv (B/lbeF)	0.156000
SF No. 7	T (eF)	0.000000
1 pts.	k (B/h-feF)	0.920000
SF No. 8	T (eF)	0.000000
1 pts.	Cp (B/lbeF)	0.156000
SF No. 9	T (eF)	0.000000
1 pts.	Rho (lb/cf)	35.5600
SF No. 10	T (eF)	0.000000
1 pts.	FMT	0.200000
SF No. 11	T (eF)	0.000000
1 pts.	k (B/h-feF)	6.620000E-02
SF No. 12	T (eF)	0.000000
1 pts.	Cp (B/lbeF)	0.200000
SF No. 13	T (eF)	0.000000
1 pts.	Rho (lb/cf)	60.6400
SF No. 14	T (eF)	0.000000
1 pts.	Cv (B/lbeF)	0.200000
SF No. 15	T (eF)	0.000000
1 pts.	k (B/h-feF)	8.390000E-02
SF No. 16	T (eF)	0.000000
1 pts.	Cp (B/lbeF)	0.200000
SF No. 17	Y	0.000000
1 pts.	F(Y)	490.000
SF No. 18	Y	0.000000
1 pts.	F(Y)	0.120000

SF No. 19	Y	0.000000		
1 pts.	F(Y)	27.0000		
SF No. 20	Y	0.000000		
1 pts.	F(Y)	0.120000		
SF No. 21	Y	32.0000	100.000	200.000
3 pts.	F(Y)	1.84000	1.66700	1.47700
SF No. 22	X (hrs)	0.000000	1.000000E-05	
2 pts.	TFS x	108.500	150.000	
SF No. 23	X (hrs)	0.000000		
1 pts.	PHX	0.950000		
SF No. 24	X (hrs)	0.000000		
1 pts.	PHX	0.950000		
SF No. 25	Y	0.000000		
1 pts.	F(Y)	0.950000		
SF No. 26	X (hrs)	1.000000E-06	1.000000E-05	
2 pts.	PHX	108.000	200.000	
SF No. 27	X (hrs)	1.000000E-06	1.000000E-05	
2 pts.	TFS x	162.000	960.000	

9. Namelist NAME1 Input (*) or Default Values: 9 NAMELIST

IPOP *	-1	IPO	0	IPOCPM *	-1	IPOCHK *	-1	IPODN	1	IPODND	1	IPOPCV *	-1	IPOHP	1
IPOP	1	IPOPA *	-1	IPOPI *	0	IPOPT7 *	-1	IPOQLT *	-2	IPOQP	1	IPOV	1	IPOVI *	0
IPOW *	-1	IPOWC *	-1	IPOWV *	-1	IPOYMF *	-1	MPOP *	2	MOOIT	100	MXSSIt *	2000	NMAXER	15
NSTPMX *	50000	NSTPOP	1	IPTF	0	IPPA	0	IPWCIN	0	IPDN	0	IPWV	0	IPPCV	0
IPQLTY	0	IPYMP	0	IPYMPH	0	IPFW	0	IPQP	0	IPSCPM	0	IPWCIF	0	IPTF	1
IPPA	1	IPWCIN	1	IPDN	1	IPWV	1	IPPCV	1	IPQLTY	1	IPYMP	1	IPYMPH	1
IPFW	1	IPQP	1	IPSCPM	1	IPWCIF	1	IPACPM	1	IPAN	0	IPAP	0		
BNTW	18.01600	CLATH	14.69600	CGRV	0.4169800E-09	CGRCN	1545.430	CMHIT	778.2600						
CTRNR	0.1000000E-01	CTRTF	459.6700	DNEIAS	2.000000	ENI	0.3000000E-06	NLO	0.3000000E-07						
FACTOR	1.010000	FINC	1.260000	GKXPAC	0.3000000	GRAT	1.000000	PAC	100000.0						
KLWMIN	0.1000000E-24	SHFALN	0.5000000E-02	Sigma	0.1713000E-08	STol	0.1000000E-05	TRIAS	560.0000						
TKO	1.000000	UDIAS	100.0000	UGOMIN	0.5000000	VPGOMH	100.0000	WBIAS	1000000.						
XACD	0.1000000E-01	XACMH *	0.1000000E-09	XTOL	0.1000000E-09	YMPMIN	0.1000000E-19								

For Wall 1, Path 2, IPT 8, Added Nodes 102 thru 130, Added Paths 141 thru 169
 For Wall 2, Path 5, IPT 8, Added Nodes 131 thru 135, Added Paths 170 thru 174
 For Wall 3, Path 8, IPT 8, Added Nodes 136 thru 146, Added Paths 175 thru 185
 For Wall 4, Path 11, IPT 8, Added Nodes 147 thru 157, Added Paths 186 thru 196
 For Wall 5, Path 14, IPT 8, Added Nodes 158 thru 186, Added Paths 197 thru 225
 For Wall 6, Path 17, IPT 8, Added Nodes 187 thru 221, Added Paths 226 thru 260
 For Wall 7, Path 20, IPT 8, Added Nodes 222 thru 232, Added Paths 261 thru 271
 For Wall 8, Path 23, IPT 8, Added Nodes 233 thru 243, Added Paths 272 thru 282
 For Wall 9, Path 26, IPT 8, Added Nodes 244 thru 250, Added Paths 283 thru 289
 For Wall 10, Path 29, IPT 8, Added Nodes 251 thru 261, Added Paths 290 thru 300
 For Wall 11, Path 32, IPT 8, Added Nodes 262 thru 266, Added Paths 301 thru 305
 For Wall 12, Path 35, IPT 8, Added Nodes 267 thru 271, Added Paths 306 thru 310
 For Wall 13, Path 38, IPT 8, Added Nodes 272 thru 276, Added Paths 311 thru 315

For Wall 14, Path 41, IPT 8, Added Nodes 277 thru 287, Added Paths 316 thru 326
 For Wall 15, Path 44, IPT 8, Added Nodes 288 thru 294, Added Paths 327 thru 333
 For Wall 16, Path 47, IPT 8, Added Nodes 295 thru 305, Added Paths 334 thru 344
 For Wall 17, Path 50, IPT 8, Added Nodes 306 thru 310, Added Paths 345 thru 349
 For Wall 18, Path 53, IPT 8, Added Nodes 311 thru 315, Added Paths 350 thru 354
 For Wall 19, Path 56, IPT 8, Added Nodes 316 thru 356, Added Paths 355 thru 395
 For Wall 20, Path 59, IPT 8, Added Nodes 357 thru 397, Added Paths 396 thru 436
 For Wall 21, Path 62, IPT 8, Added Nodes 398 thru 426, Added Paths 437 thru 465
 For Wall 22, Path 65, IPT 8, Added Nodes 427 thru 437, Added Paths 466 thru 476
 For Wall 23, Path 68, IPT 8, Added Nodes 438 thru 451, Added Paths 477 thru 490
 For Wall 24, Path 71, IPT 8, Added Nodes 452 thru 465, Added Paths 491 thru 504
 For Wall 25, Path 74, IPT 8, Added Nodes 466 thru 479, Added Paths 505 thru 518
 For Wall 26, Path 77, IPT 8, Added Nodes 480 thru 493, Added Paths 519 thru 532
 For Wall 27, Path 80, IPT 8, Added Nodes 494 thru 500, Added Paths 533 thru 539
 For Wall 28, Path 83, IPT 8, Added Nodes 501 thru 507, Added Paths 540 thru 546
 For Wall 29, Path 86, IPT 8, Added Nodes 508 thru 514, Added Paths 547 thru 553
 For Wall 30, Path 89, IPT 8, Added Nodes 515 thru 521, Added Paths 554 thru 560
 For Wall 31, Path 92, IPT 8, Added Nodes 522 thru 528, Added Paths 561 thru 567
 For Wall 32, Path 95, IPT 8, Added Nodes 529 thru 535, Added Paths 568 thru 574
 For Wall 33, Path 98, IPT 8, Added Nodes 536 thru 561, Added Paths 575 thru 600
 For Wall 34, Path 101, IPT 8, Added Nodes 562 thru 584, Added Paths 601 thru 623
 For Wall 35, Path 104, IPT 8, Added Nodes 585 thru 607, Added Paths 624 thru 636
 For Wall 36, Path 107, IPT 8, Added Nodes 608 thru 630, Added Paths 647 thru 669
 For Wall 37, Path 110, IPT 8, Added Nodes 631 thru 656, Added Paths 670 thru 695

10. With Walls present, the T-Vector (TF(1),1=1,MV) is:

108.0000	108.0000	108.0000	108.0000	108.5000	95.00000	95.00000	104.0000	108.0000	108.0000
108.0000	104.0000	129.0000	108.0000	129.0000	108.0000	108.0000	108.0000	107.0004	105.8393
109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	107.0004	107.8393	104.9487	99.86634
106.6357	97.40658	108.1278	108.1742	108.0000	108.0000	108.0000	108.0000	109.0000	109.0000
109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
109.0000	109.0000	109.0000	109.0000	107.1051	105.6725	106.5775	105.4225	107.0004	105.8251
105.7413	97.25870	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	119.7868	126.9062	120.9540	127.9303	120.9540	127.9303	104.5168	100.2152	119.7868
126.9062	106.9617	106.9230	106.8843	106.8456	106.8069	106.7682	106.7295	106.6908	106.6521
106.6134	106.5747	106.5360	106.4973	106.4586	106.4199	106.3812	106.3425	106.3038	106.2650
106.2263	106.1876	106.1489	106.1102	106.0715	106.0328	105.9941	105.9554	105.9167	105.8780
108.0000	109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
106.8456	106.8069	106.7682	106.7295	106.6908	106.6521	106.6134	106.5747	106.5360	106.4973
106.4586	106.4199	106.3812	106.3425	106.3038	106.2650	106.2263	106.1876	106.1489	106.1102
106.0715	106.0328	105.9941	105.9554	105.9167	105.8780	105.8393	105.8006	105.7619	105.7232
104.2428	104.1017	103.9605	103.8193	103.6781	103.5369	103.3958	103.2546	103.1134	102.9722
102.8311	102.6899	102.5487	102.4075	102.2664	102.1252	101.9840	101.8428	101.7016	101.5605
101.4193	101.2781	101.1369	100.9958	100.8546	100.7134	100.5722	100.4310	100.2899	100.1487
100.0075	105.8666	105.0875	104.3284	103.5593	102.7902	102.0211	101.2520	100.4829	99.71385
98.94476	98.17567	108.1316	108.1355	108.1394	108.1433	108.1471	108.1510	108.1549	108.1587
108.1626	108.1665	108.1704	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000
109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000	109.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000

11. Node Series for Steady State Initialization, 16 series with input and estimated temperatures and paths.
Negative path numbers indicate backward paths. Asterisks (*) indicate parallel paths or boundary node temperatures.

Series 1, 33 Nodes: 1 19 102 103 104 105 106 107 108 109 110 111 112
113 114 115 116 117 118 119 120 121 122 123 124 125
126 127 128 129 130 131 132 133 134 135 136 137 138

Input Temps: 108.00 107.00 106.96 106.92 106.88 106.85 106.81 106.77 106.73 106.69 106.65 106.61 106.57
106.54 106.50 106.46 106.42 106.38 106.34 106.30 106.27 106.23 106.19 106.15 106.11 106.07
106.03 105.99 105.96 105.92 105.88 105.84 105.80 105.76 105.72 105.68 105.64 105.60 105.56

33 Paths: 1* 140* 141 142 143 144 145 146 147 148 149 150 151 152 153 154
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170

Series 2, 33 Nodes: 1 2 158 159 160 161 162 163 164 165 166 167 168
169 170 171 172 173 174 175 176 177 178 179 180 181
182 183 184 185 186 187 188 189 190 191 192 193 194

Input Temps: 108.00 107.00 106.96 106.92 106.88 106.85 106.81 106.77 106.73 106.69 106.65 106.61 106.57
106.54 106.50 106.46 106.42 106.38 106.34 106.30 106.27 106.23 106.19 106.15 106.11 106.07
106.03 105.99 105.96 105.92 105.88 105.84 105.80 105.76 105.72 105.68 105.64 105.60 105.56

33 Paths: 13* 116* 16 197 198 199 200 201 202 203 204 205 206 207 208 209 210
211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226

Series 3, 39 Nodes: 1 29 187 188 189 190 191 192 193 194 195 196 197
198 199 200 201 202 203 204 205 206 207 208 209 210
211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226

Input Temps: 108.00 104.95 104.81 104.67 104.53 104.38 104.24 104.10 103.96 103.82 103.68 103.54 103.40
103.25 103.11 102.97 102.83 102.69 102.55 102.41 102.27 102.13 101.98 101.84 101.70 101.56
101.42 101.28 101.14 101.00 100.86 100.71 100.57 100.43 100.29 100.15 100.01 99.87 99.73 99.59 99.45

39 Paths: 16* 117* 17 226 227 228 229 230 231 232 233 234 235 236 237 238 239
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273

Series 4, 15 Nodes: 1 31 222 223 224 225 226 227 228 229 230 231 232
32 33 34 35 36 37 38 39 40 41 42 43 44

Input Temps: 108.00 106.64 105.87 105.10 104.33 103.56 102.79 102.02 101.25 100.48 99.71 98.94 98.18
97.41 96.64 95.87 95.10 94.33 93.56 92.79 92.02 91.25 90.48 89.71 88.94 88.18

15 Paths: 19* 118* 20 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

Series 5, 15 Nodes: 1 33 233 234 235 236 237 238 239 240 241 242 243
34 5

Input Temps: 106.00 106.13 106.13 106.14 106.14 106.14 106.15 106.15 106.16 106.16 106.16 106.17 106.17
106.17 106.50

15 Paths: 22* 119* 23 272 273 274 275 276 277 278 279 280 281 282 24

Series 6, 15 Nodes: 1 37 251 252 253 254 255 256 257 258 259 260 261
38 4

Input Temps: 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00
106.00 106.00

Uniform temperature: 106.00

15 Paths: 28* 121* 29 290 291 292 293 294 295 296 297 298 299 300 30

Series 7, 15 Nodes: 2 49 295 296 297 298 299 300 301 302 303 304 305
50 11

Input Temps: 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00 106.00
106.00 106.00

Uniform temperature: 106.00

15 Paths: 46* 125* 47 334 335 336 337 338 339 340 341 342 343 344 48

Series 8, 45 Nodes: 2 55 316 317 318 319 320 321 322 323 324 325 326
327 328 329 330 331 332 333 334 335 336 337 338 339
340 341 342 343 344 345 346 347 348 349 350 351 352
353 354 355 356 56 12

Input Temps: 106.00 107.11 107.07 107.04 107.00 106.97 106.93 106.90 106.87 106.83 106.80 106.76 106.73
106.70 106.66 106.63 106.59 106.56 106.53 106.49 106.46 106.42 106.39 106.35 106.32 106.29
106.25 106.22 106.18 106.15 106.12 106.08 106.05 106.01 105.98 105.95 105.91 105.88 105.84
105.81 105.77 105.74 105.71 105.67 104.00

45 Paths: 55* 127* 56 355 356 357 358 359 360 361 362 363 364 365 366 367 368
369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385
386 387 388 389 390 391 392 393 394 395 57

Series 9, 33 Nodes: 2 59 398 399 400 401 402 403 404 405 406 407 408
 409 410 411 412 413 414 415 416 417 418 419 420 421
 422 423 424 425 426 60 8

Input Temps: 106.00 107.00 106.96 106.92 106.88 106.85 106.81 106.77 106.73 106.69 106.65 106.61 106.57
 106.54 106.50 106.46 106.42 106.38 106.34 106.30 106.27 106.23 106.19 106.15 106.11 106.07
 106.03 105.99 105.96 105.92 105.88 105.84 104.00

33 Paths: 61* 128* 62 437 438 439 440 441 442 443 444 445 446 447 448 449 450
 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 63

Series 10, 15 Nodes: 3 61 427 428 429 430 431 432 433 434 435 436 437
 62 6

Input Temps: 108.00 105.74 105.03 104.33 103.62 102.91 102.21 101.50 100.79 100.09 99.38 98.67 97.97
 97.26 95.00

14 Paths: 64 65 466 467 468 469 470 471 472 473 474 475 476 66

Series 11, 45 Nodes: 10 57 357 358 359 360 361 362 363 364 365 366 367
 368 369 370 371 372 373 374 375 376 377 378 379 380
 381 382 383 384 385 386 387 388 389 390 391 392 393
 394 395 396 397 58 12

Input Temps: 106.00 106.58 106.55 106.52 106.50 106.47 106.44 106.41 106.39 106.36 106.33 106.30 106.28
 106.25 106.22 106.19 106.17 106.14 106.11 106.08 106.06 106.03 106.00 105.97 105.94 105.92
 105.89 105.86 105.83 105.81 105.78 105.75 105.72 105.70 105.67 105.64 105.61 105.59 105.56
 105.53 105.50 105.48 105.45 105.42 104.00

44 Paths: 58 59 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410
 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427
 428 429 430 431 432 433 434 435 436 60

Series 12, 30 Nodes: 2 92 536 537 538 539 540 541 542 543 544 545 546
 547 548 549 550 551 552 553 554 555 556 557 558 559
 560 561 93 15

Input Temps: 106.00 119.79 120.05 120.31 120.58 120.84 121.11 121.37 121.63 121.90 122.16 122.42 122.69
 122.95 123.21 123.48 123.74 124.01 124.27 124.53 124.80 125.06 125.32 125.59 125.85 126.12
 126.38 126.64 126.91 162.00*

30 Paths: 97* 134* 98 575 576 577 578 579 580 581 582 583 584 585 586 587 588
 589 590 591 592 593 594 595 596 597 598 599 600 99

Series 13, 27 Nodes: 2 94 562 563 564 565 566 567 568 569 570 571 572
 573 574 575 576 577 578 579 580 581 582 583 584 585
 13

Input Temps: 108.00 120.95 121.24 121.54 121.83 122.12 122.41 122.70 122.99 123.28 123.57 123.86 124.15
 124.44 124.73 125.02 125.31 125.60 125.90 126.19 126.48 126.77 127.06 127.35 127.64 127.93
 162.00*

27 Paths: 100* 136* 101 601 602 603 604 605 606 607 608 609 610 611 612 613 614
 615 616 617 618 619 620 621 622 623 102

Series 14, 27 Nodes: 1 96 585 586 587 588 589 590 591 592 593 594 595
 596 597 598 599 600 601 602 603 604 605 606 607 608
 13

Input Temps: 108.00 120.93 121.24 121.54 121.83 122.12 122.41 122.70 122.99 123.28 123.57 123.86 124.15
 124.44 124.73 125.02 125.31 125.60 125.90 126.19 126.48 126.77 127.06 127.35 127.64 127.93
 162.00*

27 Paths: 103* 137* 104 624 625 626 627 628 629 630 631 632 633 634 635 636 637
 638 639 640 641 642 643 644 645 646 105

Series 15, 27 Nodes: 1 98 608 609 610 611 612 613 614 615 616 617 618
 619 620 621 622 623 624 625 626 627 628 629 630 631
 7

Input Temps: 108.00 104.57 104.34 104.16 103.98 103.80 103.62 103.44 103.26 103.08 102.90 102.72 102.55
 102.37 102.19 102.01 101.83 101.65 101.47 101.29 101.11 100.93 100.75 100.57 100.39 100.22
 95.00

27 Paths: 106* 138* 107 647 648 649 650 651 652 653 654 655 656 657 658 599 660
 661 662 663 664 665 666 667 668 669 108

Series 16, 30 Nodes: 1 100 631 632 633 634 635 636 637 638 639 640 641
 642 643 644 645 646 647 648 649 650 651 652 653 654
 455 656 101 110

Input Temps: 108.00 119.79 120.05 120.31 120.58 120.84 121.11 121.37 121.63 121.90 122.16 122.42 122.69
 122.95 123.21 123.48 123.74 124.01 124.27 124.53 124.80 125.06 125.32 125.59 125.85 126.12
 126.38 126.64 126.91 162.00*

30 Paths: 109* 139* 110 670 671 672 673 674 675 676 677 678 679 680 681 682 683
 684 685 686 687 688 689 690 691 692 693 694 695 111

After Steady State Initialization and 6 iterations, the node temperature vector (TF) is:

108.0000	108.0000	108.0000	108.0000	108.5000	95.00000	95.00000	104.0000	108.0000	108.0000
108.0000	104.0000	162.0000	108.0000	162.0000	108.0000	108.0000	108.0000	107.0004	105.8393
109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	107.0004	105.8393	104.9487	99.86634
106.6357	97.80625	108.1378	108.1742	108.0000	107.0000	108.0000	108.0000	109.0000	109.0000
109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
109.0000	109.0000	109.0000	109.0000	107.1051	105.6725	106.5775	105.4225	107.0004	105.8393
105.7413	97.25871	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
108.0000	138.1196	157.2046	140.6503	159.1616	140.6503	159.1616	104.5168	100.2152	138.1196

12. Initial "Solution Vector" (ZA(J), J=1, NE), NE = 635

(UI) energy, incompressible, (MN) NOG n moles, (MW) water mass, (UC) energy, compressible, (WF) path mass flow

(UI) 203599.7	(UI) 83558.29	(UI) 14432.74	(UI) 1513.336	(UI) 13802.18	(UI) 3108.198	(UI) 76908.52
(UI) 76750.92	(UI) 68248.94	(UI) 68248.94	(UI) 71693.89	(UI) 71693.89	(UI) 102613.9	(UI) 102613.9
(UI) 606188.7	(UI) 606966.5	(UI) 207539.7	(UI) 205671.6	(UI) 52723.98	(UI) 32190.67	(UI) 192653.8
(UI) 192669.6	(UI) 65850.02	(UI) 65850.02	(UI) 44407.41	(UI) 44407.41	(UI) 27636.61	(UI) 27636.61
(UI) 44485.63	(UI) 44485.63	(UI) 136672.7	(UI) 136672.7	(UI) 77044.18	(UI) 77044.18	(UI) 44210.60
(UI) 44210.60	(UI) 161043.7	(UI) 161043.7	(UI) 44488.19	(UI) 44488.19	(UI) 133456.9	(UI) 133456.9
(UI) 14101.1	(UI) 313307.2	(UI) 65643.66	(UI) 65509.76	(UI) 269179.8	(UI) 268628.2	(UI) 22954.38
(UI) 22610.01	(UI) 736199.9	(UI) 736199.9	(UI) 279820.2	(UI) 279820.2	(UI) 133757.3	(UI) 133757.3
(UI) 127871.9	(UI) 127871.9	(UI) 72265.03	(UI) 72265.03	(UI) 47106.09	(UI) 47106.09	(UI) 48176.69
(UI) 48176.69	(UI) 66376.77	(UI) 66376.77	(UI) 47106.09	(UI) 47106.09	(UI) 48176.69	(UI) 48176.69
(UI) 172405.5	(UI) 177909.7	(UI) 265926.9	(UI) 274126.9	(UI) 409640.6	(UI) 422272.1	(UI) 195150.8
(UI) 193662.9	(UI) 315513.4	(UI) 325586.4	(UI) 153806.5	(UI) 153796.0	(UI) 153785.5	(UI) 153775.0
(UI) 153764.5	(UI) 153754.0	(UI) 153743.5	(UI) 153733.0	(UI) 153722.5	(UI) 153712.0	(UI) 153701.5
(UI) 153691.0	(UI) 153680.5	(UI) 153669.9	(UI) 153659.4	(UI) 153648.9	(UI) 153638.4	(UI) 153627.9
(UI) 153617.4	(UI) 153606.9	(UI) 153596.4	(UI) 153585.9	(UI) 153575.4	(UI) 153564.9	(UI) 153554.4
(UI) 153543.9	(UI) 153533.4	(UI) 153522.9	(UI) 153512.4	(UI) 153497.9	(UI) 153487.9	(UI) 153477.9
(UI) 153497.9	(UI) 153487.9	(UI) 153477.9	(UI) 153467.8	(UI) 153457.8	(UI) 153447.8	(UI) 153437.8
(UI) 143387.8	(UI) 143387.8	(UI) 143387.8	(UI) 143387.8	(UI) 143387.8	(UI) 143387.8	(UI) 143387.8
(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9
(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9	(UI) 205227.9
(UI) 1211963.	(UI) 1211860.	(UI) 1211798.	(UI) 1211715.	(UI) 1211632.	(UI) 1211549.	(UI) 1211466.
(UI) 1211386.	(UI) 1211301.	(UI) 1211218.	(UI) 1211135.	(UI) 1211052.	(UI) 1210970.	(UI) 1210887.
(UI) 1210804.	(UI) 1210721.	(UI) 1210638.	(UI) 1210556.	(UI) 1210473.	(UI) 1210390.	(UI) 1210307.
(UI) 1210224.	(UI) 1210142.	(UI) 1210059.	(UI) 1209976.	(UI) 1209893.	(UI) 1209810.	(UI) 1209727.
(UI) 414664.3	(UI) 414560.5	(UI) 414456.7	(UI) 414353.0	(UI) 414249.2	(UI) 414145.4	(UI) 414041.6
(UI) 413937.8	(UI) 413834.0	(UI) 413730.2	(UI) 413626.5	(UI) 413522.7	(UI) 413418.9	(UI) 413315.1
(UI) 413211.3	(UI) 413107.5	(UI) 413003.7	(UI) 412900.0	(UI) 412796.2	(UI) 412692.4	(UI) 412588.6
(UI) 412484.8	(UI) 412381.0	(UI) 412277.2	(UI) 412173.4	(UI) 412069.7	(UI) 411965.9	(UI) 411862.1
(UI) 411758.3	(UI) 411654.5	(UI) 411550.7	(UI) 411446.9	(UI) 411343.1	(UI) 411239.3	(UI) 411135.5
(UI) 65092.42	(UI) 65003.53	(UI) 64914.65	(UI) 64825.76	(UI) 64736.88	(UI) 64648.00	(UI) 64559.11
(UI) 64470.23	(UI) 385310.2	(UI) 385312.8	(UI) 385315.5	(UI) 385318.1	(UI) 385320.7	(UI) 385323.3
(UI) 385326.0	(UI) 385328.6	(UI) 385331.2	(UI) 385333.9	(UI) 385336.5	(UI) 385339.1	(UI) 385341.7
(UI) 131700.0	(UI) 131700.0	(UI) 131700.0	(UI) 131700.0	(UI) 131700.0	(UI) 131700.0	(UI) 131700.0
(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81
(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81	(UI) 88814.81
(UI) 88971.27	(UI) 88971.27	(UI) 88971.27	(UI) 88971.27	(UI) 88971.27	(UI) 88971.27	(UI) 88971.27
(UI) 273345.5	(UI) 273345.5	(UI) 273345.5	(UI) 273345.5	(UI) 273345.5	(UI) 273345.5	(UI) 273345.5
(UI) 154088.4	(UI) 154088.4	(UI) 154088.4	(UI) 154088.4	(UI) 154088.4	(UI) 154088.4	(UI) 154088.4
(UI) 128421.2	(UI) 128421.2	(UI) 128421.2	(UI) 128421.2	(UI) 128421.2	(UI) 128421.2	(UI) 128421.2
(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5
(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5	(UI) 322087.5
(UI) 88976.39	(UI) 88976.39	(UI) 266913.8	(UI) 266913.8	(UI) 266913.8	(UI) 266913.8	(UI) 266913.8
(UI) 628164.4	(UI) 628126.6	(UI) 628088.7	(UI) 628050.9	(UI) 628013.1	(UI) 627975.3	(UI) 627937.5
(UI) 627899.7	(UI) 627861.9	(UI) 627824.1	(UI) 627786.3	(UI) 627748.5	(UI) 627710.7	(UI) 627672.9
(UI) 627635.1	(UI) 627597.3	(UI) 627559.5	(UI) 627521.7	(UI) 627483.9	(UI) 627446.1	(UI) 627408.3
(UI) 627370.4	(UI) 627332.6	(UI) 627294.8	(UI) 627257.0	(UI) 627219.2	(UI) 627181.4	(UI) 627143.6
(UI) 627105.8	(UI) 627068.0	(UI) 627030.2	(UI) 626992.4	(UI) 626954.6	(UI) 626916.8	(UI) 626879.0
(UI) 626841.2	(UI) 626803.4	(UI) 626765.6	(UI) 626727.8	(UI) 626690.0	(UI) 626652.2	(UI) 626614.4
(UI) 131274.6	(UI) 131268.2	(UI) 131261.8	(UI) 131255.4	(UI) 131249.1	(UI) 131242.7	(UI) 131236.3
(UI) 131229.9	(UI) 131223.5	(UI) 131217.2	(UI) 131210.8	(UI) 131204.4	(UI) 131198.1	(UI) 131191.7
(UI) 131185.3	(UI) 131178.9	(UI) 131172.6	(UI) 131166.2	(UI) 131159.8	(UI) 131153.4	(UI) 131147.0
(UI) 131140.7	(UI) 131134.3	(UI) 131127.9	(UI) 131121.5	(UI) 131115.2	(UI) 131108.8	(UI) 131102.4

(UI) 131096.0	(UI) 131089.7	(UI) 131083.3	(UI) 131076.9	(UI) 131070.5	(UI) 131064.2	(UI) 131057.8
(UI) 131051.4	(UI) 131045.0	(UI) 131038.7	(UI) 131032.3	(UI) 131025.9	(UI) 131019.6	(UI) 131013.2
(UI) 538249.3	(UI) 538212.5	(UI) 538175.8	(UI) 538139.0	(UI) 538102.2	(UI) 538065.4	(UI) 538028.7
(UI) 537991.9	(UI) 537955.1	(UI) 537918.4	(UI) 537881.6	(UI) 537844.8	(UI) 537808.0	(UI) 537771.3
(UI) 537734.5	(UI) 537697.7	(UI) 537661.0	(UI) 537624.2	(UI) 537587.4	(UI) 537550.6	(UI) 537513.9
(UI) 537477.1	(UI) 537440.3	(UI) 537403.6	(UI) 537366.8	(UI) 537330.0	(UI) 537293.2	(UI) 537256.5
(UI) 45793.97	(UI) 45736.58	(UI) 45679.18	(UI) 45621.79	(UI) 45564.39	(UI) 45506.99	(UI) 45449.60
(UI) 45392.20	(UI) 45334.81	(UI) 45277.41	(UI) 45220.01	(UI) 45162.61	(UI) 45105.21	(UI) 45047.81
(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.
(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.	(UI) 1472400.
(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3
(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3	(UI) 559640.3
(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5
(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5	(UI) 267514.5
(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9
(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9	(UI) 255743.9
(UI) 144530.1	(UI) 144530.1	(UI) 144530.1	(UI) 144530.1	(UI) 144530.1	(UI) 144530.1	(UI) 144530.1
(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18
(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18
(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37
(UI) 132753.5	(UI) 132753.5	(UI) 132753.5	(UI) 132753.5	(UI) 132753.5	(UI) 132753.5	(UI) 132753.5
(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18	(UI) 94212.18
(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37	(UI) 96353.37
(UI) 346849.6	(UI) 347257.3	(UI) 347665.1	(UI) 348072.8	(UI) 348480.5	(UI) 348888.2	(UI) 349295.9
(UI) 349703.7	(UI) 350111.4	(UI) 350519.1	(UI) 350926.8	(UI) 351334.5	(UI) 351742.2	(UI) 352150.0
(UI) 352557.7	(UI) 352965.4	(UI) 353373.1	(UI) 353780.8	(UI) 354188.6	(UI) 354596.3	(UI) 355004.0
(UI) 355411.7	(UI) 355819.4	(UI) 356227.1	(UI) 356634.8	(UI) 357042.5	(UI) 357450.2	(UI) 357857.9
(UI) 536637.2	(UI) 537045.0	(UI) 537452.7	(UI) 537860.4	(UI) 538268.1	(UI) 538675.8	(UI) 539083.5
(UI) 541420.5	(UI) 541828.2	(UI) 542235.9	(UI) 542643.6	(UI) 543051.3	(UI) 543459.0	(UI) 543866.7
(UI) 546203.9	(UI) 546611.6	(UI) 547019.3	(UI) 547427.0	(UI) 547834.7	(UI) 548242.4	(UI) 548650.1
(UI) 824544.3	(UI) 824952.0	(UI) 825359.7	(UI) 825767.4	(UI) 826175.1	(UI) 826582.8	(UI) 826990.5
(UI) 831912.7	(UI) 832320.4	(UI) 832728.1	(UI) 833135.8	(UI) 833543.5	(UI) 833951.2	(UI) 834358.9
(UI) 839281.1	(UI) 840000.0	(UI) 840718.9	(UI) 841437.8	(UI) 842156.7	(UI) 842875.6	(UI) 843594.5
(UI) 889929.6	(UI) 890648.5	(UI) 891367.4	(UI) 892086.3	(UI) 892805.2	(UI) 893524.1	(UI) 894243.0
(UI) 889061.7	(UI) 889780.6	(UI) 890499.5	(UI) 891218.4	(UI) 891937.3	(UI) 892656.2	(UI) 893375.1
(UI) 388193.7	(UI) 388601.4	(UI) 389009.1	(UI) 389416.8	(UI) 389824.5	(UI) 390232.2	(UI) 390639.9
(UI) 631772.9	(UI) 632280.6	(UI) 632788.3	(UI) 633296.0	(UI) 633803.7	(UI) 634311.4	(UI) 634819.1
(UI) 636996.0	(UI) 637503.7	(UI) 638011.4	(UI) 638519.1	(UI) 639026.8	(UI) 639534.5	(UI) 640042.2
(UI) 642219.0	(UI) 642726.7	(UI) 643234.4	(UI) 643742.1	(UI) 644249.8	(UI) 644757.5	(UI) 645265.2
(UI) 647442.1	(UI) 647949.8	(UI) 648457.5	(UI) 648965.2	(UI) 649472.9	(UI) 649980.6	(UI) 650488.3

Plot output file: meer-tr.plt (UNformatted)

Restart output file: none

In the above input and in the following results, Node, Path, and ETC types are designated as follows:

AC: Active, Compressible	AI: Active, Incompressible	BC: Boundary, Compressible	BI: Boundary, Incompressible
Ck: Conduction only	CI: Film condensation, laminar	Cr: Film condensation, ripple	Ct: Film condensation, turb.
CK: Convection or Radiation	FC: Forced Convection	Fl: Forced Convection, intern.	Fl: Forced Convection, laminar
Ft: Forced Convection, turb.	KX: Heat exchanger	MC: CFS active Mass flow	MI: Mass flow, Incompressible
MP: CFS Mass flow (delta P)	MX: Mass flow, condensate	N: Null	NA: Not Applicable
NC: Natural Convection	Nk: Natural conduction	Nl: Natural conv'n, laminar	Ns: Natural conv'n, sub-lam'r
Nt: Natural conv'n, turbulent	NX: Natural exchange	Rn: general Radiation	RV: Radiation, Vapor/surface
EX: Specified heat flux	Ta: Tagami condensation	Uc: Uchida condensation	VP: CFS Volume flow (delta P)
VZ: CFS Volume flow (delta Z)	WC: Wall, Cylindrical	WH: Wall Head node	WI: Wall, Internal node/path
WP: Wall, Planar (slab)	WS: Wall, Spherical	WT: Wall Tail node	XT: specified X/T function

1a...7e: PC/NC by Re/Ra range

Case 1 after step no. 0, time (XA) is 0.000000 hrs, 0 rejected CM steps, next time step is 1.000000E-02 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	108.0000	108.0000	108.0000	108.0000	108.5000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	108.0000	108.0000	104.0000	162.0000	108.0000	162.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	107.0004	105.8393	109.0000	109.0000	108.0000	108.0000
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	108.0000	108.0000	107.0004	105.8393	104.9487	99.86634	106.6357	97.40658
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	108.1278	108.1742	108.0000	108.0000	108.0000	108.0000	109.0000	109.0000
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	109.0000	109.0000	109.0000	109.0000	108.0000	108.0000	108.0000	108.0000
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	108.0000	108.0000	109.0000	109.0000	109.0000	109.0000	107.1051	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	106.5775	105.4225	107.0004	105.8393	105.7413	97.25871	108.0000	108.0000
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000	108.0000
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 NH	Node 83 E	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, eP	108.0000	108.0000	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 NH	Node 94 WT	Node 95 NH	Node 96 WT
Temperature, eP	-459.6700	-459.6700	-459.6700	138.1196	157.2046	140.6503	159.1616	140.6503
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 97 NH	Node 98 WT	Node 99 NH	Node 100 WT	Node 101 NH			
Temperature, eP	159.1616	104.5168	100.2152	138.1196	157.2046			
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000			

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	27.34367	61.53206	61.53203	-76.95000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	0.1900	MC	11.04	CK 0.2323	NC	0.1900	NC 0.7944	CK 0.0000
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	215.5213	484.9923	484.9920	326.7237
HTC, Btu/ft ² hr°F	0.0000	0.0000	0.7944	CK 0.0000	0.1900	NC	11.04	CK 0.2323
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	607.8517	607.8517	56.00606	119.1382	119.1382	-4.431840	-15.38955	-15.38955
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.2105	NC 0.7944	CK 0.2539	NC 9.6354E-02	NC	11.04
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-11.16000	0.0000000
HTC, Btu/ft ² hr°F	0.0000	1.057	CK 0.0000	0.0000	11.04	CK 0.0000	0.1900	NC 0.7944
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-15.77000	0.0000000	0.0000000	-48.45000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	0.0000	N 0.1900	NC 11.04	CK 0.0000	N 0.1900	NC	11.04	CK 0.0000
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	11.04	CK 0.0000	0.0000	1.057	CK 0.0000	0.0000	11.04	CK 0.0000
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	-50.16000	0.0000000	0.0000000	-47.31000	0.0000000	0.0000000	96.38768	221.4154
HTC, Btu/ft ² hr°F	0.1900	NC 0.7944	CK 0.0000	N 0.1900	NC 11.04	CK 0.0000	N 0.1832	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	37.34344	37.34343	37.34344	95.70286	215.3622	215.3621	76.93206
HTC, Btu/ft ² hr°F	0.2251	NC 0.2134	NC 11.04	CK 0.2134	NC 0.1900	NC	11.04	CK 0.2323
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	76.93200	76.93206	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	0.7944	CK 0.2486	NC 0.0000	11.04	CK 0.0000	0.0000	11.04	CK 0.0000
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	0.0000	11.04	CK 0.0000	0.0000	11.04	CK 0.0000	0.0000	11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	0.0000	0.0000	11.03	CK 0.0000	0.0000	11.03	CK 0.0000	0.0000

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
HTC, Btu/ft ² hr°F	11.03 Ck	0.0000	0.0000	11.03 Ck	0.0000	0.0000	11.03 Ck	0.0000

Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	-11.98157	-2387.912	-2387.912	-19.94932	-4002.146	-4002.146	-30.73045	-6165.008
HTC, Btu/ft ² hr°F	1.3000E-03 XT	11.04 Ck	1.627 Rn	1.3000E-03 XT	11.04 Ck	3.000 XT	1.3000E-03 XT	11.04 Ck

Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6165.008	424.5452	726.1980	726.1985	-21.92706	-4370.035	-4370.034	-96.70774
HTC, Btu/ft ² hr°F	3.000 XT	0.3321 NC	11.04 Ck	0.3794 NC	1.3000E-03 XT	11.04 Ck	1.627 Rn	0.2388 Rn

Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	269.4713	281.1275	63.13204	-10.95771	0.0000000
HTC, Btu/ft ² hr°F	0.0000	0.0000	0.0000	0.2375 Rn	0.2362 Rn	0.2373 Rn	0.2362 Rn	0.0000

Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	0.0000000	-39.16067	0.0000000	0.0000000	0.0000000	-63.03912	125.0278	119.6595
HTC, Btu/ft ² hr°F	0.0000	0.2388 Rn	0.0000	0.0000	0.0000	0.2388 Rn	0.2376 Rn	0.2375 Rn

Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-2375.927	0.0000000	-1262.197
HTC, Btu/ft ² hr°F	0.0000	0.0000	0.0000	0.0000	0.0000	0.2578 Rn	0.0000	0.2595 Rn

Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR
Heat Rate, Btu/hr	-6134.278	301.6525	-6348.102	34.18863
HTC, Btu/ft ² hr°F	0.2595 Rn	0.2360 Rn	0.2578 Rn	0.2375 Rn

(WLOOP(I),I=1,2): 0.00000000E+00 0.00000000E+00

Case 1 after step no. 99, time (XA) is 0.500000 hrs. 15 rejected CM steps, next time step is 1.592082E-02 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	142.3136	134.1903	112.7258	108.3487	150.0000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	112.9061	108.0000	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	110.9490	105.8393	123.8296	109.0002	111.8631	108.2268
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	123.3834	119.4197	110.9490	105.8393	109.0376	99.86634	122.4132	97.40658
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	111.9763	112.3584	119.7503	108.7375	111.8631	108.0073	123.8296	109.0002
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	108.9813	108.9997	109.1508	109.0010	111.8631	108.2130	116.6869	108.7861
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	110.8180	108.0000	119.8842	109.0001	109.1636	109.0011	109.9929	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	106.8535	105.4225	109.8955	105.8393	107.0850	97.25870	121.1747	109.2862
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	121.1747	108.9775	121.1747	108.0019	121.1747	108.0020	108.2456	109.2930
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	108.2449	108.0003	108.0091	109.2929	108.2613	108.9828	108.2607	108.0001
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, eF	108.0006	108.9827	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, eF	-459.6700	-459.6700	-459.6700	139.0937	786.2948	141.6230	159.1616	141.9314
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH			
Temperature, eF	159.1616	109.0369	100.2152	139.4625	786.2948			
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000			

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2675.351	3087.161	61.53203	3724.319	3604.245	0.0000000	2393.521	2758.623
HTC, Btu/ft ² hrF	0.5924	NC	11.04	CK 0.2323	NC 0.4975	NC 0.7944	CK 0.0000	N 0.5866
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-198.2421	5790.256	5619.372	-4162.775	21086.91	24332.99	484.9921	7838.844
HTC, Btu/ft ² hrF	0.3162	NC 0.5014	NC 0.7944	CK 0.4620	NC 0.5924	NC	11.04	CK 0.2323
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	9076.724	607.8517	1978.217	1959.145	119.1382	6398.033	7373.259	-8524.993
HTC, Btu/ft ² hrF	11.04	CK 0.3203	NC 0.5098	NC 0.7944	CK 0.2539	NC 0.5859	NC	11.04
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	2889.316	2382.547	-288.2805	1482.554	1708.700	-3.777545	3508.119	1459.497
HTC, Btu/ft ² hrF	0.5313	NC	1.057	CK 0.2999	NC 0.5866	NC	11.04	CK 0.1333
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-8.576865	-7.238901	0.0000000	263.7173	208.4612	0.0000000	2572.142
HTC, Btu/ft ² hrF	0.0000	N 0.1634	NC	11.04	CK 0.0000	N 0.2893	NC	11.04
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	2964.490	-203.0133	2009.889	1708.834	-293.5188	3781.747	4465.535	2.2813626E-07
HTC, Btu/ft ² hrF	11.04	CK 0.3124	NC 0.4886	NC	1.057	CK 0.3032	NC 0.5376	NC
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	1726.634	1714.823	0.0000000	273.6924	218.4544	0.0000000	7736.475	9148.099
HTC, Btu/ft ² hrF	0.4572	NC 0.7944	CK 0.0000	N 0.2937	NC	11.04	CK 0.0000	N 0.5437
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	256.2360	214.4337	37.34344	6666.787	7884.866	215.3621	259.8673
HTC, Btu/ft ² hrF	0.2251	NC 0.3442	NC	11.04	CK 0.2134	NC 0.5445	NC	11.04
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	187.7585	76.93204	1009.9	85743.88	-59.07931	38325.69	32590.15	-17.14215
HTC, Btu/ft ² hrF	0.7944	CK 0.2486	NC 0.9297	NC	11.04	CK 1.3000E-03	XT 0.9297	NC
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	18320.12	15578.47	-3.188576	17514.03	1.893.01	-3.164584	218.2628	173.6431
HTC, Btu/ft ² hrF	0.9297	NC	11.04	CK 2.7000E-03	XT 0.9297	NC	11.04	CK 2.7000E-03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-12.03598	142.3054	113.9	-8.2794245E-02	4.708876	3.101271	-8.024019	210.3341
HTC, Btu/ft ² hrF	2.7000E-03	XT 0.3609	NC	11.03	CK 2.7000E-03	XT 0.1540	NC	11.03

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	168.8223	-8.439447	149.2949	120.4299	1.5274806E-04	-1.4787106E-04	-0.6243685	-6.125441
HTC, Btu/ft ² hr°F	11.03	Ck 2.7000E-03 XT	0.3652	NC 11.03	Ck 1.1920E-02 NC	2.7000E-03 XT	11.03	Ck 2.7000E-03 XT

Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	-1.950182	-819.3351	-865971.9	-4.541393	-1594.009	-4002.146	44.31501	-1214.923
HTC, Btu/ft ² hr°F	1.3000E-03 XT	11.04	Ck 16.29	Rn 1.3000E-03 XT	11.04	Ck 3.000	XT 0.1602	NC 11.04

Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6165.008	8541.509	9518.848	726.1985	496.3348	-275.0122	-1584785.	2030.128
HTC, Btu/ft ² hr°F	3.000	XT 0.6994	NC 11.04	Ck 0.3794	NC 0.3109	NC 11.04	Ck 16.29	Rn 0.2712

Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1073.839	3128.031	2366.553	9347.156	3391.205	1048.644	2874.861	1459.666
HTC, Btu/ft ² hr°F	0.2632	Rn 0.2709	Rn 0.2627	Rn 0.2626	Rn 0.2613	Rn 0.2702	Rn 0.2632	Rn 0.2684

Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	665.1390	822.0765	1153.976	1072.917	1807.891	993.1724	3648.713	3139.279
HTC, Btu/ft ² hr°F	0.2632	Rn 0.2712	Rn 0.2632	Rn 0.2608	Rn 0.2570	Rn 0.2630	Rn 0.2564	Rn 0.2564

Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	11882.89	3372.833	1165.615	777.0796	799.5192	-414.1233	580.2994	-970.5418
HTC, Btu/ft ² hr°F	0.2615	Rn 0.2558	Rn 0.2615	Rn 0.2615	Rn 0.2558	Rn 0.2761	Rn 0.2558	Rn 0.2778

Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR
Heat Rate, Btu/hr	78.50506	31.4422	450.2326	1185.895
HTC, Btu/ft ² hr°F	0.2837	Rn 0.2543	Rn 0.2820	Rn 0.2636

(WLOOP(I),I=1,2): 0.00000000E+00 0.00000000E+00

Case 1 after step no. 124, time (XA) is 1.00000 hrs. 16 rejected CM steps. next time step is 3.185362E-02 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	145.4375	136.7550	113.0146	108.3564	150.6050	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	123.1211	108.0006	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	113.2299	105.8393	129.5926	109.0114	114.1091	108.3511
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	129.2427	123.8257	113.2299	105.8393	111.3776	99.86634	128.3319	97.40658
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	114.2216	113.8949	125.4881	109.1783	114.1090	108.0124	129.5926	109.0114
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	108.9744	108.9977	109.2455	109.0149	114.1091	108.3368	120.9357	109.2274
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	112.4404	108.0012	124.1919	109.0087	109.2588	109.0163	111.6442	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	106.9983	105.4225	111.5498	105.8393	107.7009	97.25070	125.6688	110.0855
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	125.6688	109.5720	125.6688	106.0034	125.6688	108.0035	108.4092	110.1006
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	108.3840	108.0052	108.0382	110.0959	108.4200	109.5851	108.4003	108.0054
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, °F	108.0205	109.5798	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, °F	-459.6700	-459.6700	-459.6700	139.6806	841.2126	142.2104	159.1616	142.8122
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH
Temperature, °F	159.4516	111.5784	100.2152	140.4651	841.2126
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2771.411	3492.382	61.53203	3034.340	3871.685	0.0000000	2485.745	3134.690
HTC, Btu/ft ² hr°F	0.5976	NC	11.04	CK 0.2323	NC 0.4728	NC 0.7944	CK 0.0000	N 0.5921
NC								
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-203.3663	4704.939	6001.241	-3487.233	21844.11	27526.76	484.9921	8085.418
HTC, Btu/ft ² hr°F	0.3182	NC	0.4763	NC 0.7944	CK 0.4422	NC 0.5976	NC 11.04	CK 0.2323
NC								
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	10179.66	607.8517	1617.573	2075.211	119.1382	6646.251	8377.317	-8065.337
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4849	NC 0.7944	CK 0.2539	NC 0.5914	NC 11.04	CK 0.6205
NC								
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	2452.889	2841.510	-273.7628	1539.683	1941.691	-3.815439	1228.721	1567.794
HTC, Btu/ft ² hr°F	0.5102	NC	1.057	CK 0.2961	NC 0.5921	NC 11.04	CK 0.1336	NC 0.4728
NC								
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-8.313566	-7.421858	0.0000000	282.9379	243.8196	0.0000000	2671.249
HTC, Btu/ft ² hr°F	0.0000	N 0.1621	NC 11.04	CK 0.0000	N 0.2944	NC 11.04	CK 0.0000	N 0.5921
NC								
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3366.630	-212.9471	1756.872	2047.826	-272.2722	3985.869	5108.813	2.8626768E-03
HTC, Btu/ft ² hr°F	11.04	CK 0.3161	NC 0.4726	NC 1.057	CK 0.2976	NC 0.5446	NC 11.04	CK 1.6282E-02
NC								
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	1452.646	1862.874	0.0000000	385.3971	247.4794	0.0000000	8127.324	10409.29
HTC, Btu/ft ² hr°F	0.4380	NC 0.7944	CK 0.0000	N 0.2968	NC 11.04	CK 0.0000	N 0.5504	NC 11.04
CK								
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	260.1946	232.0493	37.34344	7001.122	8966.339	215.3621	240.0249
HTC, Btu/ft ² hr°F	0.2251	NC 0.3455	NC 11.04	CK 0.2134	NC 0.5511	NC 11.04	CK 0.2323	NC 0.3297
NC								
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	203.6084	76.93204	93260.66	83960.39	-63.23780	35447.19	21912.29	-18.48178
HTC, Btu/ft ² hr°F	0.7944	CK 0.2486	NC 0.9118	NC 11.04	CK 1.3000E-03	XT 0.9118	NC 11.04	CK 1.3000E-03
XT								
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	16944.17	15254.47	-3.382596	16198.62	14583.27	-3.302373	226.4176	182.9783
HTC, Btu/ft ² hr°F	0.9118	NC 11.04	CK 2.7000E-03	XT 0.9118	NC 11.04	CK 2.7000E-03	XT 0.3642	NC 11.03
CK								
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-12.88030	148.6629	129.0705	-6.3449413E-02	4.318214	-5.476291	-8.588011	213.7288
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.3648	NC 11.03	CK 2.7000E-03	XT 0.1508	NC 11.03	CK 2.7000E-03	XT 0.3666
NC								

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	176.8753	-9.096503	152.5236	133.0869	1.5636662E-02	-6.8310679E-03	-7.226638	-6.603579
HTC, Btu/ft ² hr°F	11.03	Ck 2.7000E-03 XT	0.3672	NC	11.03	Ck 3.7588E-02 NC	2.7000E-03 XT	11.03
Ck 2.7000E-03 XT								
Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	-1.163807	-544.5743	-628083.9	-3.333228	-1172.869	-4002.146	575.0109	34.90306
HTC, Btu/ft ² hr°F	1.3000E-03 XT	11.04	Ck 17.28	Rn 1.3000E-03 XT	11.04	Ck 3.000	XT 0.3025	NC 11.04
Ck 11.04								
Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6165.008	8740.921	10566.47	726.1984	1040.028	897.9859	-1149435.	1779.593
HTC, Btu/ft ² hr°F	3.000	XT 0.7034	NC 11.04	Ck 0.3794	NC 0.3735	NC 11.04	Ck 17.28	Rn 0.2773
Ck 11.04								
Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1120.075	2737.172	2108.621	9732.044	3520.038	922.1156	2999.195	1319.720
HTC, Btu/ft ² hr°F	0.2668	Rn 0.2771	Rn 0.2674	Rn 0.2662	Rn 0.2650	Rn 0.2764	Rn 0.2669	Rn 0.2745
Ck 11.04								
Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	693.7794	720.6253	1203.663	986.6829	1901.201	867.5570	3827.884	3292.568
HTC, Btu/ft ² hr°F	0.2668	Rn 0.2773	Rn 0.2668	Rn 0.2654	Rn 0.2598	Rn 0.2676	Rn 0.2593	Rn 0.2592
Ck 11.04								
Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	12848.99	3666.409	1260.127	840.1869	868.8918	-249.0980	630.7610	-717.9632
HTC, Btu/ft ² hr°F	0.2641	Rn 0.2579	Rn 0.2642	Rn 0.2641	Rn 0.2579	Rn 0.2782	Rn 0.2579	Rn 0.2600
Ck 11.04								
Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR				
Heat Rate, Btu/hr	544.7082	3294.568	793.3541	1234.726				
HTC, Btu/ft ² hr°F	0.2866	Rn 0.2651	Rn 0.2849	Rn 0.2662				
Ck 11.04								

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(WLOOP(1),I=1,2): 0.00000000E+00 0.00000000E+00

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Case 1 after step no. 148, time (KA) is 2.00000 hrs, 16 rejected CM steps, next time step is 6.371921E-02 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, eF	148.7253	139.5583	113.3850	108.4592	150.8050	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, eF	-459.6700	113.4095	108.0379	104.0000	142.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, eF	-459.6700	-459.6700	116.2928	105.8393	135.0661	109.2912	117.1339	108.6006
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, eF	134.7929	128.2479	116.2928	105.8393	114.5114	99.86634	133.9224	97.40662
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, eF	117.3182	115.9105	111.1014	109.6961	117.1298	109.0993	135.0661	109.2912
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, eF	108.9672	106.9905	109.3874	109.0863	117.1337	108.5899	125.3361	109.7264
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, eF	114.6950	108.0611	128.5345	109.2162	109.3978	109.0913	113.9341	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, eF	107.1993	105.4225	113.8435	105.8393	108.3584	97.25871	131.1290	111.2883
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, eF	131.1283	110.4943	131.1259	108.0470	131.1259	108.0471	108.8450	111.3150
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, eF	108.5828	108.0526	108.2945	111.2665	108.7942	110.5197	108.5949	108.0547
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 MT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, eF	108.2142	110.4669	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, eF	-459.6700	-459.6700	-459.6700	140.5491	878.4565	143.0777	159.1616	144.2063
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH
Temperature, eF	159.1616	114.9403	100.2182	141.9763	878.4565
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2797.174	3712.326	61.53203	2490.717	3571.242	0.0000000	2513.531	3340.043
HTC, Btu/ft ² hr°F	0.5989	NC	11.04	CK 0.2323	NC 0.4502	NC 0.7944	CK 0.0000	N 0.5938
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-205.5771	3851.548	5515.371	-2918.822	22047.17	29260.35	484.9921	8134.053
HTC, Btu/ft ² hr°F	0.3180	NC 0.4532	NC 0.7944	CK 0.4231	NC 0.5989	NC 11.04	CK 0.2323	NC 0.6096
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	10764.15	607.8517	1334.593	1911.352	119.1408	6700.427	8852.106	-7472.092
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4623	NC 0.7944	CK 0.2539	NC 0.5926	NC 11.04	CK 0.6089
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	2080.105	2786.712	-259.8652	1557.162	2069.904	-4.050811	1008.587	1446.133
HTC, Btu/ft ² hr°F	0.4897	NC 1.057	CK 0.2923	NC 0.5938	NC 11.04	CK 0.1356	NC 0.4502	NC 0.7944
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-6.406984	-6.179095	0.0000000	305.9709	274.4635	0.0000000	2701.136
HTC, Btu/ft ² hr°F	0.0000	N 0.1519	NC 11.04	CK 0.0000	N 0.3002	NC 11.04	CK 0.0000	N 0.5938
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3589.402	-220.0803	1524.989	2051.297	-252.8666	4105.944	5532.682	0.3842183
HTC, Btu/ft ² hr°F	11.04	CK 0.3187	NC 0.4563	NC 1.057	CK 0.2921	NC 0.5486	NC 11.04	CK 5.4910E-02
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	1220.839	1758.145	0.0000000	300.1807	270.3966	0.0000000	8349.000	11230.70
HTC, Btu/ft ² hr°F	0.4195	NC 0.7944	CK 0.0000	N 0.3005	NC 11.04	CK 0.0000	N 0.5541	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	265.1500	245.0323	37.54344	7189.985	9669.646	215.3621	222.9310
HTC, Btu/ft ² hr°F	0.2251	NC 0.3471	NC 11.04	CK 0.2134	NC 0.5548	NC 11.04	CK 0.2323	NC 0.3237
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	201.9659	76.93218	84261.55	78694.87	-66.96722	32027.18	29912.45	-19.76056
HTC, Btu/ft ² hr°F	0.7944	CK 0.2486	NC 0.8891	NC 11.04	CK 1.3000E-03	XT 0.8892	NC 11.04	CK 1.3000E-03
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	15310.08	14300.93	-3.603160	14636.43	13671.69	-3.460382	222.1455	154.9609
HTC, Btu/ft ² hr°F	0.8892	NC 11.04	CK 2.7000E-03	XT 0.8892	NC 11.04	CK 2.7000E-03	XT 0.3625	NC 11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-13.63603	156.0355	141.4960	-9.6612541E-02	1.798621	-30.74521	-9.102491	208.5617
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.3692	NC 11.03	CK 2.7000E-03	XT 0.1213	NC 11.03	CK 2.7000E-03	XT 0.3644

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	157.6788	-9.722114	156.5693	142.5194	8.4916624E-02	-4.2841923E-02	-24.79116	-7.069212
HTC, Btu/ft ² hr°F	11.03	Ck 2.7000E-03 XT	0.3695	NC	11.03	Ck 5.7197E-02 NC	2.7000E-03 XT	11.03
Ck 2.7000E-03 XT								
Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	-0.3941629	-305.3927	-448646.6	-2.150351	-806.5745	-4002.145	1184.032	1277.975
HTC, Btu/ft ² hr°F	1.3000E-03 XT	11.04	Ck 17.98	Rn 1.3000E-03 XT	11.04	Ck 3.000	XT 0.3619	NC 11.04
Ck 3.000								
Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6165.006	8715.479	11091.71	726.1993	1555.001	1922.903	-821052.7	1568.038
HTC, Btu/ft ² hr°F	3.000	XT 0.7029	NC 11.04	Ck 0.3794	NC 0.4127	NC 11.04	Ck 17.98	Rn 0.2834
Ck 17.98								
Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1147.722	2407.334	1878.623	9959.362	3594.173	815.8831	3066.848	1192.152
HTC, Btu/ft ² hr°F	0.2711	Rn 0.2833	Rn 0.2723	Rn 0.2706	Rn 0.2694	Rn 0.2826	Rn 0.2712	Rn 0.2807
Rn 0.2807								
Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	710.9887	634.9585	1233.382	903.4224	1969.490	793.0141	3957.516	3403.382
HTC, Btu/ft ² hr°F	0.2711	Rn 0.2834	Rn 0.2711	Rn 0.2703	Rn 0.2632	Rn 0.2735	Rn 0.2627	Rn 0.2626
Rn 0.2626								
Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	13764.79	3958.095	1349.595	900.7897	937.6806	-85.14465	681.7220	-467.4532
HTC, Btu/ft ² hr°F	0.2672	Rn 0.2604	Rn 0.2672	Rn 0.2672	Rn 0.2604	Rn 0.2704	Rn 0.2604	Rn 0.2826
Rn 0.2826								
Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR				
Heat Rate, Btu/hr	948.5595	3343.376	1086.464	1263.567				
HTC, Btu/ft ² hr°F	0.2899	Rn 0.2696	Rn 0.2883	Rn 0.2706				
Rn 0.2706								

(WLOOP(I),I=1,2): 0.00000000E+00 0.00000000E+00

Case 1 after step no. 163, time (XA) is 3.00000 hrs, 16 rejected CM steps, next time step is 8.028621E-02 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, eF	150.9936	141.4724	113.7416	108.6717	150.0000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, eF	-459.6700	113.6945	108.2301	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, eF	-459.6700	-459.6700	118.5797	105.8393	138.4675	110.1992	119.4084	109.0405
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, eF	138.2336	131.0370	118.5797	105.8393	116.8455	99.86634	137.3811	97.40777
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, eF	119.8300	117.5335	114.6192	110.1125	119.3892	108.4254	138.4675	110.1992
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, eF	108.9679	108.9831	109.5182	109.1835	119.4076	109.0361	128.1526	110.1089
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, eF	116.4102	108.2974	131.2823	109.8900	109.5231	109.1902	125.6731	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, eF	107.3597	105.4225	115.5849	105.8393	108.8176	97.25881	134.7810	112.4722
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, eF	134.7747	111.4592	134.7546	108.3100	134.7546	108.3101	109.4375	112.3460
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, eF	108.7493	108.1382	108.7669	112.2208	109.2747	111.3294	108.7540	108.1425
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, °F	108.5737	111.1955	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, °F	-459.6700	-459.6700	-459.6700	141.2577	894.3420	143.7761	159.1617	145.3729
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH
Temperature, °F	159.1617	127.4182	100.2155	143.2636	894.3420
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 CR	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2795.052	3792.743	61.53216	2219.759	3329.817	0.0000000	2511.883	3413.519
HTC, Btu/ft ² hr°F	0.5988	NC	11.04	CK 0.2323	NC 0.4376	NC 0.7944	CK 0.0000	NC 11.04
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-196.8186	3426.631	5132.831	-2622.410	22030.44	29894.59	1932	8713.280
HTC, Btu/ft ² hr°F	0.3156	NC 0.4402	NC 0.7944	CK 0.4120	NC 0.5988	NC 11.04	CK	NC 0.6092
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	10969.95	607.8517	1193.795	1784.666	119.2161	6631.458	11.04	-7002.707
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4497	NC 0.7944	CK 0.2539	NC 0.5911	NC	CK 0.5991
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	1886.308	2660.859	-254.2385	1557.749	2117.134	-2.445300	898.065	1348.37
HTC, Btu/ft ² hr°F	0.4780	NC	1.057	CK 0.2907	NC 0.5938	NC 11.04	CK 0.1196	NC 0.4376
Path Results	Path 33 CR	Path 34 CR	Path 35 WP	Path 36 CR	Path 37 CR	Path 38 WP	Path 39 CR	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-3.110110	-3.358558	0.0000000	329.1702	297.2164	0.0000000	2700.511
HTC, Btu/ft ² hr°F	0.0000	NC 0.1272	NC 11.04	CK 0.0000	NC 0.3056	NC 11.04	CK 0.0000	NC 0.5937
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3668.479	-214.6229	1397.665	1980.609	-243.9991		5712.638	1.578497
HTC, Btu/ft ² hr°F	11.04	CK 0.3167	NC 0.4465	NC 1.057	CK 0.2896	NC 0.1100	NC 11.04	CK 7.9688E-02
Path Results	Path 49 CR	Path 50 WP	Path 51 CR	Path 52 CR	Path 53 WP	Path 54 CR	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	1099.602	1657.756	0.0000000	316.1708	286.5409	0.0000000	8424.984	11.74.79
HTC, Btu/ft ² hr°F	0.4087	NC 0.7944	CK 0.0000	NC 0.3044	NC 11.04	CK 0.0000	NC 0.5554	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	272.2448	254.7190	37.34344	7254.257	9964.086	215.3624	216.9004
HTC, Btu/ft ² hr°F	0.2251	NC 0.3494	NC 11.04	CK 0.2134	NC 0.5560	NC 11.04	CK 0.2323	NC 0.3215
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	199.7983	76.93665	78371.52	74290.66	-68.90710	29791.86	28245.56	-20.40596
HTC, Btu/ft ² hr°F	0.7944	CK 0.2486	NC 0.8733	NC 11.04	CK 1.3000E-03	XT 0.8733	NC 11.04	CK 1.3000E-03
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	14246.70	13514.67	-3.666320	13619.84	12920.02	-3.474570	206.9284	124.8873
HTC, Btu/ft ² hr°F	0.8734	NC 11.04	CK 2.7000E-03	XT 0.8734	NC 11.04	CK 2.7000E-03	XT 0.3561	NC 11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-14.08708	164.3046	150.8600	-0.1267427	-2.3130989E-02	-46.39506	-9.421794	196.8930
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.3740	NC 11.03	CK 2.7000E-03	XT 2.7000E-03	XT 11.03	CK 2.7000E-03	XT 0.3593

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	116.3711	-10.09188	162.0364	149.3254	-2.0815999E-02	-8.3500635E-02	-35.28132	-7.357271
HTC, Btu/ft ² hrF	11.03	CK 2.7000E-03 XT	0.3727	MC 11.03	CK 2.7000E-03 XT	2.7000E-03 XT	11.03	CK 2.7000E-03 XT
Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	8.695904	-171.3668	-167409.1	-1.407581	-596.1644	-4002.059	1512.656	2024.601
HTC, Btu/ft ² hrF	0.1324	MC 11.04	CK 18.25	Rn 1.3000E-03 XT	11.04	CK 3.000	XT 0.3049	MC 11.04
Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6164.832	8643.646	11237.56	726.2644	1870.231	2495.885	-672382.7	1458.360
HTC, Btu/ft ² hrF	3.000	XT 0.7015	MC 11.04	CK 0.3794	MC 0.4320	MC 11.04	CK 18.29	Rn 0.2875
Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1160.738	2236.270	1753.951	10068.91	3628.281	761.0351	3079.995	1123.713
HTC, Btu/ft ² hrF	0.2742	Rn 0.2873	Rn 0.2755	Rn 0.2737	Rn 0.2725	Rn 0.2867	Rn 0.2745	Rn 0.2848
Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	719.3686	590.5457	1247.392	856.2645	2003.728	741.6991	4021.929	3458.384
HTC, Btu/ft ² hrF	0.2742	Rn 0.2875	Rn 0.2742	Rn 0.2736	Rn 0.2656	Rn 0.2757	Rn 0.2651	Rn 0.2651
Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	14289.02	4117.788	1406.057	940.1149	980.2051	18.56518	714.3570	-307.9844
HTC, Btu/ft ² hrF	0.2696	Rn 0.2623	Rn 0.2695	Rn 0.2694	Rn 0.2622	Rn 0.2827	Rn 0.2622	Rn 0.2844
Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR				
Heat Rate, Btu/hr	1189.895	3362.733	1259.199	1277.465				
HTC, Btu/ft ² hrF	0.2924	Rn 0.2729	Rn 0.2909	Rn 0.2737				

(WLOOP(I),I=1,2): 0.00000000E+00 0.00000000E+00

Case 1 after step no. 175, time (XA) is 4.00000 hrs, 16 rejected CM steps, next time step is 0.101161 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	152.8594	142.9978	114.1433	108.9230	150.0000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	114.0185	108.6250	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	120.4858	105.8394	161.0621	111.6810	121.3219	109.6970
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	140.2525	133.1527	120.4858	105.8394	118.7876	99.86634	140.0074	97.41535
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	122.1063	119.0660	137.3111	110.5761	121.2773	109.0032	141.0621	111.6810
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	108.9725	108.9782	109.6563	109.2923	121.3204	109.7016	130.3082	110.5104
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	117.8500	108.7237	133.3699	110.9975	109.6530	109.2984	117.1292	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	107.5065	105.4225	117.0430	105.8394	109.2237	97.25948	137.5917	113.8575
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	137.5709	112.6528	137.5060	108.9095	137.5060	108.9095	110.1157	113.3046
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	108.9124	108.2441	109.3615	113.0913	109.8171	112.0864	108.9068	108.2490
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, °F	109.0250	111.8606	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, °F	-459.6700	-459.6700	-459.6700	141.9967	903.6075	144.3870	159.1622	146.4192
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH
Temperature, °F	159.1624	119.4659	100.2190	144.4677	903.6075
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2790.427	3837.698	61.53567	2049.653	3156.825	0.0000000	2507.840	3451.774
HTC, Btu/ft ² hr°F	0.5986	NC	11.04	CK 0.2323	NC 0.4290	NC 0.7944	CK 0.0000	N 0.5934
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-178.3442	3160.290	4860.484	-2426.969	21993.99	30246.52	485.0207	8089.179
HTC, Btu/ft ² hr°F	0.3080	NC 0.4315	NC 0.7944	CK 0.4041	NC 0.5986	NC 11.04	CK 0.2323	NC 0.6088
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	11081.36	607.8519	1105.914	1695.661	119.7160	6515.504	8842.161	-6566.546
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4413	NC 0.7944	CK 0.2542	NC 0.5885	NC 11.04	CK 0.5897
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	1760.806	2557.859	-248.5234	1556.282	2144.178	0.5498281	829.9831	1278.319
HTC, Btu/ft ² hr°F	0.4699	NC 1.057	CK 0.2891	NC 0.5937	NC 11.04	CK 8.2621E-02	NC 0.4290	NC 0.7944
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	-0.2890037	-0.7015950	0.0000000	356.7774	322.1881	0.0000000	2695.158
HTC, Btu/ft ² hr°F	0.0000	N 7.0435E-02	NC 11.04	CK 0.0000	N 0.3118	NC 11.04	CK 0.0000	N 0.5934
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3709.650	-198.7732	1310.413	1914.017	-237.0135	4168.549	5813.186	2.630655
HTC, Btu/ft ² hr°F	11.04	CK 0.3108	NC 0.4394	NC 1.057	CK 0.2875	NC 0.5507	NC 11.04	CK 8.8502E-02
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	1019.652	1879.770	0.0000000	135.8966	304.4068	0.0000000	8455.098	11767.14
HTC, Btu/ft ² hr°F	0.4012	NC 0.7944	CK 0.0000	N 0.3090	NC 11.04	CK 0.0000	N 0.5559	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4154	282.4227	265.7242	37.34344	7279.383	10128.32	215.3716	216.6370
HTC, Btu/ft ² hr°F	0.2251	NC 0.3526	NC 11.04	CK 0.2134	NC 0.5565	NC 11.04	CK 0.2323	NC 0.3214
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	200.4878	76.96712	73911.79	70632.74	-69.76660	28105.37	26868.52	-20.63157
HTC, Btu/ft ² hr°F	0.7944	CK 0.2486	NC 0.8607	NC 11.04	CK 1.3000E-03	XT 0.8608	NC 11.04	CK 1.3000E-03
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	13453.26	12876.03	-3.532764	12861.32	12309.49	-3.296870	189.4375	99.59368
HTC, Btu/ft ² hr°F	0.8611	NC 11.04	CK 2.7000E-03	XT 0.8611	NC 11.04	CK 2.7000E-03	XT 0.3484	NC 11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-14.41774	174.8280	161.0529	-0.1613121	-0.1065468	-53.90110	-9.663662	184.0639
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.3798	NC 11.03	CK 2.7000E-03	XT 2.7000E-03	XT 11.03	CK 2.7000E-03	XT 0.3533

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	118.2469	-10.34914	169.5530	156.7756	-8.9324485E-02	-9.7208989E-02	-40.94706	-7.566342
HTC, Btu/ft ² hrF	11.03	CK 2.7000E-03	XT 0.3769	NC	11.03	CK 2.7000E-03	XT 2.7000E-03	XT 11.03
Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	67.42076	-83.91305	-318686.3	-0.8487827	-444.2868	-4001.263	1896.688	2584.844
HTC, Btu/ft ² hrF	0.2201	NC	11.04	CK	16.47	Rn 1.3000E-03	XT 11.04	CK 3.000
Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6163.173	8581.439	11302.21	726.9021	2086.093	2802.278	-583216.5	1388.749
HTC, Btu/ft ² hrF	3.000	XT 0.7002	NC	11.04	CK	0.3795	NC	0.4439
Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1170.059	2127.761	1669.927	10152.33	3656.096	726.8523	3071.189	1079.155
HTC, Btu/ft ² hrF	0.2769	Rn 0.2905	Rn 0.2781	Rn 0.2763	Rn 0.2751	Rn 0.2899	Rn 0.2774	Rn 0.2880
Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	725.6814	562.3575	1257.430	823.3441	2025.806	707.1601	4063.472	3493.834
HTC, Btu/ft ² hrF	0.2768	Rn 0.2907	Rn 0.2769	Rn 0.2761	Rn 0.2676	Rn 0.2782	Rn 0.2671	Rn 0.2671
Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	14587.18	4192.400	1449.462	971.0066	1011.108	87.08281	738.8102	-186.7015
HTC, Btu/ft ² hrF	0.2718	Rn 0.2642	Rn 0.2714	Rn 0.2713	Rn 0.2638	Rn 0.2643	Rn 0.2636	Rn 0.2660
Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR				
Heat Rate, Btu/hr	1373.199	3377.641	1377.390	1288.049				
HTC, Btu/ft ² hrF	0.2945	Rn 0.2756	Rn 0.2931	Rn 0.2763	Rn			

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(WLOOP(I),I=1,2): 0.000000000E+00 0.000000000E+00
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Case 1 after step no. 195, time (XA) is 6.00000 hrs, 16 rejected CM steps, next time step is 0.101161 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	156.1147	145.6059	115.0938	109.8028	150.8000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	114.7829	109.8429	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	6.6000000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	123.6906	105.8425	145.2034	115.5868	124.5973	111.4479
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	145.0156	136.5005	123.6906	105.8425	122.0466	99.86649	144.1483	97.49041
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	126.2563	122.0295	141.5664	121.8092	124.4869	110.6725	145.2034	115.5868
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	109.0036	108.9782	109.9726	109.5399	124.5959	111.4770	133.6977	111.5244
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	120.2994	109.9821	136.6698	123.9497	109.9424	109.5371	119.5801	105.6725
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	107.7947	105.4225	119.4967	105.8416	110.0277	97.26645	141.9161	111.2383
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	141.8400	115.6913	141.6038	110.9895	141.6038	110.9893	111.5936	115.1490
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	109.2675	108.4909	110.7233	114.7654	110.9926	113.5420	109.2304	108.4914
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 WT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, °F	110.0607	113.1372	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 WT	Node 93 WH	Node 94 WT	Node 95 WH	Node 96 WT
Temperature, °F	-459.6700	-459.6700	-459.6700	144.5970	914.3919	145.4648	159.1691	148.1223
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 97 WH	Node 98 WT	Node 99 WH	Node 100 WT	Node 101 WH			
Temperature, °F	159.1723	122.8791	100.2642	147.7891	914.3923			
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000			

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2796.231	3907.347	61.67397	1847.512	2928.671	0.0000000	2505.712	3501.237
HTC, Btu/ft ² hr°F	0.5989	NC	11.04	CK 0.2325	NC 0.4181	NC 0.7944	CK 0.0000	N 0.5933
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-126.3476	2846.530	4507.305	-2187.533	22039.58	30797.48	486.1108	8088.015
HTC, Btu/ft ² hr°F	0.2827	NC 0.4204	NC 0.7944	CK 0.3938	NC 0.5989	NC 11.04	CK 0.2325	NC 0.6087
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	11253.85	607.8766	1005.725	1586.697	124.6891	6264.631	8631.403	-5743.371
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4310	NC 0.7944	CK 0.2568	NC 0.5828	NC 11.04	CK 0.5704
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	1611.802	2418.173	-222.6783	1559.281	2180.995	13.09845	748.1283	1185.931
HTC, Btu/ft ² hr°F	0.4597	NC 1.057	CK 0.2813	NC 0.5940	NC 11.04	CK 0.1814	NC 0.4381	NC 0.7944
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	11.70396	9.403161	0.0000000	425.3602	383.7463	0.0000000	2692.865
HTC, Btu/ft ² hr°F	0.0000	N 0.1765	NC 11.04	CK 0.0000	N 0.3257	NC 11.04	CK 0.0000	N 0.5933
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3762.652	-151.2463	1204.208	1816.506	-214.8499	4203.589	5945.052	4.151938
HTC, Btu/ft ² hr°F	11.04	CK 0.2904	NC 0.4303	NC 1.057	CK 0.2806	NC 0.5518	NC 11.04	CK 9.9112E-02
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	923.3958	1472.370	0.0000000	385.3434	348.7942	0.0000000	8523.531	12040.08
HTC, Btu/ft ² hr°F	0.3914	NC 0.7944	CK 0.0000	N 0.3197	NC 11.04	CK 0.0000	N 0.5570	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4160	310.2135	293.2666	37.34345	7337.022	10361.25	215.7283	225.2622
HTC, Btu/ft ² hr°F	0.2251	NC 0.3609	NC 11.04	CK 0.2134	NC 0.5576	NC 11.04	CK 0.2324	NC 0.3246
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	208.5182	77.28318	67179.35	64742.94	-69.54206	25578.51	24669.71	-20.33896
HTC, Btu/ft ² hr°F	0.7944	CK 0.2489	NC 0.8405	NC 11.04	CK 1.3000E-03	XT 0.6409	NC 11.04	CK 1.3000E-03
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	12292.90	11884.05	-2.770376	11752.01	11361.15	-2.447991	157.1786	59.94429
HTC, Btu/ft ² hr°F	0.8420	NC 11.04	CK 2.7000E-03	XT 0.8420	NC 11.04	CK 2.7000E-03	XT 0.3326	NC 11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-14.93199	201.7788	185.9372	-0.3116904	-0.2237044	-61.00593	-10.04788	160.4983
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.3936	NC 11.03	CK 2.7000E-03	XT 2.7000E-03	XT 11.03	CK 2.7000E-03	XT 0.3415

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	89.61038	-10.73502	189.2643	175.0546	-0.3211130	-5.2919515E-02	-46.32526	-7.889904
HTC, Btu/ft ² hr°F	11.03	CK 2.7000E-03	XT 0.3873	NC	11.03	CK 2.7000E-03	XT 11.03	CK 2.7000E-03
Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	68.11810	-411.4985	-260711.8	7.652318	-201.9162	-3991.501	2443.891	3501.405
HTC, Btu/ft ² hr°F	0.2206	NC	11.04	CK 18.68	Rn 0.1153	NC	11.04	CK 3.000
Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6141.844	8527.509	11405.47	735.2921	2064.249	2258.483	-477115.7	1308.071
HTC, Btu/ft ² hr°F	3.000	XT 0.6991	NC	11.04	CK 0.3806	NC	0.4428	NC
Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1188.602	2003.161	1567.656	10394.21	3715.982	688.9316	3037.518	1028.649
HTC, Btu/ft ² hr°F	0.2814	Rn 0.2959	Rn 0.2822	Rn 0.2808	Rn 0.2797	Rn 0.2952	Rn 0.2826	Rn 0.2934
Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	738.6022	529.6882	1277.356	784.3528	2064.921	666.1260	4141.014	3560.069
HTC, Btu/ft ² hr°F	0.2814	Rn 0.2960	Rn 0.2814	Rn 0.2803	Rn 0.2711	Rn 0.2824	Rn 0.2706	Rn 0.2705
Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	14785.38	4192.707	1520.725	1022.344	1059.783	88.90273	778.1199	19.15164
HTC, Btu/ft ² hr°F	0.2764	Rn 0.2680	Rn 0.2750	Rn 0.2747	Rn 0.2665	Rn 0.2880	Rn 0.2663	Rn 0.2886
Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR				
Heat Rate, Btu/hr	1682.727	3418.365	1388.810	1311.125				
HTC, Btu/ft ² hr°F	0.2983	Rn 0.2803	Rn 0.2979	Rn 0.2808	Rn			

(WLOOP(1),1=1,2): 0.000000000E+00 0.000000000E+00

Case 1 after step no. 212, time (XA) is 8.00000 hrs, 16 rejected CM steps, next time step is 0.127462 hrs.

Node Results	Node 1 AI	Node 2 AI	Node 3 AI	Node 4 AI	Node 5 BI	Node 6 BI	Node 7 BI	Node 8 BI
Temperature, °F	159.2816	147.9902	116.1785	110.8572	150.0000	95.00000	95.00000	104.0000
Density, lbm/ft**3	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02
Node Results	Node 9 N	Node 10 AI	Node 11 AI	Node 12 BI	Node 13 BI	Node 14 BI	Node 15 BI	Node 16 N
Temperature, °F	-459.6700	115.6433	111.3520	104.0000	162.0000	200.0000	960.0000	-459.6700
Density, lbm/ft**3	0.0000000	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	6.600000E-02	0.0000000
Node Results	Node 17 N	Node 18 N	Node 19 WT	Node 20 WH	Node 21 WT	Node 22 WH	Node 23 WT	Node 24 WH
Temperature, °F	-459.6700	-459.6700	126.4967	105.8622	148.8594	119.9231	127.5558	113.5033
Density, lbm/ft**3	0.0000000	0.0000000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 25 WT	Node 26 WH	Node 27 WT	Node 28 WH	Node 29 WT	Node 30 WH	Node 31 WT	Node 32 WH
Temperature, °F	148.6659	139.3793	126.4967	105.8622	124.8940	99.86845	147.7162	97.69286
Density, lbm/ft**3	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 33 WT	Node 34 WH	Node 35 WT	Node 36 WH	Node 37 WT	Node 38 WH	Node 39 WT	Node 40 WH
Temperature, °F	130.0785	124.8603	145.2085	113.4033	127.3790	112.6854	148.8594	119.9231
Density, lbm/ft**3	145.0000	145.0000	60.64000	60.64000	145.0000	145.0000	35.56000	35.56000
Node Results	Node 41 WT	Node 42 WH	Node 43 WT	Node 44 WH	Node 45 WT	Node 46 WH	Node 47 WT	Node 48 WH
Temperature, °F	139.0939	109.0045	110.3498	109.8347	127.5570	113.5620	136.5290	112.7992
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	60.64000	60.64000
Node Results	Node 49 WT	Node 50 WH	Node 51 WT	Node 52 WH	Node 53 WT	Node 54 WH	Node 55 WT	Node 56 WH
Temperature, °F	122.4867	111.5483	139.4923	117.2608	110.2761	109.8106	121.7051	105.6726
Density, lbm/ft**3	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 57 WT	Node 58 WH	Node 59 WT	Node 60 WH	Node 61 WT	Node 62 WH	Node 63 WT	Node 64 WH
Temperature, °F	108.0950	105.4225	121.6239	105.8562	110.8801	97.28636	145.3113	121.0986
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	35.56000	35.56000	145.0000	145.0000
Node Results	Node 65 WT	Node 66 WH	Node 67 WT	Node 68 WH	Node 69 WT	Node 70 WH	Node 71 WT	Node 72 WH
Temperature, °F	145.1546	119.2280	144.6703	113.7844	144.6703	113.7839	113.1537	116.9901
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 73 WT	Node 74 WH	Node 75 WT	Node 76 WH	Node 77 WT	Node 78 WH	Node 79 WT	Node 80 WH
Temperature, °F	109.6781	108.7789	112.2031	116.4646	112.2741	114.9830	109.5933	108.7653
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000

Node Results	Node 81 MT	Node 82 WH	Node 83 N	Node 84 N	Node 85 N	Node 86 N	Node 87 N	Node 88 N
Temperature, °F	111.1901	114.4232	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700	-459.6700
Density, lbm/ft**3	145.0000	145.0000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Node Results	Node 89 N	Node 90 N	Node 91 N	Node 92 MT	Node 93 WH	Node 94 MT	Node 95 WH	Node 96 MT
Temperature, °F	-459.6700	-459.6700	-459.6700	150.5163	920.7138	146.5162	159.1903	150.1365
Density, lbm/ft**3	0.0000000	0.0000000	0.0000000	145.0000	145.0000	145.0000	145.0000	145.0000
Node Results	Node 97 WH	Node 98 MT	Node 99 WH	Node 100 MT	Node 101 WH			
Temperature, °F	159.2035	125.8457	100.6097	154.0226	920.7158			
Density, lbm/ft**3	145.0000	145.0000	145.0000	145.0000	145.0000			

Path Results	Path 1 CR	Path 2 WP	Path 3 CR	Path 4 CR	Path 5 WP	Path 6 N	Path 7 CR	Path 8 WP
Heat Rate, Btu/hr	2238.244	4000.640	62.55472	1739.290	2794.711	0.0000000	2528.294	3560.408
HTC, Btu/ft ² hr°F	0.4011	NC	11.04	CK 0.2333	NC 0.4119	NC 0.7944	CK 0.0000	N 0.5946
Path Results	Path 9 CR	Path 10 CR	Path 11 WP	Path 12 CR	Path 13 CR	Path 14 WP	Path 15 CR	Path 16 CR
Heat Rate, Btu/hr	-70.03779	2684.527	4310.330	-2030.967	22370.88	31532.82	493.0528	8190.502
HTC, Btu/ft ² hr°F	0.2442	NC 0.4144	NC 0.7944	CK 0.3867	NC 0.6011	NC 11.04	CK 0.2333	NC 0.4106
Path Results	Path 17 WP	Path 18 CR	Path 19 CR	Path 20 WP	Path 21 CR	Path 22 CR	Path 23 WP	Path 24 CR
Heat Rate, Btu/hr	11495.10	608.2028	961.7004	1538.794	138.3479	6083.820	8477.195	-4983.519
HTC, Btu/ft ² hr°F	11.04	CK 0.3203	NC 0.4262	NC 0.7944	CK 0.2635	NC 0.5786	NC 11.04	CK 0.5506
Path Results	Path 25 CR	Path 26 WP	Path 27 CR	Path 28 CR	Path 29 WP	Path 30 CR	Path 31 CR	Path 32 WP
Heat Rate, Btu/hr	1542.884	2350.929	-177.9744	1577.648	2223.231	35.18362	704.3049	1131.686
HTC, Btu/ft ² hr°F	0.4548	NC	1.057	CK 0.2661	NC 0.5957	NC 11.04	CK 0.2319	NC 0.4119
Path Results	Path 33 N	Path 34 CR	Path 35 WP	Path 36 N	Path 37 CR	Path 38 WP	Path 39 N	Path 40 CR
Heat Rate, Btu/hr	0.0000000	33.53176	28.73112	0.0000000	505.2567	456.2410	0.0000000	2716.834
HTC, Btu/ft ² hr°F	0.0000	N 0.2291	NC 11.04	CK 0.0000	N 0.3399	NC 11.04	CK 0.0000	N 0.5946
Path Results	Path 41 WP	Path 42 CR	Path 43 CR	Path 44 WP	Path 45 CR	Path 46 CR	Path 47 WP	Path 48 CR
Heat Rate, Btu/hr	3825.647	-98.26210	1144.452	1758.560	-179.2964	4247.162	6051.798	6.558786
HTC, Btu/ft ² hr°F	11.04	CK 0.2609	NC 0.4249	NC 1.057	CK 0.2683	NC 0.5533	NC 11.04	CK 0.1110
Path Results	Path 49 CR	Path 50 WP	Path 51 N	Path 52 CR	Path 53 WP	Path 54 N	Path 55 CR	Path 56 WP
Heat Rate, Btu/hr	863.6647	1400.021	0.0000000	442.0987	400.3823	0.0000000	8636.678	12307.47
HTC, Btu/ft ² hr°F	0.3850	NC 0.7944	CK 0.0000	N 0.3308	NC 11.04	CK 0.0000	N 0.5588	NC 11.04
Path Results	Path 57 CR	Path 58 CR	Path 59 WP	Path 60 CR	Path 61 CR	Path 62 WP	Path 63 CR	Path 64 CR
Heat Rate, Btu/hr	221.4332	343.7190	325.8291	37.34377	7433.282	10589.67	217.9991	239.1036
HTC, Btu/ft ² hr°F	0.2252	NC 0.3702	NC 11.04	CK 0.2134	NC 0.5594	NC 11.04	CK 0.2330	NC 0.3294
Path Results	Path 65 WP	Path 66 CR	Path 67 CR	Path 68 WP	Path 69 CR	Path 70 CR	Path 71 WP	Path 72 CR
Heat Rate, Btu/hr	221.2692	78.18722	62007.64	59998.86	-68.31069	23658.13	22916.65	-19.55548
HTC, Btu/ft ² hr°F	0.7944	CK 0.2496	NC 0.8240	NC 11.04	CK 1.3000E-03	XT 0.8248	NC 11.04	CK 1.3000E-03
Path Results	Path 73 CR	Path 74 WP	Path 75 CR	Path 76 CR	Path 77 WP	Path 78 CR	Path 79 CR	Path 80 WP
Heat Rate, Btu/hr	11441.87	11119.55	-1.616024	10938.43	10630.29	-1.199886	129.4452	28.32756
HTC, Btu/ft ² hr°F	0.8272	NC 11.04	CK 2.7000E-03	XT 0.8272	NC 11.04	CK 2.7000E-03	XT 0.3170	NC 11.03
Path Results	Path 81 CR	Path 82 CR	Path 83 WP	Path 84 CR	Path 85 CR	Path 86 WP	Path 87 CR	Path 88 CR
Heat Rate, Btu/hr	-15.41709	233.4103	215.1929	-0.4938005	-0.3270526	-64.92126	-10.40574	139.7330
HTC, Btu/ft ² hr°F	2.7000E-03	XT 0.4080	NC 11.03	CK 2.7000E-03	XT 2.7000E-03	XT 11.03	CK 2.7000E-03	XT 0.3300

Path Results	Path 89 WP	Path 90 CR	Path 91 CR	Path 92 WP	Path 93 CR	Path 94 CR	Path 95 WP	Path 96 CR
Heat Rate, Btu/hr	66.38518	-11.05082	212.1507	196.2666	-0.6166151	1.757900	-47.88129	-8.156802
HTC, Btu/ft ² hrF	11.03	Ck 2.7000E-03 XT	0.3985	NC	11.03	Ck 2.7000E-03 XT	0.1206	NC

Path Results	Path 97 CR	Path 98 WP	Path 99 CR	Path 100 CR	Path 101 WP	Path 102 CR	Path 103 CR	Path 104 WP
Heat Rate, Btu/hr	-1.005649	-1393.361	-226085.6	173.2350	138.9613	-3961.738	3025.932	4407.166
HTC, Btu/ft ² hrF	1.3000E-03 XT	11.04	Ck 18.81	Rn 0.2501	NC	11.04	Ck 3.000	XT 0.4568

Path Results	Path 105 CR	Path 106 CR	Path 107 WP	Path 108 CR	Path 109 CR	Path 110 WP	Path 111 CR	Path 112 CR
Heat Rate, Btu/hr	-6073.968	8597.633	11597.15	762.4542	1121.905	-102.0747	-413732.0	1271.115
HTC, Btu/ft ² hrF	3.000	XT 0.7005	NC	11.04	Ck 0.3860	NC	0.3806	NC

Path Results	Path 113 CR	Path 114 CR	Path 115 CR	Path 116 CR	Path 117 CR	Path 118 CR	Path 119 CR	Path 120 CR
Heat Rate, Btu/hr	1215.083	1949.132	1502.083	10607.97	3808.247	677.2313	3023.444	1012.203
HTC, Btu/ft ² hrF	0.2858	Rn 0.3009	Rn 0.2860	Rn 0.2850	Rn 0.2839	Rn 0.3002	Rn 0.2875	Rn 0.2983

Path Results	Path 121 CR	Path 122 CR	Path 123 CR	Path 124 CR	Path 125 CR	Path 126 CR	Path 127 CR	Path 128 CR
Heat Rate, Btu/hr	756.4924	514.7231	1305.714	764.7960	2105.174	641.7276	4230.249	3626.389
HTC, Btu/ft ² hrF	0.2856	Rn 0.3010	Rn 0.2858	Rn 0.2860	Rn 0.2742	Rn 0.2860	Rn 0.2737	Rn 0.2736

Path Results	Path 129 CR	Path 130 CR	Path 131 CR	Path 132 CR	Path 133 CR	Path 134 CR	Path 135 CR	Path 136 CR
Heat Rate, Btu/hr	14781.26	4091.931	1590.152	1071.891	1101.660	-227.3870	812.0224	201.6408
HTC, Btu/ft ² hrF	0.2813	Rn 0.2720	Rn 0.2785	Rn 0.2781	Rn 0.2692	Rn 0.2939	Rn 0.2688	Rn 0.2911

Path Results	Path 137 CR	Path 138 CR	Path 139 CR	Path 140 CR
Heat Rate, Btu/hr	2000.208	3492.612	898.4785	1345.857
HTC, Btu/ft ² hrF	0.3019	Rn 0.2846	Rn 0.3048	Rn 0.2850

INLOOP(I),I=1,2): 0.00000000E+00 0.00000000E+00

CASE ENDED NORMALLY WITH XA.GE.JMAX

NETP 212 NRJCTD 16 ITOL 5 JEMAX 80

EMAX-8.44890160E-12 XA 8.0000000 XAC 1.32054211E-02 XC 8.0000000 XACD 0.12746238

Solution Vector (ZA(J),J=1,NB), NB = 635

(UI) energy, incompressible, (Mn) MCG n moles, (MW) water mass, (UC) energy, compressible, (WP) path mass flow

NE	Type	Vector	Bias	Delta Z	Z	Node/Path
1	UI	0.2219941E+06	0.2008488E+06	0.1390581E-06	0.6923523E-12	1
2	UI	0.8944466E+05	0.8242930E+05	0.2326851E-07	0.2822845E-12	2
3	UI	0.1464067E+05	0.1423773E+05	0.4258254E-08	0.2990824E-12	3
4	UI	0.1520953E+04	0.1492888E+04	-1.046193E-09	-7.021239E-13	4
5	UI	0.1398802E+05	0.1361569E+05	0.4260073E-08	0.3128796E-12	10
6	UI	0.3126551E+04	0.3066202E+04	0.3574314E-09	0.1165714E-12	11
7	UI	0.7955455E+05	0.7600320E+05	-6.068149E-08	-7.984070E-13	19
8	UI	0.7675404E+05	0.7600320E+05	0.1455192E-10	0.1914645E-15	20
9	UI	0.7303266E+05	0.6720840E+05	-1.156877E-07	-1.721328E-12	21
10	UI	0.6955987E+05	0.6720840E+05	0.0000000E+00	0.0000000E+00	22
11	UI	0.7415369E+05	0.7072520E+05	0.5442416E-08	0.7695158E-13	23
12	UI	0.7238892E+05	0.7072520E+05	0.1650187E-07	0.2333238E-12	24
13	UI	0.1099648E+06	0.1012275E+06	-1.880107E-07	-1.857310E-12	25
14	UI	0.1082861E+06	0.1012275E+06	-1.340231E-07	-1.323980E-12	26
15	UI	0.6270444E+06	0.5990530E+06	-4.773028E-07	-7.967622E-13	27
16	UI	0.6049711E+06	0.5990530E+06	0.0000000E+00	0.0000000E+00	28
17	UI	0.2148711E+06	0.2058420E+06	-1.656008E-07	-8.045044E-13	29
18	UI	0.2056724E+06	0.2058420E+06	-2.910383E-10	-1.413892E-15	30
19	UI	0.3509782E+05	0.3235960E+05	-4.489266E-08	-1.387306E-12	31
20	UI	0.3220722E+05	0.3235960E+05	0.1455192E-10	0.4496939E-15	32
21	UI	0.2001017E+06	0.1900080E+06	-1.394073E-07	-7.736920E-13	33
22	UI	0.1983311E+06	0.1900080E+06	-6.140908E-08	-3.231921E-13	34
23	UI	0.7016623E+05	0.6496030E+05	-5.398761E-08	-8.310862E-13	35
24	UI	0.6647683E+05	0.6496030E+05	-1.135049E-08	-1.747297E-13	36
25	UI	0.4592338E+05	0.4380740E+05	-9.968062E-09	-2.275429E-13	37
26	UI	0.4477394E+05	0.4380740E+05	0.9022187E-09	0.2059512E-13	38
27	UI	0.2957372E+05	0.2721526E+05	-4.605717E-08	-1.721724E-12	39
28	UI	0.2816745E+05	0.2721526E+05	0.0000000E+00	0.0000000E+00	40
29	UI	0.4449298E+05	0.4380740E+05	0.4496542E-08	0.1026434E-12	41
30	UI	0.4448859E+05	0.4380740E+05	0.0000000E+00	0.0000000E+00	42
31	UI	0.1369971E+06	0.1345890E+06	-2.997695E-08	-2.227295E-13	43
32	UI	0.1368733E+06	0.1345890E+06	0.0000000E+00	0.0000000E+00	44
33	UI	0.7969846E+05	0.7600320E+05	0.5864422E-08	0.7716019E-13	45
34	UI	0.7779918E+05	0.7600320E+05	0.1426088E-07	0.1876352E-12	46
35	UI	0.6743759E+05	0.6334302E+05	-1.324224E-08	-2.090561E-13	47
36	UI	0.6475345E+05	0.6334302E+05	-1.171429E-08	-1.849342E-13	48
37	UI	0.1651535E+06	0.1588678E+06	-3.172112E-08	-1.996828E-13	49
38	UI	0.1620504E+06	0.1588678E+06	-2.612945E-09	-1.648757E-14	50
39	UI	0.6687367E+05	0.6380992E+05	-5.959009E-08	-1.360196E-12	51
40	UI	0.4513445E+05	0.4380992E+05	-1.811713E-08	-4.135395E-13	52
41	UI	0.1337564E+06	0.1314222E+06	-2.706656E-08	-2.059512E-13	53
42	UI	0.1336471E+06	0.1314222E+06	0.0000000E+00	0.0000000E+00	54
43	UI	0.3221923E+06	0.3103464E+06	-6.402843E-08	-2.063128E-13	55
44	UI	0.3133072E+06	0.3103464E+06	0.0000000E+00	0.0000000E+00	56
45	UI	0.6581958E+05	0.6491940E+05	-1.455192E-08	-2.241536E-13	57
46	UI	0.6550976E+05	0.6491940E+05	-7.275958E-11	-1.120768E-15	58
47	UI	0.2761262E+06	0.2660112E+06	-5.471520E-08	-2.056876E-13	59
48	UI	0.2686363E+06	0.2660112E+06	0.5820766E-10	0.2188166E-15	60
49	UI	0.2316301E+05	0.2273470E+05	-8.221832E-09	-3.616425E-13	61
50	UI	0.2261113E+05	0.2273470E+05	0.0000000E+00	0.0000000E+00	62
51	UI	0.7845881E+06	0.7262528E+06	-1.932494E-07	-2.660911E-13	63
52	UI	0.7531872E+06	0.7262528E+06	-1.955777E-06	-2.692971E-12	64

53	UI	0.2981347E+06	0.2760394E+06	- .6868504E-08	- .2480233E-13	65
54	UI	0.2853547E+06	0.2760394E+06	- .7229391E-07	- .2618971E-12	66
55	UI	0.1423977E+06	0.1319500E+06	- .2823072E-08	- .2139501E-13	67
56	UI	0.1351202E+06	0.1319500E+06	- .2910383E-10	- .2205671E-15	68
57	UI	0.1361322E+06	0.1261442E+06	- .2706656E-08	- .2145684E-13	69
58	UI	0.1291748E+06	0.1261442E+06	- .1455192E-10	- .1153594E-15	70
59	UI	0.7292110E+05	0.7128863E+05	- .1396984E-08	- .1959617E-13	71
60	UI	0.7340947E+05	0.7128863E+05	- .1804437E-08	- .2531172E-13	72
61	UI	0.4724534E+05	0.4646962E+05	- .1185981E-08	- .2552164E-13	73
62	UI	0.4717073E+05	0.4646962E+05	- .7275958E-11	- .1565745E-15	74
63	UI	0.4883339E+05	0.4752575E+05	0.0000000E+00	0.0000000E+00	75
64	UI	0.4889506E+05	0.4752575E+05	- .1215085E-08	- .2556687E-13	76
65	UI	0.6687115E+05	0.6547993E+05	- .1295120E-08	- .1977889E-13	77
66	UI	0.6719328E+05	0.6547993E+05	- .4947651E-09	- .7555982E-14	78
67	UI	0.4723831E+05	0.4646962E+05	- .1120497E-08	- .2411247E-13	79
68	UI	0.4716959E+05	0.4646962E+05	0.0000000E+00	0.0000000E+00	80
69	UI	0.4844742E+05	0.4752575E+05	- .9749783E-09	- .2051474E-13	81
70	UI	0.4872180E+05	0.4752575E+05	- .3637979E-09	- .7654753E-14	82
71	UI	0.1759814E+06	0.1615068E+06	0.4714821E-08	0.2919271E-13	92
72	UI	0.1981096E+06	0.1615068E+06	- .1363747E-05	- .8643900E-11	93
73	UI	0.2685254E+06	0.2480660E+06	0.3137393E-07	0.1264741E-12	94
74	UI	0.2741396E+06	0.2480660E+06	0.0000000E+00	0.0000000E+00	95
75	UI	0.4161137E+06	0.3821272E+06	0.8731149E-09	0.2284880E-14	96
76	UI	0.4223007E+06	0.3821272E+06	0.0000000E+00	0.0000000E+00	97
77	UI	0.2025284E+06	0.1937026E+06	- .1714216E-07	- .8849729E-13	98
78	UI	0.1937302E+06	0.1937026E+06	0.8731149E-10	0.4507502E-15	99
79	UI	0.3239070E+06	0.2955680E+06	- .9260839E-07	- .3133234E-12	100
80	UI	0.7285677E+06	0.2955680E+06	- .2497225E-05	- .8448902E-11	101
81	UI	0.1584E+06	0.1520064E+06	0.2881279E-08	0.1895499E-13	102
82	UI	0.1578040E+06	0.1520064E+06	- .2619345E-09	- .1723181E-14	103
83	UI	0.1572409E+06	0.1520064E+06	0.5820766E-10	0.3829290E-15	104
84	UI	0.1567347E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	105
85	UI	0.1562825E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	106
86	UI	0.1558813E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	107
87	UI	0.1555280E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	108
88	UI	0.1552191E+06	0.1520064E+06	0.2910383E-10	0.1914645E-15	109
89	UI	0.1549508E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	110
90	UI	0.1547196E+06	0.1520064E+06	0.2910383E-10	0.1914645E-15	111
91	UI	0.1545217E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	112
92	UI	0.1543533E+06	0.1520064E+06	0.2910383E-10	0.1914645E-15	113
93	UI	0.1542111E+06	0.1520064E+06	0.2910383E-10	0.1914645E-15	114
94	UI	0.1540917E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	115
95	UI	0.1539918E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	116
96	UI	0.1539088E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	117
97	UI	0.1538396E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	118
98	UI	0.1537827E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	119
99	UI	0.1537354E+06	0.1520064E+06	0.2910383E-10	0.1914645E-15	120
100	UI	0.1536961E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	121
101	UI	0.1536632E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	122
102	UI	0.1536356E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	123
103	UI	0.1536120E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	124
104	UI	0.1535918E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	125
105	UI	0.1535740E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	126
106	UI	0.1535583E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	127
107	UI	0.1535441E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	128
108	UI	0.1535311E+06	0.1520064E+06	- .2910383E-10	- .1914645E-15	129

109	UI	0.1535192E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	130
110	UI	0.1439803E+06	0.1344168E+06	0.2648449E+00	0.1970325E-13	131
111	UI	0.1422454E+06	0.1344168E+06	0.0000000E+00	0.0000000E+00	132
112	UI	0.1408822E+06	0.1344168E+06	0.0000000E+00	0.0000000E+00	133
113	UI	0.1399037E+06	0.1344168E+06	0.0000000E+00	0.0000000E+00	134
114	UI	0.1393150E+06	0.1344168E+06	0.0000000E+00	0.0000000E+00	135
115	UI	0.1477195E+06	0.1414504E+06	-7770723E-08	-5493602E-13	136
116	UI	0.1471730E+06	0.1414504E+06	-7916242E-08	-5596479E-13	137
117	UI	0.1468868E+06	0.1414504E+06	-1004082E-07	-7098475E-13	138
118	UI	0.1462596E+06	0.1414504E+06	-4481990E-08	-3168595E-13	139
119	UI	0.1458898E+06	0.1414504E+06	-6635673E-08	-4691166E-13	140
120	UI	0.1455760E+06	0.1414504E+06	-1775334E-08	-1255093E-13	141
121	UI	0.1453164E+06	0.1414504E+06	-1717126E-08	-1213942E-13	142
122	UI	0.1451094E+06	0.1414504E+06	0.0000000E+00	0.0000000E+00	143
123	UI	0.1449535E+06	0.1414504E+06	-2910383E-10	-2057529E-15	144
124	UI	0.1448471E+06	0.1414504E+06	-7275958E-09	-5143822E-14	145
125	UI	0.1447890E+06	0.1414504E+06	-1749140E-07	-1236575E-12	146
126	UI	0.12167139E+06	0.2024549E+06	-4627509E-08	-2285698E-13	147
127	UI	0.12140202E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	148
128	UI	0.12128763E+06	0.2024549E+06	-2910383E-10	-1437546E-15	149
129	UI	0.12102941E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	150
130	UI	0.2092716E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	151
131	UI	0.2087980E+06	0.2024549E+06	-2910383E-10	-1437546E-15	152
132	UI	0.2088878E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	153
133	UI	0.2094389E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	154
134	UI	0.2105234E+06	0.2024549E+06	0.0000000E+00	0.0000000E+00	155
135	UI	0.2120934E+06	0.2024549E+06	-2910383E-10	-1437546E-15	156
136	UI	0.2141223E+06	0.2024549E+06	-6344635E-08	-3133850E-13	157
137	UI	0.1248705E+07	0.1198106E+07	0.2281740E-07	0.1904456E-13	158
138	UI	0.1243802E+07	0.1198106E+07	-1862665E-08	-1554658E-14	159
139	UI	0.1239364E+07	0.1198106E+07	-4656613E-09	-3886645E-15	160
140	UI	0.1235374E+07	0.1198106E+07	-2328306E-09	-1943322E-15	161
141	UI	0.1231810E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	162
142	UI	0.1228648E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	163
143	UI	0.1225863E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	164
144	UI	0.1223428E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	165
145	UI	0.1221314E+07	0.1198106E+07	-2328306E-09	-1943322E-15	166
146	UI	0.1219491E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	167
147	UI	0.1217931E+07	0.1198106E+07	-2328306E-09	-1943322E-15	168
148	UI	0.1216604E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	169
149	UI	0.1215483E+07	0.1198106E+07	-2328306E-09	-1943322E-15	170
150	UI	0.1214542E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	171
151	UI	0.1213755E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	172
152	UI	0.1213100E+07	0.1198106E+07	-2328306E-09	-1943322E-15	173
153	UI	0.1212557E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	174
154	UI	0.1212107E+07	0.1198106E+07	-2328306E-09	-1943322E-15	175
155	UI	0.1211734E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	176
156	UI	0.1211424E+07	0.1198106E+07	-2328306E-09	-1943322E-15	177
157	UI	0.1211165E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	178
158	UI	0.1210947E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	179
159	UI	0.1210762E+07	0.1198106E+07	0.2328306E-09	0.1943322E-15	180
160	UI	0.1210602E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	181
161	UI	0.1210462E+07	0.1198106E+07	-2328306E-09	-1943322E-15	182
162	UI	0.1210338E+07	0.1198106E+07	-2328306E-09	-1943322E-15	183
163	UI	0.1210226E+07	0.1198106E+07	0.0000000E+00	0.0000000E+00	184
164	UI	0.1210124E+07	0.1198106E+07	-2328306E-09	-1943322E-15	185

165	UI	0.1210030E+07	0.1198106E+07	- .2328306E-09	- .1943322E-15	186
166	UI	0.4277796E+06	0.4116840E+06	0.7799827E-08	0.1894615E-13	187
167	UI	0.4259846E+06	0.4116840E+06	- .6402843E-09	- .1555261E-14	188
168	UI	0.4243521E+06	0.4116840E+06	0.1164153E-09	0.2827783E-15	189
169	UI	0.4228740E+06	0.4116840E+06	- .5820766E-10	- .1413892E-15	190
170	UI	0.4215489E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	191
171	UI	0.4203629E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	192
172	UI	0.4193089E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	193
173	UI	0.4183775E+06	0.4116840E+06	0.5820766E-10	0.1413892E-15	194
174	UI	0.4175588E+06	0.4116840E+06	- .1164153E-09	- .2827783E-15	195
175	UI	0.4168424E+06	0.4116840E+06	0.5820766E-10	0.1413892E-15	196
176	UI	0.4162182E+06	0.4116840E+06	- .5820766E-10	- .1413892E-15	197
177	UI	0.4156761E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	198
178	UI	0.4152064E+06	0.4116840E+06	- .5820766E-10	- .1413892E-15	199
179	UI	0.4147999E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	200
180	UI	0.4144478E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	201
181	UI	0.4141422E+06	0.4116840E+06	- .5820766E-10	- .1413892E-15	202
182	UI	0.4138759E+06	0.4116840E+06	0.1164153E-09	0.2827783E-15	203
183	UI	0.4136425E+06	0.4116840E+06	- .1164153E-09	- .2827783E-15	204
184	UI	0.4134362E+06	0.4116840E+06	0.5820766E-10	0.1413892E-15	205
185	UI	0.4132521E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	206
186	UI	0.4130860E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	207
187	UI	0.4129344E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	208
188	UI	0.4127941E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	209
189	UI	0.4126628E+06	0.4116840E+06	0.5820766E-10	0.1413892E-15	210
190	UI	0.4125385E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	211
191	UI	0.4124195E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	212
192	UI	0.4123046E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	213
193	UI	0.4121927E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	214
194	UI	0.4120831E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	215
195	UI	0.4119752E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	216
196	UI	0.4118685E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	217
197	UI	0.4117628E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	218
198	UI	0.4116576E+06	0.4116840E+06	0.5820766E-10	0.1413892E-15	219
199	UI	0.4115530E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	220
200	UI	0.4114487E+06	0.4116840E+06	0.0000000E+00	0.0000000E+00	221
201	UI	0.6004761E+05	0.6471920E+05	0.5384209E-09	0.8319337E-14	222
202	UI	0.6005607E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	223
203	UI	0.6722245E+05	0.6471920E+05	0.1455192E-10	0.2248469E-15	224
204	UI	0.6654067E+05	0.6471920E+05	- .1455192E-10	- .2248469E-15	225
205	UI	0.6599732E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	226
206	UI	0.6557354E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	227
207	UI	0.6524764E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	228
208	UI	0.6499780E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	229
209	UI	0.6480421E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	230
210	UI	0.6465035E+05	0.6471920E+05	0.0000000E+00	0.0000000E+00	231
211	UI	0.6452247E+05	0.6471920E+05	- .7275958E-11	- .1124235E-15	232
212	UI	0.3987559E+06	0.3800160E+06	0.5937181E-01	0.1562350E-13	233
213	UI	0.3975251E+06	0.3800160E+06	- .2328306E-09	- .6126864E-15	234
214	UI	0.3965114E+06	0.3800160E+06	- .5820766E-10	- .1531716E-15	235
215	UI	0.3957142E+06	0.3800160E+06	0.1164153E-09	0.3063432E-15	236
216	UI	0.3951315E+06	0.3800160E+06	- .5820766E-10	- .1531716E-15	237
217	UI	0.3947604E+06	0.3800160E+06	0.0000000E+00	0.0000000E+00	238
218	UI	0.3945967E+06	0.3800160E+06	0.0000000E+00	0.0000000E+00	239
219	UI	0.3946349E+06	0.3800160E+06	- .5820766E-10	- .1531716E-15	240
220	UI	0.3948686E+06	0.3800160E+06	0.1164153E-09	0.3063432E-15	241

221	UI	0.3952902E+06	0.3800140E+06	- .2095476E-08	- .5514178E-14	242
222	UI	0.3958912E+06	0.3800140E+06	0.7858034E-08	0.2067817E-13	243
223	UI	0.1361914E+06	0.1299206E+06	0.5820766E-09	0.4480249E-14	244
224	UI	0.1364378E+06	0.1299206E+06	0.2910383E-10	0.2240124E-15	245
225	UI	0.1350708E+06	0.1299206E+06	0.0000000E+00	0.0000000E+00	246
226	UI	0.1340705E+06	0.1299206E+06	- .1018634E-08	- .7840436E-14	247
227	UI	0.1334013E+06	0.1299206E+06	- .2939407E-08	- .2262526E-13	248
228	UI	0.1330197E+06	0.1299206E+06	- .9895302E-09	- .7616423E-14	249
229	UI	0.1328826E+06	0.1299206E+06	0.1746230E-09	0.1344075E-14	250
230	UI	0.9146716E+05	0.8761480E+05	- .3492460E-09	- .3986153E-14	251
231	UI	0.9124772E+05	0.8761480E+05	0.7421477E-09	0.8470574E-14	252
232	UI	0.9081865E+05	0.8761480E+05	0.3492460E-09	0.3986153E-14	253
233	UI	0.9054809E+05	0.8761480E+05	0.1164153E-09	0.1328718E-14	254
234	UI	0.9031211E+05	0.8761480E+05	0.3346941E-09	0.3620063E-14	255
235	UI	0.9010977E+05	0.8761480E+05	0.2255547E-08	0.2574390E-13	256
236	UI	0.8993990E+05	0.8761480E+05	- .1455192E-10	- .1660897E-15	257
237	UI	0.8980170E+05	0.8761480E+05	0.0000000E+00	0.0000000E+00	258
238	UI	0.8969418E+05	0.8761480E+05	0.0000000E+00	0.0000000E+00	259
239	UI	0.8961649E+05	0.8761480E+05	0.3055902E-09	0.3487884E-14	260
240	UI	0.8956792E+05	0.8761480E+05	- .1207809E-08	- .1378544E-13	261
241	UI	0.8930314E+05	0.8443051E+05	0.1076842E-08	0.1978379E-13	262
242	UI	0.8760600E+05	0.8443051E+05	0.0000000E+00	0.0000000E+00	263
243	UI	0.8704859E+05	0.8443051E+05	0.7275958E-11	0.1336742E-15	264
244	UI	0.8665237E+05	0.8443051E+05	- .7275958E-11	- .1336742E-15	265
245	UI	0.8641428E+05	0.8443051E+05	0.0000000E+00	0.0000000E+00	266
246	UI	0.8898104E+05	0.8761480E+05	- .4511094E-08	- .5148780E-13	267
247	UI	0.8897745E+05	0.8761480E+05	- .3055902E-09	- .3487884E-14	268
248	UI	0.8897491E+05	0.8761480E+05	0.0000000E+00	0.0000000E+00	269
249	UI	0.8897323E+05	0.8761480E+05	0.0000000E+00	0.0000000E+00	270
250	UI	0.8897228E+05	0.8761480E+05	0.0000000E+00	0.0000000E+00	271
251	UI	0.2739164E+06	0.2691780E+06	0.1920853E-08	0.7135995E-14	272
252	UI	0.2738541E+06	0.2691780E+06	- .3492460E-09	- .1297454E-14	273
253	UI	0.2738056E+06	0.2691780E+06	0.0000000E+00	0.0000000E+00	274
254	UI	0.2737731E+06	0.2691780E+06	0.0000000E+00	0.0000000E+00	275
255	UI	0.2737533E+06	0.2691780E+06	0.0000000E+00	0.0000000E+00	276
256	UI	0.1587437E+06	0.1520064E+06	- .8265488E-08	- .5437592E-13	277
257	UI	0.1581567E+06	0.1520064E+06	0.1047738E-08	0.6892722E-14	278
258	UI	0.1576345E+06	0.1520064E+06	0.3783498E-09	0.2489039E-14	279
259	UI	0.1571758E+06	0.1520064E+06	0.5238689E-09	0.3446361E-14	280
260	UI	0.1567791E+06	0.1520064E+06	0.5238689E-09	0.3446361E-14	281
261	UI	0.1564427E+06	0.1520064E+06	0.6577466E-08	0.4327098E-13	282
262	UI	0.1561649E+06	0.1520064E+06	0.1891749E-08	0.1244519E-13	283
263	UI	0.1559440E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	284
264	UI	0.1557783E+06	0.1520064E+06	0.0000000E+00	0.0000000E+00	285
265	UI	0.1556664E+06	0.1520064E+06	- .4947651E-09	- .3254897E-14	286
266	UI	0.1556068E+06	0.1520064E+06	- .1498847E-07	- .9860422E-13	287
267	UI	0.1332736E+06	0.1266860E+06	0.8731149E-10	0.6891958E-15	288
268	UI	0.1319649E+06	0.1266860E+06	0.0000000E+00	0.0000000E+00	289
269	UI	0.1309514E+06	0.1266860E+06	- .1455192E-10	- .1148660E-15	290
270	UI	0.1302186E+06	0.1266860E+06	- .8876668E-09	- .7006824E-14	291
271	UI	0.1297399E+06	0.1266860E+06	- .3958121E-08	- .3124354E-13	292
272	UI	0.1294826E+06	0.1266860E+06	- .8876668E-09	- .7006824E-14	293
273	UI	0.1294141E+06	0.1266860E+06	0.1600711E-09	0.1263526E-14	294
274	UI	0.1292737E+06	0.1177356E+06	0.1513399E-08	0.4763077E-14	295
275	UI	0.1283416E+06	0.1177356E+06	- .1746230E-09	- .5495858E-15	296
276	UI	0.1275088E+06	0.1177356E+06	0.1012813E-07	0.3187558E-13	297

277	UI	0.3267733E+06	0.3177356E+06	-1461012E-07	-4598201E-13	298
278	UI	0.3261326E+06	0.3177356E+06	0.2677552E-08	0.8426982E-14	299
279	UI	0.3255841E+06	0.3177356E+06	0.4307367E-08	0.1355645E-13	300
280	UI	0.3251254E+06	0.3177356E+06	0.0000000E+00	0.0000000E+00	301
281	UI	0.3247539E+06	0.3177356E+06	-5820766E-10	-1831953E-15	302
282	UI	0.3244674E+06	0.3177356E+06	0.5820766E-10	0.1831953E-15	303
283	UI	0.3242639E+06	0.3177356E+06	0.5820766E-10	0.1831953E-15	304
284	UI	0.3241420E+06	0.3177356E+06	-1164153E-09	-1875571E-15	305
285	UI	0.9270284E+05	0.8761984E+05	0.2808520E-08	0.3205347E-13	306
286	UI	0.9183310E+05	0.8761984E+05	0.0000000E+00	0.0000000E+00	307
287	UI	0.9115020E+05	0.8761984E+05	0.0000000E+00	0.0000000E+00	308
288	UI	0.9066065E+05	0.8761984E+05	0.0000000E+00	0.0000000E+00	309
289	UI	0.9036880E+05	0.8761984E+05	-1673470E-08	-1909921E-13	310
290	UI	0.2674444E+06	0.2628444E+06	0.1629815E-08	0.6200682E-14	311
291	UI	0.2673895E+06	0.2628444E+06	-1746230E-09	-6643588E-15	312
292	UI	0.2673471E+06	0.2628444E+06	0.5820766E-10	0.2214529E-15	313
293	UI	0.2673178E+06	0.2628444E+06	0.0000000E+00	0.0000000E+00	314
294	UI	0.2673001E+06	0.2628444E+06	0.0000000E+00	0.0000000E+00	315
295	UI	0.6422831E+06	0.6206928E+06	0.3143214E-08	0.5064041E-14	316
296	UI	0.6403687E+06	0.6206928E+06	-3492460E-09	-5626712E-15	317
297	UI	0.6386359E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	318
298	UI	0.6370779E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	319
299	UI	0.6356887E+06	0.6206928E+06	-1164153E-09	-1875571E-15	320
300	UI	0.6144530E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	321
301	UI	0.6333668E+06	0.6206928E+06	-1164153E-09	-1875571E-15	322
302	UI	0.6324171E+06	0.6206928E+06	-8847566E-08	-1425434E-13	323
303	UI	0.6315927E+06	0.6206928E+06	-1164153E-09	-1875571E-15	324
304	UI	0.6308199E+06	0.6206928E+06	-8847566E-08	-1425434E-13	325
305	UI	0.6302732E+06	0.6206928E+06	0.1164153E-09	0.1875571E-15	326
306	UI	0.6297553E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	327
307	UI	0.6293172E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	328
308	UI	0.6289486E+06	0.6206928E+06	0.1164153E-09	0.1875571E-15	329
309	UI	0.6286398E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	330
310	UI	0.6283821E+06	0.6206928E+06	-1164153E-09	-1875571E-15	331
311	UI	0.6281674E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	332
312	UI	0.6279887E+06	0.6206928E+06	-2328306E-09	-3751141E-15	333
313	UI	0.6278395E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	334
314	UI	0.6277146E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	335
315	UI	0.6276093E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	336
316	UI	0.6275197E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	337
317	UI	0.6274424E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	338
318	UI	0.6273749E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	339
319	UI	0.6273149E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	340
320	UI	0.6272607E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	341
321	UI	0.6272109E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	342
322	UI	0.6271643E+06	0.6206928E+06	-1164153E-09	-1875571E-15	343
323	UI	0.6271203E+06	0.6206928E+06	0.1164153E-09	0.1875571E-15	344
324	UI	0.6270780E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	345
325	UI	0.6270371E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	346
326	UI	0.6269971E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	347
327	UI	0.6269577E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	348
328	UI	0.6269189E+06	0.6206928E+06	-1164153E-09	-1875571E-15	349
329	UI	0.6268804E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	350
330	UI	0.6268421E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	351
331	UI	0.6268040E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	352
332	UI	0.6267660E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	353

333	UI	0.6267280E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	354
334	UI	0.6266901E+06	0.6206928E+06	0.0000000E+00	0.0000000E+00	355
335	UI	0.6266523E+06	0.6206928E+06	-1.164153E-09	-1.875571E-15	356
336	UI	0.1315835E+06	0.1298388E+06	0.8440111E-09	0.6500453E-14	357
337	UI	0.1315335E+06	0.1298388E+06	-8.731149E-10	-6.724607E-15	358
338	UI	0.1314886E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	359
339	UI	0.1314485E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	360
340	UI	0.1314126E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	361
341	UI	0.1313806E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	362
342	UI	0.1313521E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	363
343	UI	0.1313267E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	364
344	UI	0.1313041E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	365
345	UI	0.1312841E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	366
346	UI	0.1312662E+06	0.1298388E+06	0.2910383E-10	0.2241536E-15	367
347	UI	0.1312502E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	368
348	UI	0.1312358E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	369
349	UI	0.1312229E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	370
350	UI	0.1312112E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	371
351	UI	0.1312005E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	372
352	UI	0.1311907E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	373
353	UI	0.1311816E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	374
354	UI	0.1311731E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	375
355	UI	0.1311650E+06	0.1298388E+06	0.2910383E-10	0.2241536E-15	376
356	UI	0.1311573E+06	0.1298388E+06	-2.910383E-10	-2.241536E-15	377
357	UI	0.1311499E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	378
358	UI	0.1311428E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	379
359	UI	0.1311358E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	380
360	UI	0.1311290E+06	0.1298388E+06	-2.910383E-10	-2.241536E-15	381
361	UI	0.1311223E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	382
362	UI	0.1311157E+06	0.1298388E+06	0.2910383E-10	0.2241536E-15	383
363	UI	0.1311092E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	384
364	UI	0.1311027E+06	0.1298388E+06	-2.910383E-10	-2.241536E-15	385
365	UI	0.1310962E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	386
366	UI	0.1310898E+06	0.1298388E+06	-2.910383E-10	-2.241536E-15	387
367	UI	0.1310834E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	388
368	UI	0.1310770E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	389
369	UI	0.1310706E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	390
370	UI	0.1310642E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	391
371	UI	0.1310578E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	392
372	UI	0.1310514E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	393
373	UI	0.1310450E+06	0.1298388E+06	-1.455192E-10	-1.120768E-15	394
374	UI	0.1310387E+06	0.1298388E+06	0.1455192E-10	0.1120768E-15	395
375	UI	0.1310323E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	396
376	UI	0.1310259E+06	0.1298388E+06	0.0000000E+00	0.0000000E+00	397
377	UI	0.5504444E+06	0.5320224E+06	0.2677552E-08	0.5032781E-14	398
378	UI	0.5487967E+06	0.5320224E+06	-3.492460E-09	-6.564497E-15	399
379	UI	0.5473049E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	400
380	UI	0.5459631E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	401
381	UI	0.5447645E+06	0.5320224E+06	-1.164153E-09	-2.188166E-15	402
382	UI	0.5437010E+06	0.5320224E+06	0.1164153E-09	0.2188166E-15	403
383	UI	0.5427641E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	404
384	UI	0.5419445E+06	0.5320224E+06	-7.566996E-08	-1.422308E-13	405
385	UI	0.5412323E+06	0.5320224E+06	-3.841706E-08	-7.220947E-14	406
386	UI	0.5406177E+06	0.5320224E+06	-7.683411E-08	-1.444189E-13	407
387	UI	0.5400907E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	408
388	UI	0.5396417E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	409

389	UI	0.5385404E+06	0.5320224E+06	- .1164153E-09	- .2188166E-15	410
390	UI	0.5385404E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	411
391	UI	0.5386709E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	412
392	UI	0.5384453E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	413
393	UI	0.5382567E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	414
394	UI	0.5380989E+06	0.5320224E+06	- .1164153E-09	- .2188166E-15	415
395	UI	0.5379665E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	416
396	UI	0.5378508E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	417
397	UI	0.5377603E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	418
398	UI	0.5376791E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	419
399	UI	0.5376086E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	420
400	UI	0.5375466E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	421
401	UI	0.5374911E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	422
402	UI	0.5374408E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	423
403	UI	0.5373946E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	424
404	UI	0.5373513E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	425
405	UI	0.5373108E+06	0.5320224E+06	0.0000000E+00	0.0000000E+00	426
406	UI	0.4616093E+05	0.4546939E+05	0.1091394E-09	0.2400282E-14	427
407	UI	0.4601862E+05	0.4546939E+05	- .7275958E-11	- .1600188E-15	428
408	UI	0.4589561E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	429
409	UI	0.4578876E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	430
410	UI	0.4569512E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	431
411	UI	0.4561198E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	432
412	UI	0.4553691E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	433
413	UI	0.4546781E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	434
414	UI	0.4540296E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	435
415	UI	0.4534102E+05	0.4546939E+05	0.7275958E-11	0.1600188E-15	436
416	UI	0.4528101E+05	0.4546939E+05	0.0000000E+00	0.0000000E+00	437
417	UI	0.1558932E+07	0.1452506E+07	0.2351590E-07	0.1618988E-13	438
418	UI	0.1549437E+07	0.1452506E+07	- .4889444E-08	- .3366213E-14	439
419	UI	0.1540745E+07	0.1452506E+07	- .2328306E-09	- .1602959E-15	440
420	UI	0.1532999E+07	0.1452506E+07	0.0000000E+00	0.0000000E+00	441
421	UI	0.1525931E+07	0.1452506E+07	0.4656613E-09	0.3205917E-15	442
422	UI	0.1519865E+07	0.1452506E+07	- .4656613E-09	- .3205917E-15	443
423	UI	0.1514715E+07	0.1452506E+07	0.6984919E-09	0.4808876E-15	444
424	UI	0.1510487E+07	0.1452506E+07	- .6984919E-09	- .4808876E-15	445
425	UI	0.1507181E+07	0.1452506E+07	0.9313226E-09	0.6411835E-15	446
426	UI	0.1504794E+07	0.1452506E+07	- .1101289E-06	- .7581994E-13	447
427	UI	0.1503319E+07	0.1452506E+07	- .8591451E-07	- .5914917E-13	448
428	UI	0.1502746E+07	0.1452506E+07	- .1327135E-07	- .9136864E-14	449
429	UI	0.1503069E+07	0.1452506E+07	- .1513399E-07	- .1041923E-13	450
430	UI	0.1504280E+07	0.1452506E+07	0.1732260E-06	0.1192601E-12	451
431	UI	0.5923566E+06	0.5520788E+06	0.8265488E-08	0.1497157E-13	452
432	UI	0.5887203E+06	0.5520788E+06	- .1746230E-08	- .3163008E-14	453
433	UI	0.5853799E+06	0.5520788E+06	- .1164153E-09	- .2108672E-15	454
434	UI	0.5823510E+06	0.5520788E+06	0.0000000E+00	0.0000000E+00	455
435	UI	0.5796446E+06	0.5520788E+06	0.2328306E-09	0.4217344E-15	456
436	UI	0.5772684E+06	0.5520788E+06	- .2328306E-09	- .4217344E-15	457
437	UI	0.5752265E+06	0.5520788E+06	0.3492460E-09	0.6326017E-15	458
438	UI	0.5735198E+06	0.5520788E+06	- .2328306E-09	- .4217344E-15	459
439	UI	0.5721472E+06	0.5520788E+06	0.3492460E-09	0.6326017E-15	460
440	UI	0.5711056E+06	0.5520788E+06	- .4679896E-07	- .8476862E-13	461
441	UI	0.5703908E+06	0.5520788E+06	- .7031485E-07	- .1273638E-12	462
442	UI	0.5699982E+06	0.5520788E+06	- .8032657E-08	- .1454984E-13	463
443	UI	0.5699230E+06	0.5520788E+06	- .7101335E-08	- .1286290E-13	464
444	UI	0.5701613E+06	0.5520788E+06	0.6426126E-07	0.1163987E-12	465

445	UI	0.2828968E+06	0.2639000E+06	0.3434242E-08	0.1301346E-13	446
446	UI	0.2811183E+06	0.2639000E+06	- .814P.73E-09	- .3087939E-14	447
447	UI	0.2794680E+06	0.2639000E+06	0.0000000E+00	0.0000000E+00	448
448	UI	0.2779517E+06	0.2639000E+06	0.0000000E+00	0.0000000E+00	449
449	UI	0.2765735E+06	0.2639000E+06	- .5820766E-10	- .2205671E-15	470
450	UI	0.2753353E+06	0.2639000E+06	0.5820766E-10	0.2205671E-15	471
451	UI	0.2742375E+06	0.2639000E+06	- .1164153E-09	- .4411342E-15	472
452	UI	0.2732789E+06	0.2639000E+06	0.2328306E-09	0.8822684E-15	473
453	UI	0.2724574E+06	0.2639000E+06	- .1606531E-07	- .6087652E-13	474
454	UI	0.2717702E+06	0.2639000E+06	- .2782326E-07	- .1054311E-12	475
455	UI	0.2712139E+06	0.2639000E+06	0.3201421E-07	0.1213119E-12	476
456	UI	0.2707853E+06	0.2639000E+06	- .2590241E-07	- .9815236E-13	477
457	UI	0.2704816E+06	0.2639000E+06	0.0000000E+00	0.0000000E+00	478
458	UI	0.2703004E+06	0.2639000E+06	0.0000000E+00	0.0000000E+00	479
459	UI	0.2704493E+06	0.2522884E+06	0.3317837E-08	0.1315097E-13	480
460	UI	0.2687491E+06	0.2522884E+06	- .7566996E-09	- .2999344E-14	481
461	UI	0.2671714E+06	0.2522884E+06	0.0000000E+00	0.0000000E+00	482
462	UI	0.2657219E+06	0.2522884E+06	0.5820766E-10	0.2307187E-15	483
463	UI	0.2644043E+06	0.2522884E+06	0.0000000E+00	0.0000000E+00	484
464	UI	0.2632205E+06	0.2522884E+06	0.5820766E-10	0.2307187E-15	485
465	UI	0.2621710E+06	0.2522884E+06	- .5820766E-10	- .2307187E-15	486
466	UI	0.2612544E+06	0.2522884E+06	0.1455192E-09	0.5767968E-15	487
467	UI	0.2604692E+06	0.2522884E+06	- .1530841E-07	- .6067903E-13	488
468	UI	0.2598122E+06	0.2522884E+06	- .2703746E-07	- .1071689E-12	489
469	UI	0.2592804E+06	0.2522884E+06	0.3064633E-07	0.1214734E-12	490
470	UI	0.2588706E+06	0.2522884E+06	- .2476736E-07	- .9817082E-13	491
471	UI	0.2585802E+06	0.2522884E+06	0.0000000E+00	0.0000000E+00	492
472	UI	0.2584070E+06	0.2522884E+06	0.0000000E+00	0.0000000E+00	493
473	UI	0.1458374E+06	0.1425773E+06	0.8440111E-09	0.5919676E-14	494
474	UI	0.1458675E+06	0.1425773E+06	- .1164153E-09	- .8165070E-15	495
475	UI	0.1459332E+06	0.1425773E+06	0.0000000E+00	0.0000000E+00	496
476	UI	0.1460350E+06	0.1425773E+06	0.0000000E+00	0.0000000E+00	497
477	UI	0.1461737E+06	0.1425773E+06	0.2910383E-10	0.2041267E-15	498
478	UI	0.1463800E+06	0.1425773E+06	- .1746230E-09	- .1224760E-14	499
479	UI	0.1465648E+06	0.1425773E+06	0.1076842E-08	0.7552690E-14	500
480	UI	0.9445391E+05	0.9293925E+05	0.7421477E-09	0.7985299E-14	501
481	UI	0.9442291E+05	0.9293925E+05	- .1018634E-09	- .1096021E-14	502
482	UI	0.9439731E+05	0.9293925E+05	0.1455192E-10	0.1565745E-15	503
483	UI	0.9437681E+05	0.9293925E+05	0.0000000E+00	0.0000000E+00	504
484	UI	0.9436114E+05	0.9293925E+05	0.1455192E-10	0.1565745E-15	505
485	UI	0.9435010E+05	0.9293925E+05	0.0000000E+00	0.0000000E+00	506
486	UI	0.9434357E+05	0.9293925E+05	0.1455192E-10	0.1565745E-15	507
487	UI	0.9707788E+05	0.9505150E+05	- .1455192E-10	- .1530951E-15	508
488	UI	0.9711110E+05	0.9505150E+05	0.0000000E+00	0.0000000E+00	509
489	UI	0.9716661E+05	0.9505150E+05	0.0000000E+00	0.0000000E+00	510
490	UI	0.9724463E+05	0.9505150E+05	- .1455192E-10	- .1530951E-15	511
491	UI	0.9734552E+05	0.9505150E+05	0.1455192E-10	0.1530951E-15	512
492	UI	0.9746970E+05	0.9505150E+05	- .1018634E-09	- .1071665E-14	513
493	UI	0.9761770E+05	0.9505150E+05	0.7421477E-09	0.7807848E-14	514
494	UI	0.1337310E+06	0.1309599E+06	0.7275958E-09	0.5555869E-14	515
495	UI	0.1337450E+06	0.1309599E+06	- .8731149E-10	- .6667043E-15	516
496	UI	0.1337848E+06	0.1309599E+06	0.0000000E+00	0.0000000E+00	517
497	UI	0.1338508E+06	0.1309599E+06	0.0000000E+00	0.0000000E+00	518
498	UI	0.1339435E+06	0.1309599E+06	0.0000000E+00	0.0000000E+00	519
499	UI	0.1340633E+06	0.1309599E+06	- .8731149E-10	- .6667043E-15	520
500	UI	0.1342108E+06	0.1309599E+06	0.3492460E-09	0.2666817E-14	521

501	UI	0.9444307E+05	0.9293925E+05	0.6111804E-09	0.6576129E-14	522
502	UI	0.9441464E+05	0.9293925E+05	- .5820766E-10	- .6262900E-15	523
503	UI	0.9439104E+05	0.9293925E+05	0.0000000E+00	0.0000000E+00	524
504	UI	0.9437205E+05	0.9293925E+05	- .1455192E-10	- .1565745E-15	525
505	UI	0.9435750E+05	0.9293925E+05	0.1455192E-10	0.1565745E-15	526
506	UI	0.9434723E+05	0.9293925E+05	0.0000000E+00	0.0000000E+00	527
507	UI	0.9434114E+05	0.9293925E+05	0.0000000E+00	0.0000000E+00	528
508	UI	0.9690303E+05	0.9505150E+05	0.135049E-08	0.1194141E-13	529
509	UI	0.9692815E+05	0.9505150E+05	- .2473826E-09	- .2602616E-14	530
510	UI	0.9697028E+05	0.9505150E+05	0.0000000E+00	0.0000000E+00	531
511	UI	0.9702956E+05	0.9505150E+05	0.0000000E+00	0.0000000E+00	532
512	UI	0.9710621E+05	0.9505150E+05	0.0000000E+00	0.0000000E+00	533
513	UI	0.9720053E+05	0.9505150E+05	- .5820766E-10	- .6123802E-15	534
514	UI	0.9731286E+05	0.9505150E+05	0.2473826E-09	0.2602616E-14	535
515	UI	0.9522006E+06	0.3230136E+06	- .6868504E-08	- .2126382E-13	536
516	UI	0.9528532E+06	0.3230136E+06	0.1571607E-08	0.4865451E-14	537
517	UI	0.9539561E+06	0.3230136E+06	0.1105946E-08	0.3423836E-14	538
518	UI	0.9555643E+06	0.3230136E+06	- .1396948E-08	- .4324845E-14	539
519	UI	0.9577523E+06	0.3230136E+06	0.1513399E-08	0.4685249E-14	540
520	UI	0.9606136E+06	0.3230136E+06	- .8731149E-09	- .2703028E-14	541
521	UI	0.9642613E+06	0.3230136E+06	0.4656613E-09	0.1441615E-14	542
522	UI	0.9688260E+06	0.3230136E+06	- .4074536E-09	- .1261413E-14	543
523	UI	0.9744549E+06	0.3230136E+06	- .5372567E-09	- .1663263E-14	544
524	UI	0.9813092E+06	0.3230136E+06	0.4943577E-09	0.1530455E-14	545
525	UI	0.9895602E+06	0.3230136E+06	- .8622883E-09	- .2669511E-14	546
526	UI	0.9993854E+06	0.3230136E+06	- .4881294E-09	- .1511173E-14	547
527	UI	0.4109621E+06	0.3230136E+06	0.3376044E-08	0.1045171E-13	548
528	UI	0.4244617E+06	0.3230136E+06	- .1920853E-08	- .5946662E-14	549
529	UI	0.4400415E+06	0.3230136E+06	0.2095476E-08	0.6487268E-14	550
530	UI	0.4578372E+06	0.3230136E+06	- .4016329E-08	- .1243393E-13	551
531	UI	0.4779544E+06	0.3230136E+06	0.5238689E-08	0.1621817E-13	552
532	UI	0.5004609E+06	0.3230136E+06	- .4947451E-08	- .1531716E-13	553
533	UI	0.5253788E+06	0.3230136E+06	0.3376044E-08	0.1045171E-13	554
534	UI	0.5526792E+06	0.3230136E+06	- .1164153E-08	- .3604038E-14	555
535	UI	0.5822769E+06	0.3230136E+06	0.6984919E-09	0.2162423E-14	556
536	UI	0.6140286E+06	0.3230136E+06	0.2328306E-09	0.7208075E-15	557
537	UI	0.6477327E+06	0.3230136E+06	0.4656613E-09	0.1441615E-14	558
538	UI	0.6831318E+06	0.3230136E+06	- .2328306E-09	- .7208075E-15	559
539	UI	0.7199183E+06	0.3230136E+06	0.2270099E-07	0.7027874E-13	560
540	UI	0.7577418E+06	0.3230136E+06	0.5025649E-06	0.1555863E-11	561
541	UI	0.5370270E+06	0.4961320E+06	- .4493631E-07	- .9057330E-13	562
542	UI	0.5370785E+06	0.4961320E+06	- .4074536E-08	- .8212605E-14	563
543	UI	0.5372001E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	564
544	UI	0.5373867E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	565
545	UI	0.5376334E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	566
546	UI	0.5379354E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	567
547	UI	0.5382878E+06	0.4961320E+06	0.1164153E-09	0.2346459E-15	568
548	UI	0.5386860E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	569
549	UI	0.5391255E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	570
550	UI	0.5396018E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	571
551	UI	0.5401108E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	572
552	UI	0.5406485E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	573
553	UI	0.5412112E+06	0.4961320E+06	0.1164153E-09	0.2346459E-15	574
554	UI	0.5417954E+06	0.4961320E+06	- .1164153E-09	- .2346459E-15	575
555	UI	0.5423981E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	576
556	UI	0.5430163E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	577

557	UI	0.5436475E+06	0.4961320E+06	- .1164153E-09	- .2346459E-15	578
558	UI	0.5442896E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	579
559	UI	0.5449405E+06	0.4961320E+06	- .1164153E-09	- .2346459E-15	580
560	UI	0.5455988E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	581
561	UI	0.5462628E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	582
562	UI	0.5469315E+06	0.4961320E+06	0.1164153E-09	0.2346459E-15	583
563	UI	0.5476040E+06	0.4961320E+06	0.0000000E+00	0.0000000E+00	584
564	UI	0.8314748E+06	0.7642544E+06	- .1350418E-07	- .1766974E-13	585
565	UI	0.8309199E+06	0.7642544E+06	- .3608875E-08	- .4722086E-14	586
566	UI	0.8305489E+06	0.7642544E+06	0.3492460E-09	0.4569761E-15	587
567	UI	0.8303482E+06	0.7642544E+06	- .1164153E-09	- .1523254E-15	588
568	UI	0.8303045E+06	0.7642544E+06	0.1164153E-09	0.1523254E-15	589
569	UI	0.8304046E+06	0.7642544E+06	- .1164153E-09	- .1523254E-15	590
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571	UI	0.8309832E+06	0.7642544E+06	0.5000000E+00	0.0000000E+00	592
572	UI	0.8314368E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	593
573	UI	0.8319640E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	594
574	UI	0.8326134E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	595
575	UI	0.8333145E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	596
576	UI	0.8340775E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	597
577	UI	0.8348936E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	598
578	UI	0.8357947E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	599
579	UI	0.8366535E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	600
580	UI	0.8375838E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	601
581	UI	0.8385400E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	602
582	UI	0.8395173E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	603
583	UI	0.8405118E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	604
584	UI	0.8415200E+06	0.7642544E+06	0.1164153E-09	0.1523254E-15	605
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586	UI	0.8435670E+06	0.7642544E+06	0.0000000E+00	0.0000000E+00	607
587	UI	0.4030767E+06	0.3874052E+06	0.7858034E-08	0.2028375E-13	608
588	UI	0.4012613E+06	0.3874052E+06	- .6402843E-09	- .1652751E-14	609
589	UI	0.3996060E+06	0.3874052E+06	0.1164153E-09	0.3005001E-15	610
590	UI	0.3981052E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	611
591	UI	0.3967521E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	612
592	UI	0.3956291E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	613
593	UI	0.3944578E+06	0.3874052E+06	- .5820766E-10	- .1502501E-15	614
594	UI	0.3934988E+06	0.3874052E+06	0.5820766E-10	0.1502501E-15	615
595	UI	0.3926526E+06	0.3874052E+06	- .8789357E-08	- .2268776E-13	616
596	UI	0.3919091E+06	0.3874052E+06	0.1618173E-07	0.4176952E-13	617
597	UI	0.3912582E+06	0.3874052E+06	- .8731149E-08	- .2253716E-13	618
598	UI	0.3906901E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	619
599	UI	0.3901951E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	620
600	UI	0.3897641E+06	0.3874052E+06	0.5820766E-10	0.1502501E-15	621
601	UI	0.3893884E+06	0.3874052E+06	- .5820766E-10	- .1502501E-15	622
602	UI	0.3890601E+06	0.3874052E+06	0.1164153E-09	0.3005001E-15	623
603	UI	0.3887722E+06	0.3874052E+06	- .5820766E-10	- .1502501E-15	624
604	UI	0.3885183E+06	0.3874052E+06	0.5820766E-10	0.1502501E-15	625
605	UI	0.3882931E+06	0.3874052E+06	- .5820766E-10	- .1502501E-15	626
606	UI	0.3880917E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	627
607	UI	0.3879104E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	628
608	UI	0.3877462E+06	0.3874052E+06	0.0000000E+00	0.0000000E+00	629
609	UI	0.3875967E+06	0.3874052E+06	- .1164153E-09	- .3005001E-15	630
610	UI	0.6478314E+06	0.5911360E+06	0.1045410E-04	0.1768476E-12	631
611	UI	0.6486194E+06	0.5911360E+06	- .2596062E-07	- .4391649E-13	632
612	UI	0.6502537E+06	0.5911360E+06	0.2793968E-08	0.4726438E-14	633

613	UI	0.6528418E+06	0.5911360E+06	- .3376044E-08	- .5711112E-14	634
614	UI	0.6565234E+06	0.5911360E+06	0.3376044E-08	0.5711112E-14	635
615	UI	0.6614720E+06	0.5911360E+06	- .1979060E-08	- .3347894E-14	636
616	UI	0.6678937E+06	0.5911360E+06	0.1047736E-08	0.1772414E-14	637
617	UI	0.6760267E+06	0.5911360E+06	- .6984919E-09	- .1181609E-14	638
618	UI	0.6861381E+06	0.5911360E+06	- .1006993E-05	- .1703487E-11	639
619	UI	0.6985203E+06	0.5911360E+06	0.9296928E-06	0.1572722E-11	640
620	UI	0.7134842E+06	0.5911360E+06	- .1492561E-05	- .2524903E-11	641
621	UI	0.7313514E+06	0.5911360E+06	- .9060604E-06	- .1532744E-11	642
622	UI	0.7524440E+06	0.5911360E+06	0.6170012E-08	0.1043755E-13	643
623	UI	0.7770726E+06	0.5911360E+06	- .1492460E-08	- .5908047E-14	644
624	UI	0.8055227E+06	0.5911360E+06	0.3841706E-08	0.6498852E-14	645
625	UI	0.8380403E+06	0.5911360E+06	- .7134165E-08	- .1240690E-13	646
626	UI	0.8748167E+06	0.5911360E+06	0.9546056E-08	0.1614866E-13	647
627	UI	0.9159738E+06	0.5911360E+06	- .9080395E-08	- .1536092E-13	648
628	UI	0.9615510E+06	0.5911360E+06	0.6286427E-08	0.1063449E-13	649
629	UI	0.1011494E+07	0.5911360E+06	- .2328306E-08	- .3938698E-14	650
630	UI	0.1065645E+07	0.5911360E+06	0.1164153E-08	0.1969349E-14	651
631	UI	0.1123742E+07	0.5911360E+06	0.4656613E-09	0.7877396E-15	652
632	UI	0.1185414E+07	0.5911360E+06	0.1164153E-08	0.1969349E-14	653
633	UI	0.1250190E+07	0.5911360E+06	- .4656613E-09	- .7877396E-15	654
634	UI	0.1317507E+07	0.5911360E+06	0.4144385E-07	0.7010883E-13	655
635	UI	0.1386722E+07	0.5911360E+06	0.9203795E-06	0.1556967E-11	656

1 cases completed. Elapsed time: 0:01:29

Records in plot output file: 107

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