



NS-TMA-2351

Westinghouse
Electric Corporation

Water Reactor
Divisions

PWR Systems Division
Box 355
Pittsburgh Pennsylvania 15230

December 8, 1980

Dr. Denwood T. Ross, Jr., Director
Division of Systems Integration
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Ross:

The attachments to this letter contain the input, model description and a few transient time steps for a Westinghouse Prediction of the LOFT small break test L3-6 using the NOTRUMP computer code. These attachments should satisfy the blind post tests analysis input requirement as put forth in a letter from P. S. Check of the Office of Nuclear Reactor Regulation to Cordell Reed of the Westinghouse Owners Group. However, as noted in a letter from the Westinghouse Owners Group (letter OG-45) to Dr. Brian Sheron of the NRC the final submittal of the analysis on February 15, 1981, may incorporate model, input and/or code modifications based upon differences in facility initial conditions, advances in code development and greater knowledge of the LOFT facility. All modifications and differences will be documented at the time of the final submittal. The code version used to generate this transient is designated NOTRUMPLTCE, ID = PGPGM, created on 12/03/80. The output format is still tentative due to the developmental nature of NOTRUMP and much of the output is superfluous. Westinghouse has included the key output parameters as part of this transmittal.

Sincerely yours,

T. M. Anderson, Manager
Nuclear Safety Department

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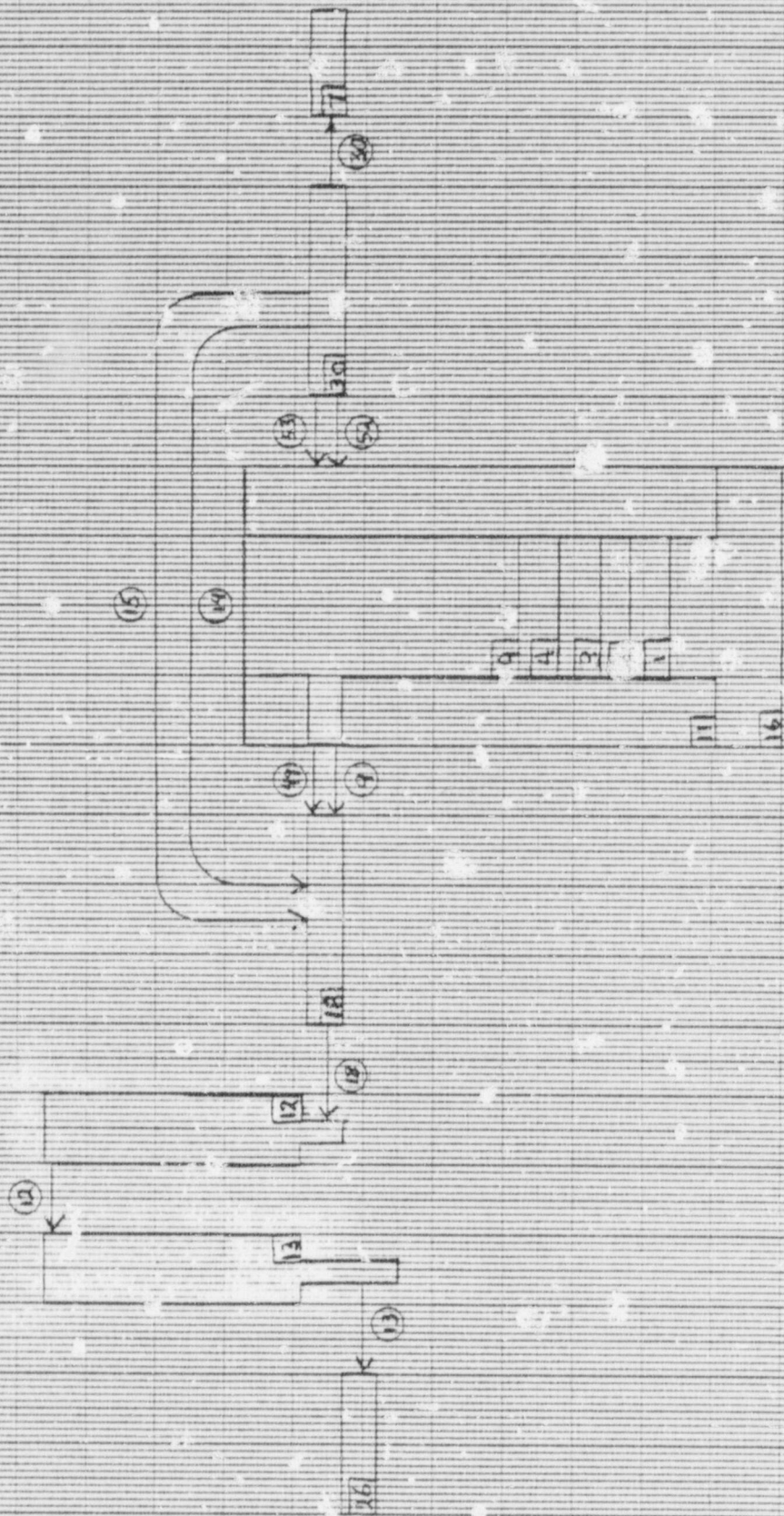
450



70

10 ft

LOFT-NOTRUMP Broken Loop Model



LOFT L3-5 & L3-6 NOTRUMP STEADY STATE

SRMISC

:RSTR=0,

TFRSTRT=10.,25.,50.,75.,100.,125.,150.,175.,200.,

MFRSTRT=9,

\$

\$FMODES

ITYPEFN(1)= 1, 1, 1, 1, 0, 0, 1, 0, 1, 0,

1, 1, 1, 0, 0, 1, 0, 1, 0, 1,

1, 1, 1, 0, 0, 1, 1, 0, 0, 1,

1, 1, 1, 1, 1, 1, 1, 0, 1, 1,

1, 1, -1, 0, 0, 1, 0, 0, -1, -1,

-1,

ITYPEFN(47)=1,

VFN(1)=80*1.0,

VFN(1)= 2.678, 2.678, 2.678, 2.678, 0.000,

0.000, 0.5341, 0.0000, 35.7313, 0.0,

33.0064, 12.241, 13.618, 0.000, 0.000,

25.8736, 0.0, 4.739, 0.0000, 3.125,

3.125, 3.125, 3.125, 0.00, 0.0,

1.0944, 6.417, 0.0, 0.0, 5.157,

12.77, 13.01, 3.125, 3.125, 3.125,

3.125, 15.911, 0.0, 5.727, 3.23,

9.332, 34.0, 96.6, 0.0, 0.0,

235.0,

VFN(20)=4*3.52775,

VFN(33)=4*3.52775,

VFN(42)=34.468,

VFN(47)=0.013019022,

EBOTFN(1)=20*0.0,

EBOTFN(1)= 4.1092, 5.4842, 6.8592, 8.2342, 0.0000,

0.0, 15.8983, 0.0, 9.6092, 0.0,

2.4017, 15.8983, 12.88, 0.0, 0.0,

0.0, 0.0, 15.8983, 0.0, 19.325,

21.2027, 23.0804, 24.9581, 0.0, 0.0,

11.94, 12.952, 0.0, 0.0, 15.8983,

15.8983, 16.8317, 24.9581, 23.0804, 21.2027,

19.325, 12.02, 0.0, 12.02, 12.952,

15.8983, 16.8317, 15.8983, 0.0, 0.0,

19.325,

EBOTFN(47)=16.30925,

ETOPFN(1)=80*0.000001,

ETOPFN(1)= 5.4842, 6.8592, 8.2342, 9.6092, 0.0000,

0.00000, 16.8317, 0.00000, 19.365, 0.0,

19.365, 26.660, 26.66, 0.000, 0.000,

4.1092, 0.0, 16.8317, 0.0, 21.2027,

23.0804, 24.9581, 26.8358, 0.0, 0.0,

12.88, 16.8317, 0.0, 0.0, 16.8317,

16.8317, 19.325, 26.8358, 24.9581, 23.0804,

21.2027, 19.325, 0.0, 13.66, 16.8317,

16.8317, 28.92, 16.8317, 0.0, 0.0,

36.95,

ETOPFN(47)=16.42075,

EXIXFN(1)=80*0.0,

EXIXFN(42)=24.472,

EXIXFN(46)=29.6268,

SHFN(1)=80*1.0,

SHFN(1)= 541.826, 549.899, 559.518, 570.998, 0.0,

0.00000, 538.374, 0.00000, 577.73, 0.0,

538.374, 577.73, 577.73, 0.0000, 0.0000,

538.374, 0.0, 577.73, 0.0000, 574.277,

567.868, 562.061, 556.79, 0.0000, 0.0,

577.73, 538.374, 0.0, 0.0, 538.374,

577.73, 577.73, 552.001, 547.643, 543.676,

540.066, 538.374, 0.0, 538.374, 538.374,

538.374, 691.72, 59.62, 0.0, 0.0,

533.595,

SHFN(42)=750,

SHFN(49)=53.1,495.,68.0,

SHFN(10)=547.26,

SHFN(12)=2*547.26,

SHFN(25)=547.26,

SHFN(47)=538.374,

VFN(1)=20*1.0,

P N(1)=42*2100.0,

PTN(5)=2*0.0,

PTN(10)=0.0,

PTN(12)=0.0,

PTN(15)=0.0,

[illegible]

AFL(1)= 1.813944, 1.813944, 1.813944, 1.813944, 0.000000,
 0.000000, 0.000001, 0.000000, 0.683100, 0.101181,
 1.840500, 0.329000, 0.000100, 0.000000, 0.000000,
 1.475000,
 AFL(7)=0.00545154,
 AFL(10)=0.006403,
 AFL(14)=0.3712, 0.0000000003712,
 AFL(18)= 0.090100, 0.000000, 1.626262, 1.626262, 1.626262,
 1.626262,
 AFL(27)= 0.3941, 0.0001, 0.3941, 0.0901,
 0.683200, 1.626262, 1.626262, 1.626262, 1.626262,
 1.626262, 0.683200,
 AFL(39)= 0.394100, 0.394100, 0.683200, 0.015200, 0.064500,
 AFL(47)= 0.683200, 0.000100, 0.000100, 0.000100, 0.000100,
 AFL(28)=0.0000000003941,
 AFL(48)=2*0.0000000009323, 0.0000000003941, 0.0000000009323,
 0.683200, 0.000100,
 AFL(52)=0.0000000009323,
 AFL(70)= 0.110447,
 AFL(72)= 0.164988, 0.0645, 0.0645,
 AFL(54)=0.0097643, 0.00000000097643,
 DEFL(1)= 0.031240, 0.031240, 0.031240, 0.031240, 0.000000,
 0.000000, 0.000100, 0.000000, 0.932300, 0.046667,
 0.152100, 0.910000, 0.338600, 0.000000, 0.000000,
 0.031240,
 DEFL(7)=0.083333,
 DEFL(10)=0.001747,
 DEFL(14)=0.6875, 0.000006875,
 DEFL(18)=0.091000, 0.000000, 0.033000, 0.033000, 0.033000,
 0.033000, 0.000000,
 DEFL(27)= .708, 0.000007, 0.708, 0.9323,
 0.932300, 0.033000, 0.033000, 0.033000, 0.033000,
 0.033000, 0.932300,
 DEFL(39)=0.708000, 0.708000, 0.932300, 0.167000, 0.286600,
 DEFL(47)=0.9323, 2*0.000009, 0.000007, 0.000009, 0.9323, 0.000009,
 DEFL(70)=0.375000,
 DEFL(72)=0.458333, 0.286600, 0.286600,
 DEFL(54)=0.1115, 0.000001115,
 ZFL(1)= 1.375, 1.375, 1.375, 1.375, 0.000,
 0.00, 2.08, 0.000000, 6.7, 0.1,

7.199, 15.65, 18.48, 0.000, 6.72,
 2.750, 0.0, 5.67, 0.000, 1.8665,
 1.8665, 1.8665, 1.8665, 0.00, 0.0,
 0.00, 9.2, 9.2, 4.96, 9.56,
 8.836, 2.935, 1.8665, 1.8665, 1.8665,
 0.901, 4.989, 0.0, 4.96, 9.2,
 0.515, 52.53, 55.80, 0.0, 0.0,
 0.0, 6.5225, 6.5225, 6.7, 9.2,
 0.515, 3.97, 3.97, 0.0, 0.0,
 ZFL(70)= 65.8, 0.0, 70.3, 55.8, 55.8,
 ZFL(20)=4*2.10625,
 ZFL(33)=4*2.10625,
 ZFL(10)=0.003179,
 ZFL(7)=0.820604,
 ZFL(14)=2*5871.25,
 ZFL(54)=1.33333, 1.33333,
 SLOAFI(1)=1.31636, 1.31636, 1.31636, 1.31636, 0.0000,
 0.0000, 8.21485, 0.000000, 9.80823, 7.69483,
 3.91144, 36.7464, 103.816, 0.00000, 0.000000,
 1.8644, 0.0, 62.93, 4.406, 1.14777,
 1.14777, 1.14777, 1.14777, 0.000000, 1000000.,
 0.00000, 23.3503, 92000.0, 12.5356, 14.0007,
 12.9503, 1.8048, 1.8048, 1.8048, 1.8048,
 0.55405, 7.312, 1000000., 12.5356, 23.3503,
 0.75392, 3455.92, 856.116, 100000., 1000000.,
 100000., 9.54838, 65025.0, 67000.0, 92000.0,
 51500.0, 3.31174, 39700.0, 1000000., 1000000.,
 SLOAFI(70)=595.76, 1000000.0, 426.0916, 865.1163, 865.1163,
 SLOAFI(20)=4*1.29515,
 SLOAFI(33)=4*1.29515,
 SLOAFI(10)=0.49643,
 SLOAFI(7)=150.455,
 SLOAFI(14)=15316.954, 15316954000.,
 SLOAFI(54)=136.552, 136551520000.,
 EUFL(1)= 5.4042, 6.3592, 8.2342, 9.6092, 0.0000,
 0.0000, 16.365, 0.0000, 16.365, 16.365,
 2.4017, 26.205, 12.350, 0.0000, 0.0000,
 4.1092, 0.0, 17.935, 0.0000, 0.0000,
 24.23, 26.47, 23.6935, 0.000, 0.0,
 0.000, 16.365, 16.365, 16.365, 16.365,

TMN(33)= 533.104, 531.329, 529.7135, 528.2425,
 TMN(53)=1640.0,1645.0,1650.0,1615.0,
 DIMN(1)=80*1.,
 DIMN(1)= 2.333333, 2.333333, 2.333333, 2.333333, 1.000000,
 1.000000, 0.932330, 1.000000, 2.333333, 1.000000,
 3.083333, 1.203200, 1.203200, 1.000000, 1.000000,
 3.083333, 1.000000, 0.932330, 1.000000, 0.033500,
 0.033500, 0.033500, 0.033500, 1.000000, 1.000000,
 1.000000, 0.932333, 1.000000, 1.000000, 0.932330,
 0.932330, 0.932330, 0.033500, 0.033500, 0.033500,
 0.033500, 0.932330, 1.000000, 0.932330, 0.70833,
 0.932330, 2.708330,
 DIMN(1)=80*1.000001,
 DIMN(1)=80*1.000002,
 DIMN(1)= 2.542000, 2.542000, 2.542000, 2.542000, 1.000001,
 1.000001, 1.049500, 1.000001, 2.542000, 1.000001,
 3.925000, 1.351533, 1.351533, 1.000001, 1.000001,
 3.925000, 1.000001, 1.049500, 1.000001, 0.037580,
 0.037580, 0.037580, 0.037580, 1.000001, 1.000001,
 1.000001, 0.302080, 1.000001, 1.000001, 1.049500,
 1.049500, 1.049500, 0.037580, 0.037580, 0.037580,
 0.037580, 1.049500, 1.000001, 1.049500, 0.302080,
 1.049500, 2.302080,
 DIMN(1)= 2.75, 2.75, 2.75, 2.75, 1.000002,
 1.000002, 1.166667, 1.000002, 2.750000, 1.000002,
 4.766667, 1.500000, 1.500000, 1.000002, 1.000002,

4.766667, 1.000002, 1.166667, 1.000002, 0.041667,
 0.041667, 0.041667, 0.041667, 1.000002, 1.000002,
 1.000002, 0.395830, 1.000002, 1.000002, 1.166667,
 1.166667, 1.166667, 0.041667, 0.041667, 0.041667,
 0.041667, 1.166667, 1.000002, 1.166667, 0.395830,
 1.166667, 2.975000,

DIMN(53)=4*0.000000001,
 DIMN(53)=4*0.01758333,
 DIMN(53)=4*0.03516667,
 DIMN(26)=0.9323,
 DIMN(26)=1.0495,
 DIMN(26)=1.16667,
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3FLINKS

IYPEFL(1)=1, 1, 1, 1, 0, 0, 0, 0, 2, 1,
 1, 1, 1, 0, 0, 1, 0, 1, 0, 1,
 1, 1, 1, 0, 0, 0, 2, 3, 1, 1,
 1, 1, 1, 1, 1, 1, 1, 0, 1, 2,
 2, 1, -1, 0, 0, 0, 2, 3, 3, 3,
 3, 2, 3, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, -1,
 0, -1, -1, -1, 0, 0, 0, 0, 0, 0,

IYPEFL(74)=0,
 IYPEFL(7)=1,
 IYPEFL(14)=2,3,
 IYPEFL(54)=2,3,
 KTFL(1)=80*1,
 KTFL(11)=11,
 KTFL(12)=10,11,
 KTFL(23)=10,
 KTFL(37)=11,
 KTFL(72)=5,

IUFL(1)= 1, 2, 3, 4, 0, 0, 7, 0, 9, 11,
 11, 12, 13, 0, 0, 16, 0, 18, 0, 20,
 21, 22, 23, 0, 0, 0, 27, 27, 39, 30,
 31, 32, 33, 34, 35, 36, 37, 0, 39, 40,
 41, 42, 43, 0, 0, 0, 9, 9, 9, 40,
 41, 11, 11, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 50,
 0, 46, 51, 51, 0, 0, 0, 0, 0, 0,

IUFL(7)=26,
 IUFL(14)=30,30,
 IUFL(54)=41,41,
 IDFL(1)= 2, 3, 4, 9, 1, 7, 49, 49, 18, 9,

16, 13, 26, 15, 0, 1, 0, 12, 0, 21,
 22, 23, 33, 0, 0, 0, 41, 41, 27, 7,
 32, 20, 34, 35, 36, 37, 39, 0, 40, 41,

11, 31, 41, 0, 0, 0, 31, 31, 18, 41,
 11, 30, 30, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 46,

0.0000	19.75	0.0000	0.0000	0.0000
2.4017	26.205	12.380	0.0000	0.0000
4.1092	0.0	17.935	0.0000	0.0000
24.23	26.47	28.6935	0.000	0.0
0.000	16.365	16.365	13.306	16.365
16.365	19.75	26.47	24.23	21.99
19.75	12.374	0.0	13.306	16.365
16.365	16.8317	16.365	0.0	0.0
39.25	16.365	16.365	16.365	16.365
16.365	16.365	16.365	0.0	0.0

EUFL(70)=21.75, 0.0, 39.25, 16.365, 16.365
 EUFL(20)=21.2027, 23.0804, 24.9581, 26.11631735,

EUFL(33)=24.9581, 23.0804, 21.2027, 19.325,

EUFL(72)=36.95,

EUFL(7)=12.41,

EUFL(14)=2*16.365,

EUFL(54)=16.365, 16.365,

EDFL(1)=	5.4842	6.8592	8.2342	9.6092	0.0000
	0.0000	16.365	0.0000	16.365	16.365
	2.4017	26.205	12.380	0.0000	0.0000
	4.1092	0.0	17.935	0.0000	21.99
	24.23	26.47	28.6935	0.0000	0.0
	0.0000	16.365	16.365	13.306	16.365
	16.365	19.75	26.47	24.23	21.99
	19.75	12.374	0.0	13.306	16.365
	16.365	16.8317	16.365	0.0	0.0
	39.25	16.365	16.365	16.365	16.365
	16.365	16.365	16.365	0.0	0.0

EDFL(70)= 21.75, 0.0, 39.25, 16.365, 16.365
 EDFL(72)=36.95,
 EDFL(20)=21.2027, 23.0804, 24.9581, 26.11631735,
 EDFL(33)=24.9581, 23.0804, 21.2027, 19.325,
 EDFL(7)=12.85,
 EDFL(14)=16.365, 16.365,
 EDFL(54)=16.365, 16.365,

EDFL(70)= 21.75, 0.0, 39.25, 16.365, 16.365,

EDFL(72)=36.95,

EDFL(20)=21.2027, 23.0804, 24.9581, 26.11631735,

EDFL(33)=24.9581, 23.0804, 21.2027, 19.325,

EDFL(7)=12.85,

EDFL(14)=16.365, 16.365,

EDFL(54)=16.365, 16.365,

IDRTFL(1)= 9, 9, 9, 9, 0, 0, 0, 0, 0, 0,
 -13, 13, -13, 0, 0, 9, 0, 13, 0, 12,
 12, 12, 12, 0, 0, 0, 0, 0, 0, 0,
 0, 12, -12, -12, -12, -13, 0, 0, 0, 0,
 0, -12, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,

DOFMFL(1)=0.03124, 0.03124, 0.03124, 0.03124, 0.00000,

DOFMFL(16)=0.03124,

DOFMFL(20)= 0.033, 0.033, 0.033, 0.033,

DOFMFL(32)= 0.033, 0.033, 0.033, 0.033, 0.033,

DOFMFL(42)= 0.167,

ADFMFL(1)=	1.8139	1.813944	1.813944	1.813944	0.000000
	0.0000	0.007227	0.000000	0.6832	0.101181
	1.8405	0.329	0.0901	0.0000	0.0000
	1.475	0.0	0.0901	0.000	1.626262
	1.62626	1.626262	1.626262	0.0000	0.0
	0.000000	0.39410	0.000001	0.39410	0.0901
	0.6832	1.626262	1.626262	1.626262	1.626262
	1.62626	0.68320	0.0	0.39410	0.39410
	0.6832	0.01520	0.0645	0.0	0.0
	0.0	0.6832	0.000001	0.000001	0.000001
	0.000001	0.6832	0.000001	0.0	0.0
	0.0	0.0	0.0	0.0	0.0

0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.110447
0.0	0.164988	0.0645	0.0645	

ADFMFL(28)=0.0000000001,

ADFMFL(48)=4*0.0000000001, 0.6832, 0.0000000001,

ADFMFL(10)=0.006403,

ADFMFL(7)=0.005454154,

ADFMFL(14)=0.3712, 0.0000000003712,

ADFMFL(54)=0.0097643, 0.000000000097643,

FLDAFL(1)=	0.394	0.32	0.374	0.925	0.000
	0.000	0.446	0.000	0.000001	0.000001
	8.168	160.924	173.34	0.0000	0.0000
	0.00001	0.0	0.300	0.0	1.3875
	1.3875	1.3925	1.3925	0.000	0.0
	0.244	0.0	0.0	5.482	0.058
	2.125	0.0	1.3965	1.396	1.866
	1.866	3.283	0.0	5.482	0.0

FLDAFL(7)=0.45318,
 FLDAFL(14)=792.344,869213.72,
 FLDAFL(54)=1,1,
 FLOPFL(1)=1.10967,1.070245,1.05335,2.60520,0.00000,

0.00000	0.13259	0.00000	0.779	0.024
1.7417	172.682	70.741	0.0000	0.0000
12.1671	0.0	0.23676	0.00000	0.34475
0.34475	0.34599	0.34599	0.00000	0.0
0.00000	0.666	52379.8	7.34711	0.77986
0.6829	2.857	0.0	0.0	0.0
0.0	9.93611	0.0	7.34711	0.666
2.6821	0.0	0.0	0.0	0.0
0.0	1.502	53156.6	55138.5	47140.2
95197.0	0.2131	15058.95	0.0	0.0

FLOPFL(10)=0.0,
 FLOPFL(7)=0.0,
 FLOPFL(14)=2*0.0,
 FLOPFL(54)=0.0,0.0,

WFL(1)= 1002.773, 1002.773, 1002.773, 1002.773, 0.000000,
 0.0, 0.0, 0.0, 0.0, 52.7775,
 1002.773, 0.0, 0.0, 0.0, 0.0,
 1002.773, 0.0, 0.0, 0.0, 1055.55,
 1055.55, 1055.55, 1055.55, 0.0, 0.0,
 0.0, 527.775, 0.000001, 527.775, 0.0,
 1055.55, 1055.55, 1055.55, 1055.55, 1055.55,
 1055.55, 1055.55, 0.0, 527.775, 527.775,

1055.55	0.0	0.0	0.0	0.0
0.0	1055.55	0.000001	0.000001	0.000001
0.000001	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	56.3
0.0	56.3	0.0	0.0	0.0

WFL(1)=4*1023.8835,
 WFL(11)= 1023.8835,
 WFL(16)= 1023.8835,
 WFL(10)=31.833,
 WFL(70)=58.2,0.0,58.2,
 WFL(7)=39.5,0.0,7.94,
 WFL(11)=1095.05,39.5,39.5,31.564,0.000000001,1095.05,
 WFL(18)=39.5,
 WFL(27)=547.5,0.0000001,547.5,31.564,
 WFL(39)=547.5,547.5,1095.05,
 WFL(54)=0.0,0.0,
 DCONTFL(7)=0.135607,0.0,0.9323,
 DCONTFL(12)=0.91,
 DCONTFL(18)=0.0901,
 DCONTFL(23)=1.4389653,
 DCONTFL(27)=2*0.9323,0.708,0.0901,0.9323,
 DCONTFL(37)=0.9323,
 DCONTFL(39)=0.708,0.708,0.9323,
 DCONTFL(47)=3*0.9323,0.708,0.9323,2*0.9323,
 DCONTFL(14)=0.6875,0.6875,
 DCONTFL(54)=0.1115,0.1115,

S

SHLINKS

ITYPEHL(1)= 1, 1, 1, 1, 0, 0, 1, 0, 1, 0,
 1, 1, 1, 0, 0, 1, 0, 0, 0, 1,
 1, 1, 1, 0, 0, 1, 1, 0, 0, 1,
 1, 1, 0, 0, 1, 1, 1, 1, 1, 1,
 1, 1, 1, 1, 1, 1, -1, -1, -1, -1,

LTHL(1)=80*1,

IJUH(1)=80*0,

-1	-2	-3	-4	0	0	-7	0	-4	0
-11	-12	-13	0	-15	0	0	-18	0	20
21	22	23	0	0	-26	-27	0	0	30
-31	-32	33	34	35	36	-37	0	-39	-40
-41	-42	0	0	-20	-21	-22	-23	-33	-34
-35	-36	-53	-54	-55	-56	80	80	80	80

IJUH(15)=0,-16,

IJUH(1)=80*0,

IJUH(1)= 1, 2, 3, 4, 0, 0, 7, 0, 9, 0,

11	12	13	0	0	16	0	18	0	-20
-21	-22	-23	0	0	26	27	0	0	30

```

AFLHL(1)= 1.81394, 1.81394, 1.81394, 1.81394, 0.000
0.00000, 0.7030, 0.000, 0.6832, 0.01101,
1.8405, 0.329, 0.329, 0.00000, 0.00000,
1.475, 0.000001, 0.6832, 0.000, 1.626262,
1.62626, 1.626262, 1.626262, 0.0000, 0.000001,
0.6832, 0.3941, 0.000001, 0.000001, 0.6832,
0.6832, 1.626262, 1.626262, 1.626262, 1.626262,
1.62626, 0.6832, 0.000001, 0.3941, 0.3941,
0.6832, 0.5476, 0.0645, 0.000001, 12.0513,
12.0513, 12.0513, 12.0513, 12.0513, 12.0513,
12.0513, 12.0513, 1.81394, 1.81394, 1.81394,
1.81394, 1.81394, 1.81394, 1.81394, 1.81394,
DEFLHL(1)= 1.51973, 1.519732, 1.519732, 1.519732, 0.000000,
0.0000, 0.94945, 0.00000, 0.9323, 0.04667,
0.1521, 0.91, 0.91, 0.00, 0.00,
3.08333, 0.000001, 0.3386, 0.0000, 1.43897,
1.43897, 1.43897, 1.43897, 0.0000, 0.000001,
0.9323, 0.708, 0.000001, 0.000001, 0.9323,
0.9323, 1.43897, 1.43897, 1.43897, 1.43897,
1.43897, 0.9323, 0.000001, 0.9323, 0.708,
0.9323, 0.835, 0.236573, 0.000001, 3.917166,
3.91716, 3.917166, 3.917166, 3.917166, 3.917166,
3.91716, 3.917166, 1.51973, 1.51973, 1.51973,
1.51973, 1.51973, 1.51973, 1.51973, 1.51973,

```

DEFLHL(20)=4*0.033,

DEFLHL(33)=4*0.033,

LTHL(45)=12+2,

AHL(1)=80=0.0,

```

AHL(1)= 10.0793, 10.0793, 10.0793, 10.0793, 0.00000,
0.000000, 6.09213, 0.000000, 70.1434, 0.000001,
308.138, 31.83778, 29.20808, 0.000000, 0.000000,
36.6146, 0.000001, 6.031424, 0.000000, 509.15,
509.12, 509.12, 509.12, 0.000000, 1.0,
4.7435, 20.4631, 0.000001, 0.000001, 24.0613,
25.8798, 3.79461, 509.12, 509.12, 509.12,
509.12, 20.4249, 0.0, 1.0323, 20.4631,
1.50839, 46.998, 0.0, 0.0, 509.12,
509.12, 509.12, 509.12, 509.12, 509.12,
509.12, 509.12, 197.47, 197.47, 197.47,
197.47, 197.47, 197.47, 197.47, 197.47,

```

AHL(20)=4*362.458111,

AHL(33)=4*362.458111,

AHL(45)=8*45 .25,

\$

\$CONEGNS

\$

\$PUMPS

ATYPER(1)= 1, 1, 0, 0,

KFLP(1)= 29, 39,

NPUMPSP(1)= 1, 1,

AINP(1)= 0.3941, 0.3941,

AOUTP(1)= 0.3941, 0.3941,

P1P(1)= 0.00001, 0.00001,

P2P(1)= 0.00001, 0.00001,

ENP(1)= 4475.0, 4475.0,

IFLOCP(1)= 4, 4,

THCHACC= 0.1979,

EPSP= 0.005

ENR(1)= 4475., 4475.,

QR(1)= 5000.0, 5000.0,

RHOR(1)= 38.31, 38.31,

HEDR(1)= 315.0, 315.0,

TORXR(1)= 369.0, 369.0,

PSHR(1)= 110.0, 110.0,

NHVPF(1)= 21,

PMCMIP(1)= 34.0, 34.0,

VPSH(1,1)= -1.0, -0.9, -0.8, -0.7, -0.6, -0.5, -0.4, -0.3, -0.2, -0.1,

0.0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9,

1.0,

HVPF(1,1)= -1.00, -0.99, -0.98, -0.96, -0.93, -0.91, -0.87, -0.82, -0.78,

-0.73, -0.67, -0.59, -0.51, -0.40, -0.28, -0.14, 0.00, 0.28,

0.42, 0.72, 1.00,

NHAPS(1)= 21,

APSH(1,1)= 1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0,

-0.1, -0.2, -0.3, -0.4, -0.5, -0.6, -0.7, -0.8, -0.9, -1.0,

HAPS(1,1)= 1.00, 1.07, 1.11, 1.17, 1.22, 1.27, 1.31, 1.33, 1.35,

1.33, 1.40, 1.43, 1.46, 1.54, 1.61, 1.71, 1.81, 1.92,

2.03, 2.25, 2.44,

NHVPF(1)= 21,

1.00, 0.75, 0.71, 0.67, 0.61, 0.55, 0.50, 0.45, 0.40,
 0.35, 0.39, 1.00,
 BAPS(1,1)= 0.98, 0.95, 0.91, 0.87, 0.83, 0.78, 0.73, 0.68, 0.63,
 0.61, 0.60, 0.62, 0.66, 0.73, 0.80, 0.93, 1.04, 1.20,
 1.40, 1.68, 2.00,

NBVMF(1)= 21,
 VMFB(1,1)= -1.0, -0.9, -0.8, -0.7, -0.6, -0.5, -0.4, -0.3, -0.2, -0.1, 0.0,

0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0,
 BVNF(1,1)= 2.00, 1.90, 1.81, 1.73, 1.64, 1.58, 1.52, 1.45, 1.38,
 1.35, 1.25, 1.17, 1.08, 1.01, 0.94, 0.84, 0.73, 0.63,
 0.53, 0.43, 0.33,

NBANS(1)= 14,
 ANSB(1,1)= 1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0,
 -0.1, -0.2, -0.3,
 BANS(1,1)= 0.33, 0.28, 0.21, 0.13, 0.06, -0.03, -0.27, -0.31, -0.36,
 -0.42, -0.48, -0.52, -0.68, -0.89,

NBANS(1)= 21,
 ANSH(1,1)= 1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0,
 -0.1, -0.2, -0.3, -0.4, -0.5, -0.6, -0.7, -0.8, -0.9, -1.0,
 HANS(1,1)= 1.00, 0.82, 0.61, 0.58, 0.47, 0.37, 0.33, 0.30, 0.28,
 0.25, 0.23, 0.20, 0.12, 0.04, -0.05, -0.18, -0.30, -0.45,
 -0.60, -0.80, -1.00,

NBVPF(1)= 17,
 VPFB(1,1)= -1.0, -0.5, -0.4, -0.3, -0.2, -0.1, 0.0, 0.1, 0.2, 0.3, 0.4,
 0.5, 0.6, 0.7, 0.8, 0.9, 1.0,
 BVPF(1,1)= -1.00, -0.94, -0.92, -0.91, -0.88, -0.82, -0.68, -0.57, -0.48,
 -0.37, -0.27, 0.11, 0.30, 0.48, 0.63, 0.81, 1.00,

NBAPS(1)= 21,
 APSB(1,1)= 1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0,
 -0.1, -0.2, -0.3, -0.4, -0.5, -0.6, -0.7, -0.8, -0.9, -1.0,

NSVPF(1)= 11,
 VPFS(1,1)= -1.0, -0.8, -0.6, -0.4, -0.2, 0.0, 0.2, 0.4, 0.6, 0.8, 1.0,
 SVPF(1,1)= 1.0, 1.32, 1.62, 1.50, 0.85, 0.00, 0.85, 1.50, 1.62,
 1.32, 1.00,

NSAPS(1)= 11,
 APSS(1,1)= 1.0, 0.8, 0.6, 0.4, 0.2, 0.0, -0.2, -0.4, -0.6, -0.8, -1.0,
 SAPS(1,1)= 1.00, 0.56, 0.48, 0.41, 0.41, 0.41, 0.41, 0.41, 0.41,
 0.41, 0.41,

NSVMF(1)= 11,
 VMFS(1,1)= -1.0, -0.8, -0.6, -0.4, -0.2, 0.0, 0.2, 0.4, 0.6, 0.8, 1.0,
 SVMF(1,1)= 0.42, 0.25, 0.18, 0.11, 0.03, 0.0, 0.03, 0.11, 0.19,
 0.25, 0.42,

NSAMS(1)= 11,
 AMSS(1,1)= 1.0, 0.8, 0.6, 0.4, 0.2, 0.0, -0.2, -0.4, -0.6, -0.8, -1.0,
 SAMS(1,1)= 0.61, 0.41, 0.41, 0.41, 0.41, 0.41, 0.41, 0.41, 0.48,
 0.56, 1.00,

\$
 3MISC
 IEDIT=5,
 NSTEPS=999999,
 TIME=0.0,
 TIMEMAX=300.,
 DELTMIN=0.01,
 DELTMAX=1.0,

IINVERT=2,
 TIPRINT=0.0,
 TFRINT=0., 1., 5., 10., 15., 20., 25., 30., 35., 40., 45., 50., 55., 60.,
 65., 70., 75., 80., 85., 90., 95., 100., 110., 120., 130., 140.,
 150., 160., 170., 180., 200., 225., 250., 275., 300., 325., 350.,
 375., 400., 425., 450., 475., 500., 525., 550., 575., 600,

NFPRINT=47,
 NSPRIN=1000,
 ISTACK=1,
 TFRAC=0.95,

\$
 \$TRACES
 ITRACE=1,
 NTRACE=100,
 TITRACE=1.0,

\$
 PFM 9
 PFM 31
 PFM 32
 PFM 37
 PFM 39
 PFM 41

PFM	46
PFM	43
PFM	40
PFM	18
PFM	36
EMIXSPM	9
EMIXSPM	23
EMIXSPM	33
EMIXFM	11
EMIXFM	42
EMIXFM	12
EMIXFM	13
EMIXFM	46
TFM	9
TFM	31
TFM	41
TFM	11
TFM	16
TFM	1
TFM	2
TFM	3

TFM	4
TFM	42
TFM	30
TMH	1
TMH	2
TMH	3
TMH	4
TMH	31
TMH	11
TMH	16
VFMFM	1
VFMFM	2
VFMFM	3
VFMFM	4
VFMFM	9
VFMFM	31
VFMFM	42
VFMFM	12
VFMFM	13
TMFM	1
TMFM	2
TMFM	3
TMFM	4
TMFM	9
TMFM	16
TMFM	11
TMFM	37
TMFM	39
TMFM	18
TMFM	30
TMFM	31
TMFM	41
WFL	47
WFL	48
WFL	27
WFL	28
WFL	40
WFL	50
WFL	41
WFL	51
WFL	52
WFL	53
WFL	9
WFL	49
WFL	4
WFL	4
WFL	11

WFL	11
WFL	16
WFL	16
WFL	31
WFL	31
WFL	37
WFL	37

TFM	4
TFM	42
TFM	30
TFM	1
TFM	2
TFM	3
TFM	4
TFM	31
TFM	11
TFM	16
VFMMH	1
VFMMH	2
VFMMH	3
VFMMH	4
VFMMH	9
VFMMH	31
VFMMH	42
VFMMH	12
VFMMH	13
TMFM	1
TMFM	2
TMFM	3
TMFM	4
TMFM	9
TMFM	16
TMFM	11
TMFM	37
TMFM	39
TMFM	18
TMFM	30
TMFM	31
TMFM	41
WFL	47
WFL	48
WFL	27
WFL	28
WFL	40
WFL	50
WFL	41
WFL	51
WFL	52
WFL	53
WFL	9
WFL	69
WFFL	4
WGFL	4
WFFL	11

WGFL	11
WFFL	16
WGFL	16
WFFL	31
WGFL	31
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WGFL	23
WFFL	12
WGFL	12
WFFL	42
WGFL	42
WFFL	73
WGFL	73
WFFL	7
WGFL	7
WFLI	7
HWFLI	7

SUSINPUT

POLO=600.,600.,1.0,

SGTRIP=100000.,

SISIG=100000.,

RCPYRIP=100000.,

PSETSG=2066.7,

PSETSI=1910.7,

PSETDMP=2066.7,

RSIMLT=1.,

TIMESS=0.,5.,10.,11.,60.,313.,1500.,1.E+7,1.E+9,

LOFT L3-6 FOR NRC

\$RMISC

IRSTRT=1

JRSTRT=3943,

TFRSTRT=201.,210.,225.,250.,275.,300.,325.,350.,375.,400.,
425.,475.,500.,525.,550.,575.,600.,650.,700.,750.,
800.,850.,900.,950.,1000.,1050.,1100.,1150.,1200.,
1300.,1400.,1500.,1600.,1700.,1800.,1900.,2000.,

NFRSTRT=37,

\$

\$FMODES

IBRTFN(20)=4*1,

IBRTFN(33)=4*1,

IDRTFN(7)=4,

IDRTFN(18)=4,

IDRTFN(26)=4,

IDRTFN(30)=2*4,

IDRTFN(41)=4,

CDFMFN(7)=1.0,

CDFMFN(18)=1.0,

CDFMFN(26)=1.0,

CDFMFN(30)=2*1.0,

CDFMFN(41)=1.0,

EDFMFN(7)=2.,

EDFMFN(18)=2.,

EDFMFN(26)=2.,

EDFMFN(30)=2*2.,

EDFMFN(41)=2.,

DDFMFN(7)=100.,

DDFMFN(18)=100.,

DDFMFN(26)=100.,

DDFMFN(30)=100.,

DDFMFN(31)=100.,

DDFMFN(41)=100.,

\$

\$MNODES

\$

\$FLINKS

ITYPEFL(74)=0,

ITYPEFL(7)=0,

ITYPEFL(8)=-5,

IUFL(8)=47,

IDFL(8)=42,

AFL(8)=0.0022159,

DEFL(8)=0.053117,

ZFL(80)=0.045932,

SLOAFL(8)=20.7283,

EUFL(8)=16.365,

EDFL(8)=16.365,

ADFMFL(8)=0.0022159,

FLDAFL(8)=0.000000003,

FLDPFL(8)=0.000000003,

DCONTFL(8)=0.053117,

IDFL(73)=11,

WFL(8)=0.0,

\$

\$HLINKS

\$

\$CONEQNS

\$

\$PUMPS

\$

\$MISC

TIMEMAX=210.,

TFRINT=200.,200.5,200.75,201.,202.,205.,210.,220.,235.,
240.,245.,250.,250.,270.,275.,280.,290.,300.,
300.,325.,350.,375.,400.,425.,450.,475.,500.,
550.,600.,650.,700.,750.,800.,850.,900.,950.,
1000.,1100.,1200.,1300.,1400.,1500.,1600.,
1700.,1800.,

NFRINT=45,

\$

\$TRACES


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WFL(8)=0.0,
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$LINKS
$
$CONEQMS
$
$PUMPS
$
$MISC
TIME MAX=210.,
TFPRINT=200.,200.5,200.75,201.,202.,205.,210.,220.,235.,
240.,245.,250.,260.,270.,275.,280.,290.,300.,
300.,325.,350.,375.,400.,425.,450.,475.,500.,
550.,600.,650.,700.,750.,800.,850.,900.,950.,
1000.,1100.,1200.,1300.,1400.,1500.,1600.,
1700.,1800.,

NFPRINT=45,
$
$TRACES
ITRACE=1,
HTPACE=100,
TIMEACE=1.0,
$
PFM      9
PFM      31
PFM      32
PFM      37
PFM      39
PFM      41
PFM      11
PFM      16
PFM      30
PFM      42
PFM      46
PFM      43
PFM      40
PFM      18
PFM      36
EMIXSFM  9

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EMIXSFM 23
EMIXSFM 33
EMIXFM  11
EMIXFM  42
EMIXFM  12
EMIXFM  13
EMIXFM  46
TFM      9
TFM      31
TFM      41
TFM      11
TFM      16
TFM      1
TFM      2
TFM      3
TFM      4
TFM      42
TFM      30
TMN      1
TMN      2
TMN      3
TMN      4
TMN      31
TMN      11
TMN      16
VFMFN    1
VFMFN    2
VFMFN    3
VFMFN    4
VFMFN    9
VFMFN    31
VFMFN    42
VFMFN    12
VFMFN    13
TMFN      1
TMFN      2
TMFN      3
TMFN      4
TMFN      9
TMFN      16
TMFN      11
TMFN      37
TMFN      39
TMFN      10

```

TFM	7
TFM	31
TFM	41
TFM	11
TFM	16
TFM	1
TFM	2
TFM	3
TFM	4
TFM	42
TFM	30
TFM	1
TFM	2
TFM	3
TFM	4
TFM	31
TFM	11
TFM	16
VFMFM	1
VFMFM	2
VFMFM	3
VFMFM	4
VFMFM	9
VFMFM	31
VFMFM	42
VFMFM	12
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TMFM	3
TMFM	4
TMFM	9
TMFM	16
TMFM	11
TMFM	37
TMFM	39
TMFM	18
TMFM	30
TMFM	31
TMFM	41

WFL	47
WFL	48
WFL	27
WFL	28
WFL	40
WFL	50
WFL	41
WFL	51
WFL	52
WFL	53
WFL	9
WFL	49
WFFL	4
WFFL	4
WFFL	11
WFFL	11
WFFL	16
WFFL	16
WFFL	31
WFFL	31
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WFFL	12
WFFL	12
WFFL	42
WFFL	42
WFFL	73
WFFL	73
WFFL	8
WFFL	8
WFFL	8
WFFL	8
WFFL	0

BUSINPUT
 PSETSG*2000.7,
 PSETSI*1910.7,
 PSETPW*2000.7,
 5

SEND

*NOTE TIME = 0. → 200. SECONDS CORRESPONDS TO STEADY STATE

BREAK OPENED AT 200.0 SECONDS

LOFT L3-6 FOR MRC
ISTEP =

3943

TIME = 200.000

DELT = 3.342595E-02

PAGE
CASE

989
1

INTERIOR FLUID NODE	PRESSURE	TEMPERATURE	SPECIFIC ENTHALPY	TOTAL MASS	LIQUID MASS	VAPOR MASS	BUBBLE MASS	TOTAL INTERNAL ENERGY
1 L	2123.83	557.658	556.383	123.903	123.903	0.	0.	67884.5
2 L	2123.21	567.750	569.600	121.977	121.977	0.	0.	68425.6
3 L	2126.04	578.013	583.063	120.017	120.017	0.	0.	68923.6
4 L	2121.85	584.194	591.631	118.687	118.687	0.	0.	69167.2
7 L	2119.74	542.891	538.179	25.2129	25.2129	0.	0.	13359.5
9 L	2118.82	583.720	583.986	1584.84	1584.84	0.	0.	922604.
11 L	2121.86	550.527	547.556	1542.19	1542.19	0.	0.	831471.
12 L	2116.93	582.923	589.890	543.699	543.699	0.	0.	315926.
13 L	2116.03	582.789	589.709	604.993	604.993	0.	0.	351436.
16 L	2125.94	550.533	547.556	1208.98	1208.98	0.	0.	651801.
18 L	2119.61	582.964	589.938	210.485	210.485	0.	0.	122313.
20 L	2115.34	578.010	583.100	158.065	158.065	0.	0.	90786.6
21 L	2114.59	572.622	576.015	159.429	159.429	0.	0.	90452.7
22 L	2113.79	567.770	569.653	160.650	160.650	0.	0.	90134.2
23 L	2113.00	563.404	563.935	161.746	161.746	0.	0.	89834.1
26 L	2112.52	582.760	589.683	48.6188	48.6188	0.	0.	28241.7
27 L	2125.15	550.531	547.554	299.841	299.841	0.	0.	161655.
30 L	2119.74	545.718	541.650	242.520	242.520	0.	0.	129337.
31 L	2118.67	583.725	590.995	566.397	566.397	0.	0.	329730.
32 L	2116.14	583.718	590.995	612.500	612.500	0.	0.	356575.
33 L	2117.76	559.475	558.791	162.732	162.732	0.	0.	89553.3
34 L	2113.24	555.888	554.167	163.609	163.609	0.	0.	89286.5
35 L	2113.69	552.523	550.025	164.364	164.364	0.	0.	89023.9
36 L	2114.09	549.504	546.311	165.041	165.041	0.	0.	88783.1
37 L	2114.50	549.507	546.315	744.375	744.375	0.	0.	400435.
39 L	2108.33	550.505	547.553	267.543	267.543	0.	0.	144259.
40 L	2125.22	550.531	547.555	384.555	384.555	0.	0.	207327.
41 L	2124.87	550.531	547.556	436.044	436.044	0.	0.	235038.
42 H	2116.09	643.737	714.868	953.487	889.110	64.3773	3.591044E-02	668116.
46 H	807.716	519.248	533.175	6130.79	5933.49	197.297	100.099	3.233649E+06
47 L	2124.99	542.894	538.175	.614622	.614622	0.	0.	325.653

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INTERIOR STACK FLUID MIXTURE NODE	MIXTURE ELEVATION	NODE MIXTURE ELEVATION	MIXTURE STATIC QUALITY	MIXTURE VOID FRACTION	MIXTURE SPECIFIC VOLUME	U DOT	M DOT
1	19.3650	5.48420	0.	0.	2.161373E-02	-8.881825E+00	-1.024307E-02
2	19.3650	6.85920	0.	0.	2.195496E-02	-1.539783E+02	-2.319316E-01
3	19.3650	8.23420	0.	0.	2.231350E-02	1.124768E+03	1.693760E+00
4	19.3650	9.60920	0.	0.	2.256351E-02	3.443124E+02	3.435665E-01
7	16.8317	16.8317	0.	0.	2.118533E-02	-6.249127E-01	-1.162808E-03
9	19.3650	19.3650	0.	0.	2.254570E-02	-9.217008E+01	-1.768623E-01
11	19.3650	19.3650	0.	0.	2.140231E-02	-8.338714E+01	-1.490818E-01
12	26.6600	26.6600	0.	0.	2.211431E-02	-3.222194E+01	-5.460509E-02
13	26.6600	26.6600	0.	0.	2.250935E-02	-3.047310E+01	-5.411044E-02
16	19.3650	4.10920	0.	0.	2.140120E-02	-7.000303E+01	-1.278985E-01
18	16.8317	16.8317	0.	0.	2.251472E-02	-1.891338E+01	-3.097625E-02
20	26.8358	21.2027	0.	0.	2.231829E-02	-1.120385E+01	-1.935871E-02
21	26.8358	23.9804	0.	0.	2.212741E-02	-8.997280E+00	-1.482916E-02
22	26.8358	24.9581	0.	0.	2.195929E-02	-8.872993E+00	-1.483272E-02
23	26.8358	26.8358	0.	0.	2.181050E-02	-9.311299E+00	-1.529256E-02
26	12.8800	12.8800	0.	0.	2.250983E-02	1.837866E+04	3.116647E+01
27	16.8317	16.8317	0.	0.	2.140135E-02	-1.396779E+01	-2.341835E-02
30	16.8317	16.8317	0.	0.	2.126423E-02	-4.725387E+00	-1.446325E-02
31	16.8317	16.8317	0.	0.	2.254601E-02	-4.923957E+01	-7.614223E-02
32	26.8358	19.3250	0.	0.	2.254692E-02	-4.517749E+01	-7.666825E-02
33	26.8358	26.8358	0.	0.	2.167832E-02	-9.668068E+00	-1.580204E-02
34	26.8358	24.9581	0.	0.	2.156212E-02	-7.834217E+00	-1.205601E-02
35	26.8358	23.0804	0.	0.	2.146304E-02	-7.635074E+00	-1.224778E-02
36	26.8358	21.2027	0.	0.	2.137502E-02	-7.795612E+00	-1.277509E-02
37	26.8358	19.3250	0.	0.	2.137499E-02	-3.503777E+01	-5.772364E-02
39	13.6600	13.6600	0.	0.	2.140508E-02	-1.839435E+04	-3.119458E+01
40	16.8317	16.8317	0.	0.	2.140137E-02	-1.809677E+01	-3.051132E-02
41	16.8317	16.8317	0.	0.	2.140149E-02	-2.340193E+01	-4.028347E-02
42	26.1940	26.1940	4.058756E-05	2.644739E-04	2.630183E-02	-3.268768E+01	-4.874009E-02
46	33.3230	33.3230	1.659025E-02	.312389	2.988373E-02	-1.462927E+03	0.
47	16.4208	16.4208	0.	0.	2.118217E-02	-3.481289E+04	-6.468690E+01

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INTERIOR METAL MODE	TEMPERATURE	MASS TIMES HEAT CAPACITY	T DOT	DELTA T/T
1	557.494	491.973	2.065423E-04	-3.878981E-09
2	567.575	494.032	2.198044E-04	1.318846E-08
3	578.155	496.193	-1.767208E-04	1.086258E-08
4	584.233	497.435	-4.942186E-05	3.479214E-09
7	542.910	477.9430	-9.049737E-06	-6.483559E-09
9	583.745	2568.55	-4.554931E-05	-5.158054E-10
11	550.268	26916.6	5.323982E-05	-2.514096E-09
12	582.184	815.047	1.811635E-03	3.257947E-09
13	580.503	1067.64	3.929403E-03	1.102112E-07
16	550.015	9624.63	3.498955E-05	2.517971E-07
18	582.827	162.300	3.119858E-04	2.131454E-09
20	548.119	107.863	-5.677916E-03	2.068372E-08
21	545.723	107.809	-4.932534E-03	3.924712E-07
22	543.555	107.760	-5.196392E-03	2.219421E-07
23	541.593	107.716	-5.264613E-03	1.517607E-07
26	550.058	404.471	1.243499E-03	8.973667E-08
27	550.470	341.588	5.054533E-04	1.126419E-07
30	544.445	382.474	1.990514E-03	3.388362E-08
31	583.745	1071.75	-5.498249E-05	1.206576E-07
32	583.729	398.645	-1.092092E-05	-2.881712E-09
33	539.817	107.675	-5.154551E-03	-5.711401E-10
34	538.184	107.639	-4.321491E-03	6.551319E-08
35	536.642	107.604	-3.978887E-03	-2.133526E-08
36	535.247	107.573	-3.552142E-03	-1.344098E-08
37	549.486	545.834	9.111019E-05	-4.288544E-09
39	550.407	456.482	2.767826E-04	6.341987E-09
40	550.470	341.598	5.151709E-04	1.816313E-08
41	550.319	718.601	5.104818E-05	3.413919E-08
42	643.985	3237.68	-2.176124E-04	2.813336E-09
53	1648.99	74.7493	-2.804513E-03	-4.496912E-09
54	1865.15	75.7116	-2.272175E-03	6.252711E-08
55	1880.69	75.7820	3.102379E-02	6.663193E-08
56	1636.88	74.6953	4.406681E-03	-7.474473E-07

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FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
1	1	2	1076.31	0.	1076.31	598842.	556.383	1.637236E+02
2	2	3	1076.54	0.	1076.54	613200.	569.600	-1.191593E+04
3	3	4	1074.85	0.	1074.85	626706.	583.063	1.280629E+04
4	4	9	1075.19	0.	1075.19	636119.	591.631	-1.093935E+03
9	9	18	30.3552	0.	30.3552	17939.5	590.986	-4.612148E+00
10	11	9	15.6760	0.	15.6760	8583.49	547.556	1.934564E+02
11	11	16	1076.17	0.	1076.17	589266.	547.556	2.014816E+01
12	12	13	31.1124	5.785034E-09	31.1124	18352.9	589.690	-2.598695E+00
13	13	26	31.1665	0.	31.1665	16379.2	589.709	9.320597E-01
14	30	18	.671556	0.	.671556	363.748	541.650	4.151509E-02
15	30	18	3.199132E-11	0.	3.199132E-11	1.732810E-08	541.650	6.219415E-10
16	16	1	1076.30	0.	1076.30	589335.	547.556	9.386706E+01
18	18	12	31.0578	0.	31.0578	18322.1	589.738	-6.261863E+00
20	20	21	1060.91	0.	1060.91	618618.	583.100	-1.265531E+02
21	21	22	1060.93	0.	1060.93	611111.	576.075	2.729243E+01
22	22	23	1060.94	0.	1060.94	604370.	569.653	2.632436E+01
23	23	33	1060.96	4.646756E-08	1060.96	593311.	563.935	2.624637E+01
27	27	41	546.283	0.	546.283	299120.	547.554	6.099200E+00
28	27	41	9.300966E-09	0.	9.300966E-09	5.092785E-06	547.554	-1.420583E-06
29	39	27	546.259	0.	546.259	299106.	547.553	-1.264379E+01
30	30	7	-1.162808E-03	0.	-1.162808E-03	-6.25799	538.179	6.550872E-01
31	31	32	1060.82	0.	1060.82	626938.	590.995	-1.001529E+01
32	32	20	1060.89	0.	1060.89	626983.	590.995	2.896514E+01
33	33	34	1060.97	0.	1060.97	592863.	558.791	-1.049938E+02
34	34	35	1060.99	0.	1060.99	587963.	554.167	1.525743E+01
35	35	36	1061.00	0.	1061.00	583575.	550.025	1.453022E+01
36	36	37	1061.01	0.	1061.01	579643.	546.311	2.384697E+00
37	37	39	1061.07	0.	1061.07	579678.	546.315	4.879733E+00
39	39	40	546.004	0.	546.004	298966.	547.553	-1.037773E+01
40	40	41	546.035	0.	546.035	298984.	547.555	5.694251E+00
41	41	11	1092.36	0.	1092.36	598127.	547.556	1.235468E+01
42	42	31	4.874009E-02	0.	4.874009E-02	33.3922	685.108	8.400683E-04
47	9	11	1060.69	0.	1060.69	626855.	590.986	-1.308160E+01
48	9	31	1.622123E-08	0.	1.622123E-08	9.585529E-06	590.986	3.395358E-06
49	9	18	4.632702E-10	0.	4.632702E-10	2.737864E-07	590.986	7.936180E-06
50	40	41	3.506033E-08	0.	3.506033E-08	1.919746E-05	547.555	-4.813399E-06
51	41	11	5.754712E-09	0.	5.754712E-09	3.151026E-06	547.556	-6.316938E-07
52	11	20	.655930	0.	.655930	359.158	547.554	3.049441E+05
53	11	30	1.101358E-11	0.	1.101358E-11	6.030553E-09	547.556	-1.157794E-11
54	41	47	-6.098203E-05	0.	-6.098203E-05	-3.281902E-02	538.175	4.207521E-01

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FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
55	11	27	0.000705E-15	0.	0.000705E-15	4.392700E-12	547.556	-6.326193E-12

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CRITICAL FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWP/L	MACH NUMBER
8	47	49	64.6868	0.	64.6868	34812.9	538.175	-1
43	43	41	0.	0.	0.	0.	59.6200	0.
70	50	46	58.2000	0.	58.2000	20864.7	358.500	0.
72	46	49	0.	58.2000	58.2000	69743.3	1198.34	0.
73	51	11	0.	0.	0.	0.	68.0000	0.

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PUMP TYPE	APPLIED FLOW LINK	NUMBER OF PUMPS	PUMP CURVE TYPE	PUMP COASTING	REVERSE SPEED ALLOWED	TOTAL MASS FLOW RATE PER PUMP	CRITICAL RECIPIENT PRESSURE	CRITICAL MASS FLOW RATE PER PUMP
1	29	1	1	F	F	546.259	0.	0.
2	39	1	1	F	F	546.004	0.	0.

PUMP TYPE	PUMP INLET PRESSURE	PUMP OUTLET PRESSURE	PUMP INLET SPECIFIC ENTHALPY	PUMP OUTLET SPECIFIC ENTHALPY	PUMP INLET SPECIFIC VOLUME	PUMP OUTLET SPECIFIC VOLUME
1	2108.45	2132.46	547.553	547.648	2.138780E-02	2.138271E-02
2	2108.45	2132.53	547.553	547.648	2.138780E-02	2.138269E-02

PUMP TYPE	SPEED (RPM)	HEAD FLOW RATE (GPM)	HEAD (FT)	TORQUE FLOW RATE (GPM)	TORQUE DENSITY (LBH/FT3)	TORQUE (FT)	NPSH FLOW RATE (GPM)	NPSH (FT)
1	3150.00	5193.35	73.9375	5193.35	46.7556	213.710	5193.35	178.417
2	3150.00	5190.92	74.1697	5190.92	46.7556	213.787	5190.92	178.194

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INTERIOR FLUID NODE	PRESSURE	TEMPERATURE	SPECIFIC ENTHALPY	TOTAL MASS	LIQUID MASS	VAPOR MASS	BUBBLE MASS	TOTAL INTERNAL ENERGY
1 L	1988.82	557.315	556.308	123.685	123.685	0.	0.	67821.2
2 L	1988.26	568.026	570.356	121.632	121.632	0.	0.	68387.9
3 L	1988.40	579.115	585.122	119.438	119.438	0.	0.	68900.4
4 L	1987.37	585.661	594.206	118.028	118.028	0.	0.	69147.7
7 L	1982.03	542.269	537.640	25.1850	25.1850	0.	0.	13344.5
9 L	1983.80	583.382	591.056	1581.22	1581.22	0.	0.	921469.
11 L	1986.47	549.885	547.007	1540.49	1540.49	0.	0.	830520.
12 L	1981.85	582.129	589.327	542.911	542.911	0.	0.	315461.
13 L	1981.80	582.001	589.149	604.124	604.124	0.	0.	350923.
16 L	1990.68	549.900	547.019	1207.63	1207.63	0.	0.	651062.
18 L	1984.76	582.106	589.283	210.205	210.205	0.	0.	122129.
20 L	1980.24	577.503	582.921	157.766	157.766	0.	0.	90671.9
21 L	1979.70	572.227	575.899	159.138	159.138	0.	0.	90354.8
22 L	1978.85	567.419	569.587	160.353	160.353	0.	0.	90042.9
23 L	1978.00	563.077	563.891	161.448	161.448	0.	0.	89747.6
26 L	1986.04	582.015	589.152	48.5531	48.5531	0.	0.	28202.8
27 L	1989.40	549.522	546.556	299.657	299.657	0.	0.	161416.
30 L	1982.02	545.089	541.110	242.248	242.248	0.	0.	129191.
31 L	1983.38	584.161	592.140	564.306	564.306	0.	0.	329460.
32 L	1981.07	583.178	590.785	611.325	611.325	0.	0.	356097.
33 L	1977.70	559.153	558.747	162.438	162.438	0.	0.	89470.0
34 L	1978.13	555.608	554.102	163.332	163.332	0.	0.	89210.7
35 L	1978.77	552.248	549.934	164.098	164.098	0.	0.	88950.8
36 L	1979.12	549.216	546.197	164.781	164.781	0.	0.	88710.4
37 L	1979.49	548.968	545.891	743.457	743.457	0.	0.	400016.
39 L	1972.75	549.029	545.977	267.551	267.551	0.	0.	143985.
40 L	1989.48	549.585	546.633	384.287	384.287	0.	0.	207033.
41 L	1989.20	549.773	546.865	435.630	435.630	0.	0.	234794.
42 H	2106.82	643.105	715.175	941.809	875.548	66.2605	1.91616	660116.
46 H	807.057	519.161	533.054	6130.79	5933.65	197.135	150.711	3.232933E+06
47 L	1980.19	549.764	546.870	.607672	.607672	0.	0.	327.545

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INTERIOR FLUID NODE	STACK MIXTURE ELEVATION	NODE MIXTURE ELEVATION	MIXTURE STATIC QUALITY	MIXTURE VOID FRACTION	MIXTURE SPECIFIC VOLUME	U DOT	M DOT
1	19.3650	5.48420	0.	0.	2.165174E-02	3.079631E+01	-8.263142E-03
2	19.3650	6.85920	0.	0.	2.201724E-02	3.359784E+02	5.593535E-01
3	19.3650	8.23420	0.	0.	2.242159E-02	5.842421E+00	4.819120E-01
4	19.3650	9.60920	0.	0.	2.268954E-02	1.943462E+02	4.767751E-01
7	16.8317	16.8317	0.	0.	2.120708E-02	2.657498E+00	4.760864E-03
9	19.3650	19.3650	0.	0.	2.259729E-02	9.219853E+02	-2.771157E+00
11	19.3650	19.3650	0.	0.	2.142597E-02	2.147882E+02	6.577176E-01
12	26.6600	26.6600	0.	0.	2.254696E-02	1.467844E+02	2.490812E-01
13	26.6600	26.6600	0.	0.	2.254174E-02	1.639816E+02	2.800903E-01
16	19.3650	4.10920	0.	0.	2.142510E-02	2.155299E+02	4.153372E-01
18	16.8317	16.8317	0.	0.	2.254461E-02	4.595713E+01	1.462101E-01
20	26.8358	21.2027	0.	0.	2.236068E-02	1.201370E+02	-1.639940E-01
21	26.8358	23.0804	0.	0.	2.216782E-02	8.681553E+01	-1.007878E-01
22	26.8358	24.9581	0.	0.	2.199985E-02	7.763467E+01	-9.916735E-02
23	26.8358	26.8358	0.	0.	2.185063E-02	8.185353E+01	-1.119502E-01
26	12.8800	12.8800	0.	0.	2.254029E-02	1.314980E+01	2.276786E-02
27	16.8317	16.8317	0.	0.	2.141446E-02	-6.115217E+01	4.613604E-01
30	16.8317	16.8317	0.	0.	2.128803E-02	2.706378E+01	4.699965E-02
31	16.8317	16.8317	0.	0.	2.262955E-02	8.977714E+02	-9.977807E+00
32	26.8358	19.3250	0.	0.	2.259026E-02	6.285477E+02	-4.38288E+00
33	26.8358	26.8358	0.	0.	2.171757E-02	8.229330E+01	-1.195823E-01
34	26.8358	24.9581	0.	0.	2.159869E-02	9.264099E+01	-1.191003E-01
35	26.8358	23.0804	0.	0.	2.149782E-02	9.111446E+01	-1.145245E-01
36	26.8358	21.2027	0.	0.	2.140874E-02	8.811622E+01	-1.021255E-01
37	26.8358	19.3250	0.	0.	2.140138E-02	2.763727E+02	-1.093417E-01
39	13.6600	13.6600	0.	0.	2.140526E-02	3.078640E+01	2.270608E-01
40	16.8317	16.8317	0.	0.	2.141628E-02	-6.347095E+01	5.345157E-01
41	16.8317	16.8317	0.	0.	2.142185E-02	-4.275125E+01	4.609949E-01
42	26.1756	26.1756	2.183749E-03	1.425158E-02	2.656704E-02	-3.659385E+04	-5.341995E+01
46	33.3486	33.3486	1.668957E-02	.313912	2.994374E-02	-1.463122E+03	0.
47	16.4208	16.4208	0.	0.	2.142441E-02	2.056964E+01	3.813895E-02

LOFT L3-6 FOR NRC
ISTEP =

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TIME = 200.500

DELTA = 3.000000E-02

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INTERIOR METAL NODE	TEMPERATURE	MASS TIMES HEAT CAPACITY	T DOT	DELTA T/T
1	557.494	491.973	-2.249567E-04	-1.398408E-08
2	567.575	494.032	5.641217E-04	3.673633E-03
3	578.155	496.194	1.192101E-03	6.930612E-08
4	584.234	497.435	1.767001E-03	9.942464E-08
7	542.909	97.9430	-8.305540E-04	-4.909251E-08
9	583.745	2568.55	-6.406910E-04	-3.912250E-08
11	550.268	26916.6	-7.844668E-05	-4.584529E-09
12	562.184	817.047	-2.257694E-05	-1.452019E-09
13	560.507	1067.64	1.018237E-03	5.535095E-08
16	550.015	9624.63	-7.725252E-06	-4.688954E-10
18	582.827	162.300	-5.950526E-04	-3.258950E-08
20	547.976	107.859	1.508650E-02	4.514120E-06
21	545.616	107.806	2.154048E-02	2.531055E-06
22	543.452	107.757	3.959851E-02	1.162148E-06
23	541.487	107.713	5.320907E-02	4.600670E-07
26	580.054	404.471	4.523483E-04	3.554195E-08
27	550.468	341.588	-7.949171E-05	-4.501258E-07
30	544.445	382.474	8.476366E-04	4.926326E-08
31	583.745	1071.75	1.142848E-03	3.783113E-08
32	583.728	398.645	-5.529085E-04	-3.301225E-08
33	539.704	107.673	5.136131E-02	7.631277E-07
34	538.082	107.636	5.162166E-02	7.347160E-07
35	536.534	107.602	4.604430E-02	3.168370E-07
36	535.130	107.570	2.061161E-02	2.350417E-06
37	549.485	545.864	-2.211985E-03	-1.322657E-07
39	550.406	456.482	-3.901659E-03	-2.249375E-07
40	550.468	341.588	-7.414615E-03	-4.207573E-07
41	550.319	718.601	-1.310618E-04	-7.445009E-09
42	643.985	3237.68	-1.016822E-03	-4.415063E-08
53	1649.11	74.7498	2.922396E-01	5.295285E-06
54	1864.72	75.7096	-1.158054E+00	-1.937958E-05
55	1880.25	75.7800	-1.163856E+00	-1.927340E-05
56	1636.58	74.6940	-8.692780E-01	-1.657959E-05

LOFT L3-6 FOR NRC
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TIME = 200.500

DELT = 3.000000E-02

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NON-CRIT

FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
1	1	2	1016.18	0.	1016.18	565310.	556.308	2.194221E+01
2	2	3	1015.62	0.	1015.62	579266.	570.356	-2.420665E+03
3	3	4	1015.14	0.	1015.14	593981.	585.122	1.728610E+03
4	4	9	1014.66	0.	1014.66	602919.	594.206	9.879123E+02
9	9	18	-138395	0.	-138395	-81.5538	589.283	-8.754177E+01
10	11	9	14.4673	0.	14.4673	7913.71	547.007	1.001807E+03
11	11	16	1016.59	0.	1016.59	556081.	547.007	-3.305965E+01
12	12	13	.302858	5.116942E-11	.302858	178.482	589.227	6.079307E+00
13	13	26	2.276786E-02	0.	2.276786E-02	13.4137	589.149	4.307313E-01
14	30	18	.836515	0.	.836545	452.663	541.110	-7.991268E-01
15	30	18	3.665861E-11	0.	3.665861E-11	1.983635E-08	541.110	-9.834405E-10
16	16	1	1016.17	0.	1016.17	555865.	547.6.9	-8.445050E+01
18	18	12	.551939	0.	.551939	325.248	589.283	1.340269E+01
20	20	21	1092.04	0.	1092.04	636573.	582.921	-8.894246E+02
21	21	22	1092.14	0.	1092.14	628962.	575.899	1.793136E+02
22	22	23	1092.24	0.	1092.24	622125.	569.587	1.879929E+02
23	23	33	1092.35	4.345976E-08	1092.35	615967.	563.891	2.035822E+02
27	27	41	545.998	0.	545.998	298418.	546.556	-9.219101E+00
28	27	41	9.296108E-09	0.	9.296108E-09	5.080942E-06	546.556	-4.130347E-05
29	39	27	546.459	0.	546.459	298354.	545.977	2.195704E+01
30	30	7	4.760864E-03	0.	4.760864E-03	2.57615	541.110	-2.485746E+00
31	31	32	1090.44	0.	1090.44	645692.	592.140	-1.273099E+02
32	32	20	1091.88	0.	1091.88	645063.	590.785	5.959904E+01
33	33	34	1092.47	0.	1092.47	610415.	558.747	1.667009E+02
34	34	35	1092.59	0.	1092.59	605407.	554.102	-8.231378E+02
35	35	36	1092.70	0.	1092.70	600915.	549.934	1.605889E+02
36	36	37	1092.81	0.	1092.81	596898.	546.197	1.046184E+02
37	37	39	1092.92	0.	1092.92	596613.	545.891	4.624619E+01
39	39	40	546.230	0.	546.230	298229.	545.977	1.807789E+01
40	40	41	545.695	0.	545.695	298295.	546.633	-4.933918E+00
41	41	11	1032.60	0.	1032.60	564690.	546.865	3.159384E+02
42	42	31	53.2937	.126214	53.4199	36597.1	685.079	1.070835E+02
47	9	31	1032.04	0.	1032.04	609994.	591.056	1.381173E+02
48	9	31	1.578302E-08	0.	1.578302E-08	9.328655E-06	591.056	5.937131E-04
49	9	18	7.659837E-12	0.	7.659837E-12	4.527395E-09	591.056	-2.739201E-04
50	40	41	3.503852E-08	0.	3.503852E-08	1.915322E-05	546.633	-1.060879E-04
51	41	11	5.439873E-09	0.	5.439873E-09	2.974874E-06	546.865	-8.187388E-05
52	11	30	.882304	0.	.882304	482.627	547.007	-3.894671E+06
53	11	30	1.481446E-11	0.	1.481446E-11	8.103618E-09	547.007	2.285529E-11
54	41	47	58.6370	0.	58.6370	32066.5	546.865	2.172684E+00

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NON-CRIT

FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
55	41	47	-8.837995E-10	0.	-8.837995E-10	4.933231E-07	546.870	-3.274047E-11

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CRITICAL FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	MACH NUMBER
8	47	49	58.5989	0.	58.5989	32045.9	546.870	0.
43	43	41	0.	0.	0.	0.	59.6200	0.
70	50	46	58.2000	0.	58.2000	20864.7	358.500	0.
72	48	49	0.	58.2000	58.2000	69744.6	1198.36	0.
73	51	11	0.	0.	0.	0.	68.0000	0.

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PUMP TYPE	APPLIED FLOW LINK	NUMBER OF PUMPS	PUMP CURVE TYPE	PUMP COASTING	REVERSE SPEED ALLOWED	TOTAL MASS FLOW RATE PER PUMP	CRITICAL RECIPIENT PRESSURE	CRITICAL MASS FLOW RATE PER PUMP
1	29	1	i	F	F	546.459	0.	0.
2	39	1	1	F	F	546.230	0.	0.

PUMP TYPE	PUMP INLET PRESSURE	PUMP OUTLET PRESSURE	PUMP INLET SPECIFIC ENTHALPY	PUMP OUTLET SPECIFIC ENTHALPY	PUMP INLET SPECIFIC VOLUME	PUMP OUTLET SPECIFIC VOLUME
1	1972.86	1996.81	545.977	546.072	2.133844E-02	2.138336E-02
2	1972.86	1996.87	545.977	546.073	2.138344E-02	2.138335E-02

PUMP TYPE	SPEED (RPM)	HEAD FLOW RATE (GPM)	HEAD (FT)	TORQUE FLOW RATE (GPM)	TORQUE DENSITY (LBM/FT3)	TORQUE (FT)	NPSH FLOW RATE (GPM)	NPSH (FT)
1	3150.00	5195.41	73.7409	5195.41	46.7542	213.638	5195.41	178.606
2	3150.00	5193.23	73.9494	5193.23	46.7542	213.707	5193.23	178.405

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INTERIOR FLUID NODE	PRESSURE	TEMPERATURE	SPECIFIC ENTHALPY	TOTAL MASS	LIQUID MASS	VAPOR MASS	BUBBLE MASS	TOTAL INTERNAL ENERGY
1 L	2021.47	557.531	556.500	123.713	123.713	0.	0.	67844.0
2 L	2020.84	568.007	570.235	121.706	121.706	0.	0.	68399.5
3 L	2020.51	578.813	584.579	119.584	119.584	0.	0.	68904.5
4 L	2019.85	585.302	593.523	118.189	118.189	0.	0.	69152.8
7 L	2013.80	542.414	537.766	25.1914	25.1914	0.	0.	13348.0
9 L	2016.49	583.803	591.510	1581.13	1581.13	0.	0.	921914.
11 L	2019.02	550.008	547.101	1540.96	1540.96	0.	0.	830725.
12 L	2014.57	582.321	589.463	543.103	543.103	0.	0.	315574.
13 L	2014.57	582.193	589.285	604.337	604.337	0.	0.	351048.
16 L	2023.22	550.048	547.143	1207.96	1207.96	0.	0.	651238.
18 L	2017.32	582.271	589.382	210.289	210.289	0.	0.	122171.
20 L	2012.81	578.059	583.564	157.716	157.716	0.	0.	90723.0
21 L	2012.14	572.637	576.341	159.129	159.129	0.	0.	90398.3
22 L	2011.33	567.755	569.933	160.361	160.361	0.	0.	90081.7
23 L	2010.55	563.389	564.207	161.461	161.461	0.	0.	89784.7
26 L	2018.82	582.207	589.287	48.5703	48.5703	0.	0.	28212.9
27 L	2022.03	549.498	546.467	299.811	299.811	0.	0.	161435.
30 L	2013.78	545.239	541.241	242.310	242.310	0.	0.	129225.
31 L	2016.28	585.818	594.029	563.214	563.214	0.	0.	329799.
32 L	2013.63	583.965	591.746	610.882	610.882	0.	0.	356339.
33 L	2010.33	559.462	559.061	162.450	162.450	0.	0.	89507.0
34 L	2010.79	555.919	554.419	163.343	163.343	0.	0.	89247.7
35 L	2011.14	552.552	550.249	164.108	164.108	0.	0.	88937.1
36 L	2011.54	549.511	546.502	164.793	164.793	0.	0.	88746.0
37 L	2011.93	549.221	546.144	743.553	743.553	0.	0.	400161.
39 L	2005.26	549.172	546.095	267.626	267.626	0.	0.	144024.
40 L	2022.11	549.574	546.567	384.477	384.477	0.	0.	207059.
41 L	2021.78	549.777	546.811	435.836	435.836	0.	0.	234827.
42 H	2094.23	642.246	715.099	926.151	857.440	68.7105	4.35065	649391.
46 H	806.755	519.121	532.999	6130.79	5933.72	197.064	100.967	3.232607E+06
47 L	2012.38	549.770	546.819	.607954	.607954	0.	0.	327.591

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INTERIOR STACK FLUID MIXTURE NODE ELEVATION	NODE MIXTURE ELEVATION	MIXTURE STATIC QUALITY	MIXTURE VOID FRACTION	MIXTURE SPECIFIC VOLUME	U DOT	M DOT
1 19.3650	5.48420	0.	0.	2.164694E-02	1.077778E+02	1.681346E-01
2 19.3650	6.85920	0.	0.	2.206377E-02	5.080104E+02	2.254420E-01
3 19.3650	8.23420	0.	0.	2.239437E-02	4.494580E+02	4.309143E-01
4 19.3650	9.60920	0.	0.	2.265862E-02	3.845814E+02	6.083987E-01
7 16.8317	16.8317	0.	0.	2.120170E-02	1.956645E+01	3.604206E-02
9 19.3650	19.3650	0.	0.	2.259863E-02	2.006508E+03	9.609767E-01
11 19.3650	19.3650	0.	0.	2.141936E-02	1.053921E+03	2.468923E+00
12 26.6600	26.6600	0.	0.	2.253901E-02	5.807446E+02	9.856188E-01
13 26.6600	26.6600	0.	0.	2.253378E-02	6.457981E+02	1.097681E+00
16 19.3650	4.10920	0.	0.	2.141921E-02	9.027094E+02	1.727106E+00
18 16.8317	16.8317	0.	0.	2.253563E-02	2.189201E+02	4.100492E-01
20 26.8358	21.2027	0.	0.	2.236772E-02	2.817237E+02	2.775537E-01
21 26.8358	23.0804	0.	0.	2.216917E-02	2.407398E+02	6.501892E-02
22 26.8358	24.9581	0.	0.	2.199877E-02	2.032650E+02	5.903532E-02
23 26.8358	26.8358	0.	0.	2.184887E-02	1.809826E+02	1.194070E-01
26 12.8800	12.8800	0.	0.	2.253230E-02	5.184533E+01	8.848227E-02
27 16.8317	16.8317	0.	0.	2.140352E-02	1.515356E+02	6.438402E-01
30 16.8317	16.8317	0.	0.	2.128270E-02	1.927889E+02	3.467335E-01
31 16.8317	16.8317	0.	0.	2.267344E-02	1.346087E+03	3.673865E+00
32 26.8358	19.3250	0.	0.	2.260667E-02	1.241312E+03	2.113766E+00
33 26.8358	26.8358	0.	0.	2.171585E-02	1.706522E+02	1.389896E-01
34 26.8358	24.9581	0.	0.	2.159713E-02	1.669593E+02	1.400855E-01
35 26.8358	23.0804	0.	0.	2.149645E-02	1.620648E+02	1.292777E-01
36 26.8358	21.2027	0.	0.	2.140718E-02	1.604883E+02	1.298028E-01
37 26.8358	19.3250	0.	0.	2.139850E-02	7.160726E+02	5.975829E-01
39 13.6600	13.6600	0.	0.	2.139925E-02	2.267191E+02	3.144037E-01
40 16.8317	16.8317	0.	0.	2.140573E-02	1.956021E+02	8.187840E-01
41 16.8317	16.8317	0.	0.	2.141175E-02	2.040308E+02	9.664945E-01
42 26.1499	26.1499	5.048381E-03	3.280099E-02	2.692892E-02	4.596397E+04	6.710961E+01
46 33.3594	33.3594	1.673110E-02	.314557	2.996913E-02	1.147635E+03	0.
47 16.4208	16.4208	0.	0.	2.141447E-02	2.310819E+01	4.308203E-02

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INTERIOR METAL NODE	TEMPERATURE	MASS TIMES HEAT CAPACITY	T DOT	DELTA T/T
1	557.494	491.973	4.608867E-05	6.446603E-10
2	567.575	494.032	5.398560E-04	9.909999E-09
3	578.156	496.194	8.167273E-04	1.496643E-08
4	584.234	497.435	1.321117E-03	2.410705E-08
7	542.909	97.9430	-5.994902E-04	-1.197979E-08
9	583.745	2568.55	1.021436E-04	1.319376E-09
11	550.267	26916.5	-5.307807E-05	-1.049226E-09
12	582.184	815.047	7.988930E-05	1.345281E-09
13	580.504	1067.64	1.179935E-03	2.135835E-08
16	550.015	9624.63	2.275106E-06	3.802194E-11
18	582.827	162.300	-4.285910E-04	-7.942303E-09
20	548.072	107.861	7.692480E-01	1.440918E-05
21	545.685	107.808	5.521769E-01	1.038079E-05
22	543.512	107.759	4.340392E-01	8.242533E-06
23	541.546	107.714	3.914943E-01	7.521664E-06
26	580.059	404.471	7.316764E-04	1.327507E-08
27	550.466	341.587	-8.138951E-03	-1.573690E-07
30	544.446	382.474	1.102915E-03	2.123613E-08
31	582.746	1071.75	5.139060E-03	9.036398E-08
32	583.728	398.645	2.376864E-04	3.597715E-09
33	539.763	107.674	3.827390E-01	7.410484E-06
34	538.141	107.638	3.851608E-01	7.499918E-06
35	536.591	107.603	3.756915E-01	7.327338E-06
36	535.182	107.571	3.600997E-01	7.023315E-06
37	549.484	545.884	-1.127097E-03	-2.278363E-08
39	550.405	456.481	-3.494173E-03	-6.791819E-08
40	550.466	341.587	-7.490518E-03	-1.448836E-07
41	550.319	718.601	-1.299891E-04	-2.516293E-09
42	643.984	3237.68	-7.199376E-03	-3.502894E-08
53	1649.19	74.7502	3.370206E-01	2.078703E-06
54	1864.48	75.7085	-7.470357E-01	-4.179812E-06
55	1880.01	75.7789	-7.500640E-01	-4.162485E-06
56	1636.39	74.6932	-5.627101E-01	-3.597596E-06

LOFT L3-6 FOR NRC
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TIME = 200.750

DELT = 1.000000E-02

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NON-CRIT

FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
1	1	2	1010.58	0.	1010.58	562390.	556.500	2.785491E+02
2	2	3	1010.36	0.	1010.36	576143.	570.235	-7.453450E+02
3	3	4	1009.93	0.	1009.93	590333.	584.579	4.230694E+02
4	4	9	1009.32	0.	1009.32	599108.	593.576	2.548430E+02
9	9	18	2.01849	0.	2.01849	1193.96	591.510	-2.440315E+01
10	11	9	14.5700	0.	14.5700	7971.24	547.101	-5.433480E+02
11	11	16	1012.48	0.	1012.48	553929.	547.101	-1.098927E+01
12	12	13	1.18616	2.047439E-10	1.18616	699.199	589.463	1.084466E-01
13	13	26	8.848229E-02	0.	8.848229E-02	52.1413	589.285	-7.997189E-04
14	30	18	.563338	0.	.563338	304.901	541.241	-1.032380E+00
15	30	18	2.247192E-11	0.	2.247192E-11	1.216472E-08	541.241	-1.134252E-09
16	16	1	1010.75	0.	1010.75	553026.	547.143	-3.029377E+02
18	18	12	2.17178	0.	2.17178	1280.01	589.382	9.344878E-01
20	20	21	1094.09	0.	1094.09	638468.	583.564	-4.196554E+02
21	21	22	1094.15	0.	1094.15	630603.	576.341	4.200607E+01
22	22	23	1094.09	0.	1094.09	623558.	582.933	-6.378152E+01
23	23	33	.092.97	4.452099E-08	1093.97	617227.	564.207	-7.877611E+01
27	27	41	545.737	0.	545.737	298227.	546.467	1.073808E+00
28	27	41	9.291671E-09	0.	9.291671E-09	5.077591E-06	546.467	6.088403E-06
29	39	27	546.381	0.	546.381	298376.	546.095	9.666548E+00
30	30	7	3.604206E-02	0.	3.604206E-02	19.5074	541.241	-6.932539E+00
31	31	32	1091.69	0.	1091.69	648498.	594.029	-1.039791E+01
32	32	20	1093.81	0.	1093.81	647256.	591.746	1.459940E+01
33	33	34	1093.83	0.	1093.83	611519.	559.081	-6.353984E+01
34	34	35	1093.69	0.	1093.69	606364.	554.419	3.220014E+02
35	35	36	1093.56	0.	1093.56	601732.	550.249	-4.316041E+01
36	36	37	1093.43	0.	1093.43	597563.	546.502	2.390025E+01
37	37	39	1092.84	0.	1092.84	590846.	546.144	4.256183E+00
39	39	40	546.141	0.	546.141	299245.	546.095	9.821064E+00
40	40	41	545.322	0.	545.322	298052.	546.561	9.276158E-01
41	41	11	1030.46	0.	1030.46	563470.	546.811	-8.629958E+01
42	42	31	66.7429	.366751	67.1096	45971.1	685.002	1.054023E+01
47	9	31	1020.91	0.	1020.91	603878.	591.510	4.780694E+01
48	9	31	1.561285E-08	0.	1.561285E-08	9.235148E-06	591.510	1.526408E-04
49	9	18	3.109374E-11	0.	3.109374E-11	1.839224E-08	591.510	-6.928115E-05
50	40	41	3.501454E-08	0.	3.501454E-08	1.913759E-05	546.561	2.072290E-05
51	41	11	5.428650E-09	0.	5.428650E-09	2.968448E-06	546.811	-2.176696E-05
52	11	30	.946114	0.	.946114	517.620	547.101	-3.372433E+06
53	11	30	1.588597E-11	0.	1.588597E-11	8.691227E-09	547.101	-1.369611E-11
54	41	47	59.6276	0.	59.6276	32605.1	546.811	5.215879E+00

LOFT L3-6 FOR NRC
1STEP *

4006

TIME = 200.750

DELT = 1.000000E-02

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CASE

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NON-CRIT

FLOW LINK	UP NODE	DOWN NODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	W DOT
55	41	47	-8.987305E-10	0.	-8.987305E-10	-4.914429E-07	546.819	-7.861498E-11

LOFT L3-6 FOR NRC
1STEP *

4006

TIME = 200.750

DELT = 1.000000E-02

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CASE

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CRITICAL FLOW LINK	UP MODE	DOWN MODE	LIQUID MASS FLOW RATE	VAPOR MASS FLOW RATE	TOTAL MASS FLOW RATE	TOTAL ENERGY FLOW RATE	DHWFL	MACH NUMBER
8	47	49	59.5845	0.	59.5845	32582.0	546.819	0.
43	43	41	0.	0.	0.	0.	59.6200	0.
70	50	46	58.2000	0.	58.2000	20864.7	358.500	0.
72	46	49	0.	58.2000	58.2000	69745.2	1198.37	0.
73	51	11	0.	0.	0.	0.	68.0000	0.

LOFT L3-6 FOR NCC
1STEP =

4006

TIME = 200.750

DELT = 1.000000E-02

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PUMP TYPE	APPLIED FLOW LINK	NUMBER OF PUMPS	PUMP CURVE TYPE	PUMP COASTING	REVERSE SPEED ALLOWED	TOTAL MASS FLOW RATE PER PUMP	CRITICAL RECIPIENT PRESSURE	CRITICAL MASS FLOW RATE PER PUMP
1	29	1	1	F	F	546.381	0.	0.
2	39	1	1	F	F	546.141	0.	0.

PUMP TYPE	PUMP INLET PRESSURE	PUMP OUTLET PRESSURE	PUMP INLET SPECIFIC ENTHALPY	PUMP OUTLET SPECIFIC ENTHALPY	PUMP INLET SPECIFIC VOLUME	PUMP OUTLET SPECIFIC VOLUME
1	2005.38	2029.40	546.095	546.190	2.138206E-02	2.137698E-02
2	2005.38	2029.47	546.095	546.191	2.138206E-02	2.137696E-02

PUMP TYPE	SPEED (RPM)	HEAD FLOW RATE (GPM)	HEAD (FT)	TORQUE FLOW RATE (GPM)	TORQUE DENSITY (LBM/FT3)	TORQUE (FT)	NPSH FLOW RATE (GPM)	NPSH (FT)
1	3150.00	5193.11	73.9603	5193.11	46.7682	213.775	5193.11	178.395
2	3150.00	5190.83	74.1787	5190.83	46.7682	213.847	5190.83	178.185