DONALD C. COOK ICE CONDENSER ANALYSIS PARAMETERS

Reactor Containment Volume (net free volume)	
Upper Compartment, ft^3 (1)	727,628
Ice Condenser, ft^3 (1)	110,520
Lower Compartment (active), ft^3 (1)	293,801
Total Active Volume, ft^3	1,131,949
Lower Compartment (dead ended), ft^3	61,309
Total Containment Volume, ft^3	Not Applicable
Reactor Containment Air Compression Ratio	1.42
NSSS Power, MWt	3425
Design Energy Release to Containment	
Initial blowdown mass release, lbm	543,885
Initial blowdown energy release, Btu	338.8×10^6
Ice Condenser Parameters	
Weight of ice in condenser, lbm	2.20×10^6
Additional System Parameters	
Core Inlet Temperature (±5.1 °F), °F	552.5 (2)
Initial Steam Generator Steam Pressure, psia	858.2
Assumed Maximum Containment Back Pressure, psia	26.7

(1) Reference 36 and 38
(2) Includes +4.1°F allowance for instrument error, deadband, and +1°F for cold leg streaming.
This is information utilized in the current containment pressure analysis discussed in Section 14.3.4.1.3.1.

DECK LEAKAGE SENSITIVITY

Break Size	5 ft^2 Deck Leak Air Compression Peak (psig) [1]	Deck Leakage Area (ft^2)	Spray Flow Rate (gpm)	Resultant Peak Containment Pressure (psig)
Double ended	7.8	54	0	12.0
0.6 double ended	6.6	46	0	12.0
3 ft^2	6.25	50	0	12.0
8-inch diameter	5.5	56	4000	12.2
8-inch diameter	5.5	35	2000	12.0
8-inch diameter [2]	5.5	56	2000	11.3
6-inch diameter	5.0	56	4000	10.4
2 1/2-inch diameter	4.0	56	4000	8.5
1/2-inch diameter	3.0	50	4000	3.0

[1] The current design basis value for the deck leakage is 7 sq. ft.

[2] This case assumes upper compartment structural heat sink steam condensation of 8 lb/sec and 30 percent of deck leakage is air.

STRUCTURAL HEAT SINK TABLE

Upper Compartment	Area (ft^2)	Thickness (ft)	Material
Structure 1	29958.25		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.029741	Carbon Steel
Layer 4		3.0364	Concrete
Structure 2	12571.4		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.00275	Paint (Primer)
Layer 3		2.710421	Concrete
Structure 3	15526.8		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.00275	Paint (Primer)
Layer 3		2.2728	Concrete
Structure 4	1306.25		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.209108	Carbon Steel
Structure 5	4207.55		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.064932	Carbon Steel
Structure 6	22443.75		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.017572	Carbon Steel
Structure 7	24149.01		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.010036	Carbon Steel

STRUCTURAL HEAT SINK TABLE

Lower Compartment	Area (ft^2)	Thickness (ft)	Material
Structure 8	6734.55		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.0167	Carbon Steel
Layer 4		1.0103	Concrete
Structure 9	14642.35		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.00275	Paint (Primer)
Layer 3		5.8355	Concrete
Structure 10	25872.3		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.00275	Paint (Primer)
Layer 3		2.699	Concrete
Structure 11	3214.8		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.09286	Carbon Steel
Structure 12	3499.8		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.06918	Carbon Steel
Structure 13	12312.0		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.013136	Carbon Steel
Structure 14	58073.355		
Layer 1		0.001	Paint (Top Coat)
Layer 2		0.0005	Paint (Primer)
Layer 3		0.00952	Carbon Steel

STRUCTURAL HEAT SINK TABLE

Ice Condenser	Area (ft^2)	Thickness (ft)	Material
Structure 15	180600.0		
Ice Baskets			
Layer 1		0.00663	Steel
Structure 16	76650.0		
Lattice Frames			
Layer 1		0.0217	Steel
Structure 17	28670.0		
Lower Support Structure			
Layer 1		0.0267	Steel
Structure 18	3336.0		
Ice Condenser Floor			
Layer 1		0.00275	Paint
Layer 2		0.33	Concrete
Structure 19	19100.0		
Containment Wall Panels and Containment Shell			
Layer 1		1.0	Steel and Insulation
Layer 2		0.0625	Steel Shell
Structure 20	13055.0		
Crane Wall Panels and Crane Wall			
Layer 1		1.0	Steel and Insulation
Layer 2		1.0	Concrete

MATERIAL PROPERTY DATA

UPPER AND LOWER COMPARTMENTS		
Material	**Thermal Conductivity (Btu/hr-ft-^{o}F)**	**Volumetric Heat Capacity (Btu/ft^{3}-^{o}F)**
Paint (on concrete)		
Primer	0.19	29.3
Top Coat	0.19	75.0
Concrete	0.81	30.4
Paint (on steel)		
Primer	0.4	29.3
Top Coat	0.4	75.0
Steel	26.0	58.8

ICE CONDENSER COMPARTMENT		
Material	**Thermal Conductivity (Btu/hr-ft-^{o}F)**	**Volumetric Heat Capacity (Btu/ft^{3}-^{o}F)**
Paint (on concrete)	0.0833	28.4
Insulation (on steel)	0.15	2.75
Insulation	0.2	3.663
Steel	26.0	56.4

Table 14.3.4-6A (U2) - D. C. Cook Unit 2 DECL
Minimum Containment Energy Accounting – Blowdown

	Approximate End of Blowdown (10.0 sec)
Ice Heat Removal[1]	201.01 MBTU
Structural Heat Sinks[1]	19.99 MBTU
RHR Heat Exchanger Removal[1]	0.00 MBTU
Spray Heat Exchanger[1]	0.00 MBTU
Energy Content of Sump[2]	204.42 MBTU
Ice Melted	0.665 Mlbm

[1] Integrated Energy

[2] Sum of Active and Inactive Sump

Table 14.3.4-6B (U2) - D. C. Cook Unit 2 DECL
Minimum Containment Energy Accounting – Meltout and Peak Pressure

	Approximate Time of Ice Meltout (~8 ec)[1]	Approximate Time of Peak Pressure (~11,0 s ec)[2]
Ice Heat Removal[3]	56.07M BTU	56.07M BTU
Structural Heat Sinks[3]	129.61 MBTU	17.86 M BTU
RHR Heat Exchanger Removal[3]	124.91 MBTU	205.44 MBTU
Spray Heat Exchanger[3]	139.52 MBTU	231.11 MBTU
Energy Content of Sump[4]	537.44 M BTU	551.03 MBTU
Ice Melted	2.20 Mlbm	2.20 Mlbm

[1] Used 7,864.5 sec

[2] Used 11,098.0 sec

[3] Integrated Energy

[4] Active Sump

Steamline Break Mass / Energy Releases Inside Containment
102% of 3817M Wt Core Power,1.4 Ft^2 Double Ended Rupture Failure – MSIV

Time (sec)	Mass (lb_m / sec)	Energy (MBtu / sec)
0000	.0000	.0000
0.200	9573	11.68
1.400	8708	10.45
3.000	7421	9.279
6.000	7228	8.693
8.000	7069	8.504
10.00	6882	8.281
11.60	6658	8.014
12.00	6441	7752
12.20	6224	7490
13.00	5353	6.443
14.20	4047	4.871
15.20	2959	3.562
16.00	2090	2.516
16.40	1657	1.995
1700	1482	1.784
22.00	1306	1.572
24.00	1253	1.509
26.00	1208	1.455
28.00	1169	1.408
30.00	1137	1.369
34.00	1087	1.309

Steamline Break Mass / Energy Releases Inside Containment
102% of 3588M Wt Core Power,1.4 Ft^2 Double Ended Rupture Failure – MSIV

Time (sec)	Mass (lb_m / sec)	Energy (MBtu / sec)
36.00	1068.	1.285
45.00	1006.	1.211
57.00	878.0	1.056
100.0	851.6	1.024
200.0	831.4	.9998
280.0	825.3	.9924
282.5	789.4	.9485
285.0	695.6	.8349
287.5	619.9	.7431
292.5	455.2	.5429
300.0	241.3	.2850
302.5	197.8	.2330
305.0	167.7	.1971
310.0	135.9	.1592
320.0	112.0	.1308
350.0	106.5	.1244
605.0	108.9	.1267
610.0	3.231	.0038

Steamline Break Mass / Energy Releases Inside Containment
102% of 3587 M Wt Core Power, 0.80 Ft^2 Split Break Failure – AFWRP

Time (sec)	Mass (lb_m / sec)	Energy (MBtu / sec)
.0000	.0000	.0000
.2000	1394	1.669
5.600	1293	1.550
7.000	1439	1.724
10.00	1551	1.855
13.00	1627	1.944
13.60	1635	1.953
14.80	1642	1.961
15.60	1642	1.961
16.00	1640	1.959
18.00	1628	1.945
20.00	1540	1.843
21.00	1484	1.777
22.00	1433	1.718
23.00	1387	1.663
24.00	1345	1.614
26.00	1271	1.526
30.00	1153	1.386
35.00	1043	1.255
40.00	958.2	1.154
45.00	892.0	1.074
50.00	839.6	1.011

Steamline Break Mass / Energy Releases Inside Containment
102% of 3468 M Wt Core Power, 0.80 Ft^2 Split Break Failure – AFWRP

Time (sec)	Mass (lb_m / sec)	Energy (MBtu / sec)
60.00	672	0.924
70.00	579.7	.8668
80.00	689.9	.8308
90.00	669.6	.8063
100.0	656.4	.7904
110.0	648.7	.7810
120.0	643.8	.752
150.0	638.2	.7684
200.0	635.4	.7650
295.0	630.9	.7596
315.0	459.0	.5513
335.0	269.0	.3211
350.0	213.2	.2537
400.0	189.1	.2247
500.0	188.8	.2243
602.5	189.9	.2257
605.0	198.2	.2348
610.0	114.2	.1343

Double-Ended Rupture Steamline Breaks

1.4 ft^2 Double-Ended Steamline Breaks

Operating Power, %[1]	102	0
Aux. Feed Failure	w/o	w/o
MSIV Failure	w	w
T_{max} °F	323.3	323.0
Time of T_{max} sec	8.01	11.96

4.6 ft^2 Double-Ended Steamline Breaks

Operating Power, %[1]	102	0
Aux. Feed Failure	w/o	w/o
MSIV Failure	w	w
T_{max} °F	322.7	321.7
Time of T_{max} sec	6.2	6.2

[1] Based upon a core power of 3588 MWt.

Split Steamline Breaks

Size of Break, ft^2	0.860	0.942	0.942
Hot Operating Power %[1]	102	30	30
Aux. Feed Failure	w	w/o	w
MSIV Failure	w/o	w	w/o
T_{max} °F	324.7	324.1	323.7
Time of T_{max} sec	12.4	10.4	101.3

[1] Based upon a core power of 3588 MWt.

LOWER COMPARTMENT TEMPERATURE TRANSIENT CALCULATION RESULTS

Case	Maximum LC Temp ^{o}F	Time T_{max} Sec.	Time Of Containment*	
			Spray	Fan
0.6 ft^2	326.1	151.39	53.	605.
0.35 ft^2	325.8	322.8	59.	617.
0.1 ft^2	320.7	651.	106.	663.

* Hi-2 Pressure Setpoint used was 3.5 psig.
Relay time used for spray actuation after Hi-2 signal was 45 sec.
Relay time used for fan actuation after Hi-2 signal was 600 sec.

0.35 FT^2 SPLIT 30% POWER		
Time (sec)	**Mass (lb/sec)**	**Energy (BTU/sec)**
.1000E-01	.7970E+03	.9480E+06
.1000E+01	.7970E+03	.9480E+06
.3000E+01	.7890E+03	.9388E+06
.5000E+01	.7820E+03	.9308E+06
.7000E+01	.7760E+03	.7239E+06
.9000E+01	.7700E+03	.9169E+06
.1000E+02	.7680E+03	.9145E+06
.1300E+02	.7760E+03	.9237E+06
.1500E+02	.7800E+03	.9284E+06
.1600E+02	.8960E+03	.1066E+07
.1900E+02	.1240E+03	.1476E+07
2000E+02	.7720E+03	.9195E+06
.2500E+02	.7090E+03	.8466E+06
.3000E+02	.6630E+03	.7930E+06
.3500E+02	.6280E+03	.7520E+06
.4000E+02	.6010E+03	.7203E+06
.5000E+02	.5630E+03	.6756E+06
.6000E+02	.5350E+03	.6425E+06
.7000E+02	.5140E+03	.6176E+06
.8000E+02	.4970E+03	.5974E+06
.9000E+02	.4830E+03	.5808E+06
.1000E+03	.4700E+03	.5653E+06
.1200E+03	.4500E+03	.5415E+06
.1400E+03	.4320E+03	.5200E+06
.1600E+03	.4160E+03	.5008E+06
.1800E+03	.4020E+03	.4841E+06
.2000E+03	.3890E+03	.4685E+06
.2400E+03	.3650E+03	.4397E+06
.2800E+03	.3440E+03	.4144E+06
.3200E+03	.3240E+03	.3904E+06
.3600E+03	.3060E+03	.3687E+06
.4000E+03	.2890E+03	.3481E+06
.5000E+03	.2530E+03	.3046E+06
.6000E+03	.2230E+03	.2683E+06
.7000E+03	.1990E+03	.2392E+06
.8000E+03	.1790E+03	.2150E+06
.9000E+03	.1620E+03	.1944E+06
.1000E+04	.1480E+03	.1774E+06

0. FT^2 SPLIT 30% POWER

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.1000E-01	.1365E+04	.1624E+07
.1000E+01	.1365E+04	.1624E+07
.3000E+01	.1341E+04	.1596E+07
.5000E+01	.1320E+04	.1572E+07
.7000E+01	.1302E+04	.1551E+07
.8000E+01	.1293E+04	.1541E+07
.1000E+02	.1297E+04	.1545E+07
.1200E+02	.1298E+04	.1546E+07
.1300E+02	.1297E+04	.1545E+07
.1400E+02	.1268E+04	.1513E+07
.1600E+02	.1196E+04	.1429E+07
.1800E+02	.1133E+04	.1355E+07
.2000E+02	.1079E+04	.1292E+07
2200E+02	.1033E+04	.1238E+07
.2400E+02	.9940E+03	.1192E+07
.2700E+02	.9440E+03	.1133E+07
.3200E+02	.8800E+03	.1057E+07
.3600E+02	.8420E+03	.1012E+07
.4000E+02	.8110E+03	.9754E+06
.4600E+02	.7740E+03	.9313E+06
.5000E+02	.7540E+03	.9074E+06
.6000E+02	.7130E+03	.8584E+06
.7500E+02	.6680E+03	.8045E+06
.9500E+02	.6250E+03	.7529E+06
.1200E+03	.5840E+03	.7036E+06
.1400E+03	.5570E+03	.6711E+06
.1800E+03	.5110E+03	.6156E+06
.2200E+03	.4720E+03	.5685E+06
.2400E+03	.4530E+03	.5455E+06
.2600E+03	.4350E+03	.5238E+06
.3000E+03	.4020E+03	.4838E+06
.3600E+03	.3600E+03	.4330E+06
.4200E+03	.3250E+03	.3905E+06
.5000E+03	.2870E+03	.3445E+06
.5600E+03	.2680E+03	.3154E+06
.6000E+03	.2480E+03	.2972E+06
.8600E+03	.1790E+03	.2136E+06
.9600E+03	.1610E+03	.1918E+06
.9800E+03	.1580E+03	.1882E+06
.1000E+04	.1550E+03	.1846E+06

KEY PARAMETERS AFFECTING SPLIT STEAM LINE BREAKS

Variable	Values Used In LOTIC-3 Report	Values for D. C. Cook
Full Load Steam Pressure (psia)	1000	820
Plant Power (Mwt)	3425	3403
Time Delay to Feedline Isolation (sec)	15	≤9.0
Time Delay to Steam Line Isolation (sec)	15	≤9.0

STEAM LINE RUPTURE IN STEAM GENERATOR DOGHOUSE

Mass Energy Release Rates
Outlet Nozzle Break (Top Break)

Time (Sec)	Mass Flowrate (lbm/sec) $x10^3$	Energy Flowrate (BTU/sec) $x10^6$
0.0	19.421	23.110
0.042	19.421	23.110
0.043	13.830	16.458
0.2	13.430	15.982
0.45	16.630	16.239
0.75	26.430	19.040
1.05	34.630	21.428
1.9	33.350	20.358
2.9	31.680	19.395
3.5	31.000	18.678

MAIN FEEDWATER LINE BREAK IN STEAM GENERATOR DOGHOUSE

Mass and Energy Releases
(Break at Side of Vessel)

	Reverse Flow	
Time (seconds)	Mass Flow (lbm/sec)	Energy Flow (Btu/sec)
0.0	8919	4.866×10^6
20.23	8919	4.866×10^6
20.24	0	0
	Forward Flow	
Time (seconds)	Mass Flow (lbm/sec)	Energy Flow (Btu/sec)
0.0	5711	2.451×10^6
∞	5711	2.451×10^6
	Total Flow	
Time (seconds)	Mass Flow (lbm/sec)	Energy Flow (Btu/sec)
0.0	14630	7.317×10^6
20.23	14630	7.317×10^6
20.24	5711	2.451×10^6

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.00000	0.	0.
.00101	1.8429935E+03	1.2012554E+06
.00201	2.0768869E+03	1.3312080E+06
.00302	2.0954232E+03	1.3410507E+06
.00401	2.0943466E+03	1.3398926E+06
.00502	2.0906198E+03	1.3372569E+06
.00600	2.0847010E+03	1.3334349E+06
.00703	2.0776894E+03	1.3290038E+06
.00800	2.0718446E+03	1.3252736E+06
.00901	2.0684832E+03	1.3229372E+06
.01000	2.0667746E+03	1.3215515E+06
.01102	2.0657651E+03	1.3205642E+06
.01200	2.0657312E+03	1.3202011E+06
.01301	2.0710642E+03	1.3227266E+06
.01400	2.0895916E+03	1.3326883E+06
.01505	2.1237904E+03	1.3513713E+06
.01605	2.1428041E+03	1.3615888E+06
.01705	2.1327342E+03	1.3556010E+06
.01804	2.1286790E+03	1.3530305E+06
.01905	2.1408255E+03	1.3594780E+06
.02004	2.1330134E+03	1.3547994E+06
.02108	2.1170413E+03	1.3456154E+06
.02207	2.1196063E+03	1.3467887E+06
.02308	2.1314002E+03	1.3530903E+06
.02400	2.1400977E+03	1.3576929E+06
.02501	2.1475536E+03	1.3615802E+06
.02602	2.1559827E+03	1.3660339E+06
.02707	2.1678910E+03	1.3724086E+06
.02804	2.1768474E+03	1.3771613E+06
.02907	2.1816274E+03	1.3795673E+06
.03009	2.1827097E+03	1.3799305E+06
.03107	2.1841837E+03	1.3805245E+06
.03212	2.1872679E+03	1.3820107E+06
.03301	2.1894643E+03	1.3830366E+06
.03411	2.1903771E+03	1.3833149E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.03504	2.1897285E+03	1.3827485E+06
.03607	2.1861418E+03	1.3805329E+06
.03703	2.1786958E+03	1.3761844E+06
.03807	2.1711481E+03	1.3717868E+06
.03906	2.1650758E+03	1.3682259E+06
.04009	2.1587371E+03	1.3645103E+06
.04102	2.1527706E+03	1.3610346E+06
.04212	2.1468107E+03	1.3575467E+06
.04305	2.1432206E+03	1.3554088E+06
.04406	2.1404771E+03	1.3537320E+06
.04510	2.1384998E+03	1.3524847E+06
.04601	2.1374125E+03	1.3517571E+06
.04705	2.1369632E+03	1.3513688E+06
.04809	2.1372622E+03	1.3514036E+06
.04911	2.1379671E+03	1.3516676E+06
.05006	2.1388546E+03	1.3520428E+06
.05108	2.1400630E+03	1.3525916E+06
.05207	2.1411605E+03	1.3530872E+06
.05318	2.1418610E+03	1.3533545E+06
.05404	2.1420277E+03	1.3533548E+06
.05515	2.1419234E+03	1.3531771E+06
.05609	2.1415416E+03	1.3528611E+06
.05711	2.1410383E+03	1.3524782E+06
.05812	2.1409677E+03	1.3523442E+06
.05901	2.1414214E+03	1.3525173E+06
.06004	2.1427085E+03	1.3531458E+06
.06104	2.1448478E+03	1.3542536E+06
.06207	2.1481439E+03	1.3559989E+06
.06303	2.1514351E+03	1.3577536E+06
.06402	2.1550387E+03	1.3596806E+06
.06501	2.1585740E+03	1.3615691E+06
.06604	2.1618098E+03	1.3632912E+06
.06710	2.1647229E+03	1.3648345E+06
.06814	2.1673799E+03	1.3662365E+06
.06905	2.1694828E+03	1.3673439E+06
.07008	2.1716796E+03	1.3684953E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.07111	2.1735789E+03	1.3694836E+06
.07213	2.1750499E+03	1.3702354E+06
.07317	2.1759218E+03	1.3706558E+06
.07412	2.1760897E+03	1.3706871E+06
.07523	2.1755041E+03	1.3702969E+06
.07602	2.1743802E+03	1.3696191E+06
.07705	2.1726900E+03	1.3686222E+06
.07801	2.1708169E+03	1.3675296E+06
.07902	2.1688239E+03	1.3663702E+06
.08006	2.1667850E+03	1.3651854E+06
.08100	2.1651864E+03	1.3642490E+06
.08204	2.1632686E+03	1.3631342E+06
.08306	2.1613432E+03	1.3620171E+06
.08410	2.1593726E+03	1.3608757E+06
.08504	2.1576149E+03	1.3598670E+06
.08603	2.1556593E+03	1.3587375E+06
.08708	2.1538655E+03	1.3576993E+06
.08814	2.1523767E+03	1.3568314E+06
.08915	2.1513646E+03	1.3562298E+06
.09005	2.1510544E+03	1.3560230E+06
.09115	2.1514210E+03	1.3561899E+06
.09214	2.1524508E+03	1.3567285E+06
.09307	2.1540139E+03	1.3575665E+06
.09405	2.1562098E+03	1.3587565E+06
.09504	2.1589196E+03	1.3602332E+06
.09601	2.1619926E+03	1.3619135E+06
.09712	2.1660659E+03	1.3641459E+06
.09811	2.1700593E+03	1.3663392E+06
.09910	2.1743398E+03	1.3686932E+06
.10011	2.1788810E+03	1.3711929E+06
.10505	2.1997980E+03	1.3827080E+06
.11017	2.2084042E+03	1.3873725E+06
.11511	2.1979605E+03	1.3814517E+06
.12010	2.1755220E+03	1.3688892E+06
.12501	2.1516732E+03	1.3555705E+06
.13001	2.1350205E+03	1.3462681E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.13501	2.1319480E+03	1.3445234E+06
.14009	2.1415298E+03	1.3498034E+06
.14510	2.1540075E+03	1.3566900E+06
.15015	2.1608228E+03	1.3604378E+06
.15500	2.1603593E+03	1.3601520E+06
.16007	2.1547404E+03	1.3570065E+06
.16515	2.1446526E+03	1.3513889E+06
.17002	2.1327374E+03	1.3447619E+06
.17509	2.1250311E+03	1.3404793E+06
.18010	2.1255323E+03	1.3407503E+06
.18500	2.1307501E+03	1.3436315E+06
.19010	2.1359241E+03	1.3464861E+06
.19507	2.1377315E+03	1.3474736E+06
.20008	2.1357354E+03	1.3463523E+06
.21002	2.1305966E+03	1.3434798E+06
.22009	2.1455142E+03	1.3517412E+06
.23010	2.1609519E+03	1.3602792E+06
.24007	2.1500994E+03	1.3542251E+06
.25001	2.1319210E+03	1.3441210E+06
.26002	2.1212847E+03	1.3437534E+06
.27006	2.1408201E+03	1.3490219E+06
.28015	2.1382240E+03	1.3475602E+06
.29011	2.1219655E+03	1.3385282E+06
.30028	2.1125694E+03	1.3333092E+06
.31011	2.1146636E+03	1.3344534E+06
.32004	2.1134582E+03	1.3337664E+06
.33005	2.1102424E+03	1.3319670E+06
.34002	2.1162685E+03	1.3352858E+06
.35002	2.1252674E+03	1.3402496E+06
.36002	2.1249488E+03	1.3400427E+06
.37007	2.1182970E+03	1.3363273E+06
.38010	2.1179299E+03	1.3360961E+06
.39027	2.1241025E+03	1.3394390E+06
.40003	2.1244819E+03	1.3396673E+06
.41001	2.1157197E+03	1.3347842E+06
.42004	2.1079031E+03	1.3304251E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.43006	2.1057949E+03	1.3292307E+06
.44011	2.1038434E+03	1.3281221E+06
.45008	2.1005501E+03	1.3262686E+06
.46002	2.1008990E+03	1.3264325E+06
.47013	2.1046381E+03	1.3284716E+06
.48001	2.1065466E+03	1.3294937E+06
.49011	2.1055653E+03	1.3289117E+06
.50010	2.1065499E+03	1.3294210E+06
.51005	2.1109307E+03	1.3318103E+06
.52014	2.1132353E+03	1.3330479E+06
.53006	2.1104929E+03	1.3314882E+06
.54010	2.1067324E+03	1.3293690E+06
.55002	2.1047031E+03	1.3282077E+06
.56003	2.1025984E+03	1.3270031E+06
.57000	2.0994619E+03	1.3252280E+06
.58000	2.0974864E+03	1.3240966E+06
.59023	2.0978998E+03	1.3242862E+06
.60010	2.0987566E+03	1.3247206E+06
.61005	2.0988030E+03	1.3247041E+06
.62019	2.0998437E+03	1.3252383E+06
.63007	2.1029363E+03	1.3269102E+06
.64009	2.1057724E+03	1.3284358E+06
.65011	2.1063355E+03	1.3287028E+06
.66008	2.1058521E+03	1.3283898E+06
.67006	2.1056166E+03	1.3282154E+06
.68003	2.1048258E+03	1.3277315E+06
.69009	2.1027606E+03	1.3265436E+06
.70006	2.1004766E+03	1.3252341E+06
.71021	2.0994186E+03	1.3246041E+06
.72013	2.0991217E+03	1.3243955E+06
.73018	2.0986674E+03	1.3240994E+06
.74006	2.0987148E+03	1.3240815E+06
.75009	2.1001279E+03	1.3248191E+06
.76008	2.1022067E+03	1.3259240E+06
.77007	2.1038110E+03	1.3267654E+06
.78001	2.1049477E+03	1.3273479E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.79005	2.1060244E+03	1.3278975E+06
.80008	2.1065644E+03	1.3281484E+06
.81002	2.1059659E+03	1.3277697E+06
.82003	2.1046670E+03	1.3270043E+06
.83006	2.1036100E+03	1.3263731E+06
.84009	2.1028557E+03	1.3259083E+06
.85013	2.1019975E+03	1.3253876E+06
.86002	2.1012207E+03	1.3249123E+06
.87004	2.1011387E+03	1.3248209E+06
.88001	2.1018523E+03	1.3251709E+06
.89009	2.1029599E+03	1.3257378E+06
.90001	2.1041960E+03	1.3263762E+06
.92003	2.1066767E+03	1.3276561E+06
.93004	2.1070790E+03	1.3278333E+06
.94009	2.1068436E+03	1.3276548E+06
.95015	2.1064606E+03	1.3273966E+06
.91007	2.1055640E+03	1.3270867E+06
.96022	2.1060345E+03	1.3271155E+06
.97001	2.1052992E+03	1.3266634E+06
.98005	2.1042714E+03	1.3260489E+06
.99010	2.1033853E+03	1.3255134E+06
1.00003	2.1030192E+03	1.3252670E+06
1.00015	2.1030185E+03	1.3252660E+06
1.01010	2.1031598E+03	1.3252999E+06
1.02001	2.1036738E+03	1.3255407E+06
1.03002	2.1044850E+03	1.3259460E+06
1.04010	2.1053738E+03	1.3263933E+06
1.05011	2.1060053E+03	1.3266987E+06
1.06006	2.1063215E+03	1.3268299E+06
1.07003	2.1065103E+03	1.3268901E+06
1.08001	2.1065562E+03	1.3268717E+06
1.09002	2.1062535E+03	1.3266603E+06
1.10005	2.1054973E+03	1.3261987E+06
1.11001	2.1045159E+03	1.3256120E+06
1.12004	2.1036583E+03	1.3250948E+06
1.13020	2.1030886E+03	1.3247376E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
1.14007	2.1028399E+03	1.3245581E+06
1.15004	2.1028392E+03	1.3245158E+06
1.16002	2.1030452E+03	1.3245891E+06
1.17008	2.1033358E+03	1.3247086E+06
1.18009	2.1036084E+03	1.3248175E+06
1.19008	2.1038945E+03	1.3249345E+06
1.20005	2.1041572E+03	1.3250391E+06
1.21005	2.1041987E+03	1.3250213E+06
1.22004	2.1038425E+03	1.3247830E+06
1.23001	2.1031332E+03	1.3243498E+06
1.24003	2.1022976E+03	1.3238470E+06
1.25007	2.1014833E+03	1.3233569E+06
1.26010	2.1007977E+03	1.3229378E+06
1.27007	2.1002438E+03	1.3225929E+06
1.28000	2.0998158E+03	1.3223173E+06
1.29006	2.0995386E+03	1.3221250E+06
1.30006	2.0993915E+03	1.3220048E+06
1.31013	2.0994058E+03	1.3219736E+06
1.32023	2.0995298E+03	1.3220039E+06
1.33005	2.0995986E+03	1.3220040E+06
1.34003	2.0994684E+03	1.3218931E+06
1.35003	2.0990790E+03	1.3216402E+06
1.36003	2.0984545E+03	1.3212564E+06
1.37021	2.0977429E+03	1.3208245E+06
1.38008	2.0969880E+03	1.3203695E+06
1.39003	2.0962009E+03	1.3198970E+06
1.40007	2.0954355E+03	1.3194364E+06
1.41000	2.0947605E+03	1.3190272E+06
1.42008	2.0941729E+03	1.3186648E+06
1.43000	2.0937703E+03	1.3184063E+06
1.44009	2.0935338E+03	1.3182384E+06
1.45002	2.0933865E+03	1.3181211E+06
1.46007	2.0932071E+03	1.3179859E+06
1.47003	2.0929094E+03	1.3177850E+06
1.48002	2.0924851E+03	1.3175144E+06
1.49013	2.0919562E+03	1.3171856E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
1.50005	2.0913287E+03	1.3168027E+06
1.51010	2.0906026E+03	1.3163655E+06
1.52003	2.0897881E+03	1.3158794E+06
1.53000	2.0889400E+03	1.3153753E+06
1.54004	2.0881300E+03	1.3148919E+06
1.55003	2.0874180E+03	1.3144632E+06
1.56002	2.0868363E+03	1.3141071E+06
1.57009	2.0863657E+03	1.3138119E+06
1.58003	2.0859830E+03	1.3135658E+06
1.59008	2.0856058E+03	1.3133222E+06
1.60014	2.0852041E+03	1.3130654E+06
1.61003	2.0847664E+03	1.3127889E+06
1.62002	2.0842650E+03	1.3124767E+06
1.63000	2.0836788E+03	1.3121187E+06
1.64000	2.0829808E+03	1.3116980E+06
1.65005	2.0822069E+03	1.3112361E+06
1.66001	2.0813530E+03	1.3107288E+06
1.67010	2.0805367E+03	1.3102429E+06
1.68013	2.0797667E+03	1.3097828E+06
1.69008	2.0790890E+03	1.3093745E+06
1.70008	2.0784817E+03	1.3090042E+06
1.71005	2.0779442E+03	1.3086733E+06
1.72006	2.0774536E+03	1.3083681E+06
1.73003	2.0769919E+03	1.3080787E+06
1.74005	2.0765358E+03	1.3077923E+06
1.75017	2.0760313E+03	1.3074793E+06
1.76021	2.0754782E+03	1.3071398E+06
1.77003	2.0748364E+03	1.3067506E+06
1.78009	2.0741177E+03	1.3063189E+06
1.79004	2.0733817E+03	1.3058784E+06
1.80001	2.0725989E+03	1.3054116E+06
1.81000	2.0718428E+03	1.3049592E+06
1.82003	2.0711342E+03	1.3045334E+06
1.83004	2.0704825E+03	1.3041393E+06
1.84005	2.0698712E+03	1.3037673E+06
1.85006	2.0693256E+03	1.3034315E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
1.86007	2.0688391E+03	1.3031290E+06
1.87004	2.0683537E+03	1.3028266E+06
1.88007	2.0678600E+03	1.3025183E+06
1.89005	2.0673398E+03	1.3021967E+06
1.90017	2.0667719E+03	1.3018481E+06
1.91001	2.0661520E+03	1.3014713E+06
1.92008	2.0654916E+03	1.3010717E+06
1.93007	2.0647986E+03	1.3006537E+06
1.94002	2.0641131E+03	1.3002406E+06
1.95002	2.0634306E+03	1.2998286E+06
1.96004	2.0627835E+03	1.2994362E+06
1.97001	2.0621900E+03	1.2990740E+06
1.98001	2.0616378E+03	1.2987343E+06
1.99001	2.0611133E+03	1.2984091E+06
2.00006	2.0606351E+03	1.2981098E+06
2.01017	2.0601755E+03	1.2978210E+06
2.02002	2.0596908E+03	1.2975184E+06
2.03010	2.0591909E+03	1.2972067E+06
2.04002	2.0586654E+03	1.2968812E+06
2.05018	2.0581050E+03	1.2965364E+06
2.06005	2.0575012E+03	1.2961667E+06
2.07004	2.0568982E+03	1.2957985E+06
2.08009	2.0562820E+03	1.2954219E+06
2.09012	2.0556887E+03	1.2950588E+06
2.10002	2.0551138E+03	1.2947052E+06
2.11010	2.0545765E+03	1.2943725E+06
2.12013	2.0540837E+03	1.2940645E+06
2.13010	2.0536205E+03	1.2937729E+06
2.14019	2.0531798E+03	1.2934939E+06
2.15007	2.0527452E+03	1.2932172E+06
2.16008	2.0523014E+03	1.2929356E+06
2.17003	2.0518411E+03	1.2926450E+06
2.18009	2.0513588E+03	1.2923422E+06
2.19004	2.0508552E+03	1.2920279E+06
2.20009	2.0503249E+03	1.2916980E+06
2.21011	2.0497884E+03	1.2913649E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
2.22017	2.0492528E+03	1.2910321E+06
2.23014	2.0487253E+03	1.2907039E+06
2.24005	2.0482384E+03	1.2903987E+06
2.25001	2.0477626E+03	1.2900986E+06
2.26009	2.0473225E+03	1.2898187E+06
2.27004	2.0468923E+03	1.2895433E+06
2.28001	2.0465016E+03	1.2892908E+06
2.29005	2.0460991E+03	1.2890308E+06
2.30001	2.0456898E+03	1.2887674E+06
2.31012	2.0452463E+03	1.2884848E+06
2.32007	2.0448340E+03	1.2882196E+06
2.33014	2.0443954E+03	1.2879401E+06
2.34004	2.0439367E+03	1.2876484E+06
2.35001	2.0434889E+03	1.2873633E+06
2.36011	2.0430542E+03	1.2870850E+06
2.37008	2.0426322E+03	1.2868139E+06
2.38012	2.0422433E+03	1.2865609E+06
2.39005	2.0418693E+03	1.2863161E+06
2.40004	2.0415246E+03	1.2860877E+06
2.41008	2.0412113E+03	1.2858761E+06
2.42005	2.0408975E+03	1.2856645E+06
2.43008	2.0406149E+03	1.2854698E+06
2.44013	2.0403182E+03	1.2852674E+06
2.45001	2.0400192E+03	1.2850640E+06
2.46020	2.0397042E+03	1.2848514E+06
2.47007	2.0393890E+03	1.2846382E+06
2.48001	2.0390787E+03	1.2844277E+06
2.49005	2.0387565E+03	1.2842108E+06
2.50017	2.0384506E+03	1.2840029E+06
2.51008	2.0381551E+03	1.2838008E+06
2.52000	2.0378823E+03	1.2836107E+06
2.53003	2.0376188E+03	1.2834258E+06
2.54003	2.0373717E+03	1.2832502E+06
2.55004	2.0371414E+03	1.2830827E+06
2.56007	2.0369174E+03	1.2829200E+06
2.57007	2.0367206E+03	1.2827722E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
2.58005	2.0365020E+03	1.2826116E+06
2.59008	2.0362817E+03	1.2824507E+06
2.60014	2.0360644E+03	1.2822909E+06
2.61006	2.0358300E+03	1.2821214E+06
2.62001	2.0355880E+03	1.2819481E+06
2.63008	2.0353598E+03	1.2817817E+06
2.64006	2.0351206E+03	1.2816095E+06
2.65009	2.0349045E+03	1.2814499E+06
2.66003	2.0346896E+03	1.2812913E+06
2.67013	2.0344844E+03	1.2811382E+06
2.68004	2.0342912E+03	1.2809913E+06
2.69000	2.0341169E+03	1.2808550E+06
2.70009	2.0339484E+03	1.2807220E+06
2.71006	2.0337700E+03	1.2805830E+06
2.72003	2.0335952E+03	1.2804464E+06
2.73003	2.0334197E+03	1.2803093E+06
2.74018	2.0332272E+03	1.2801628E+06
2.75014	2.0330332E+03	1.2800152E+06
2.76007	2.0328279E+03	1.2798616E+06
2.77002	2.0326244E+03	1.2797091E+06
2.78002	2.0324222E+03	1.2795567E+06
2.79008	2.0322290E+03	1.2794097E+06
2.80006	2.0320428E+03	1.2792666E+06
2.81009	2.0318584E+03	1.2791244E+06
2.82006	2.0316917E+03	1.2789921E+06
2.83006	2.0315113E+03	1.2788520E+06
2.84015	2.0313383E+03	1.2787161E+06
2.85005	2.0311662E+03	1.2785814E+06
2.86003	2.0309809E+03	1.2784384E+06
2.87004	2.0307972E+03	1.2782965E+06
2.88006	2.0306091E+03	1.2781518E+06
2.89010	2.0304103E+03	1.2780018E+06
2.90019	2.0302106E+03	1.2778513E+06
2.91001	2.0299968E+03	1.2776931E+06
2.92007	2.0297956E+03	1.2775412E+06
2.93007	2.0295874E+03	1.2773863E+06

TABLE 14.3.4-16

DOUBLE-ENDED SPRAY LINE BREAK

MASS AND ENERGY RELEASES

(When using this table, add 15% multiplier to mass & energy results.)

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
2.94014	2.0293708E+03	1.2772257E+06
2.95003	2.0291890E+03	1.2770853E+06
2.96002	2.0289876E+03	1.2769341E+06
2.97013	2.0287920E+03	1.2767858E+06
2.98010	2.0285960E+03	1.2766370E+06
2.99010	2.0283918E+03	1.2764839E+06
3.00017	2.0281887E+03	1.2763315E+06

FAN ROOM - BACKFLOW CONTRIBUTION

Time (sec)	Mass Flow Rate 10^3 lb/sec	Energy Flow Rate 10^6 BTU/sec
0	7.54	8.99
.1	4.68	5.58
.2	4.48	5.34
.3	4.41	5.26
.4	4.32	5.15
.5	4.27	5.09
.6	4.15	4.95
.7	3.93	4.68
.8	3.59	4.28
.9	3.62	4.32
1.0	3.53	4.21
1.5	3.17	3.78
2.0	3.00	3.58
2.5	2.93	3.49
3.0	2.87	3.42
3.5	2.87	3.42
4.0	2.83	3.37
4.5	2.79	3.33
5.0	2.81	3.35
5.5	2.77	3.30
6.0	2.72	3.24
6.5	2.72	3.24
7.0	2.69	3.21
8.0	2.65	3.16
8.5	2.65	3.16
9.0	2.65	3.16
9.5	2.65	3.16
10.0	2.65	3.16

With 1.4 ft^2 orifice in cross-connect to steam dump header; break in longest line.

FAN ROOM - FORWARD FLOW CONTRIBUTION

Time (sec)	Mass Flow Rate 10^3 lb/sec	Energy Flow Rate 10^6 BTU/sec
0	5.55	6.62
.1	4.15	4.94
.2	3.05	3.64
.4	2.95	3.52
.6	2.90	3.46
.8	2.78	3.31
1.0	2.75	3.28
1.5	2.67	3.19
2.0	3.45	3.38
2.5	9.50	5.26
3.0	9.42	5.21
3.5	9.38	5.19
4.0	9.33	5.16
4.5	9.28	5.13
5.0	9.23	5.10
5.5	9.16	5.07
6.0	9.10	5.04
6.5	9.03	5.01
7.0	8.95	4.97
7.5	8.86	4.93
8.0	8.80	4.91
8.5	8.70	4.86
9.0	8.58	4.81
9.5	8.46	4.76
10.0	8.33	4.70

TABLE 14.3.4-18

DOUBLE-ENDED HOT LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
0.00000	0.000000+4	0.000000+6
0.00201	6.296400+4	3.616100+7
0.00401	7.377000+4	4.235700+7
0.00900	6.916800+4	3.973700+7
0.01200	7.047200+4	4.051200+7
0.01602	7.176400+4	4.127400+7
0.01800	7.220100+4	4.153500+7
0.02500	7.467100+4	4.308700+7
0.02600	9.129400+4	5.264000+7
0.03000	9.888800+4	5.705000+7
0.03100	9.359200+4	5.392400+7
0.03300	1.034800+5	5.976200+7
0.04100	9.387700+4	5.419200+7
0.04301	9.958000+4	5.748900+7
0.04500	9.310800+4	5.373800+7
0.04900	1.018200+5	5.884600+7
0.05300	9.121800+4	5.262800+7
0.05401	1.044100+5	6.038900+7
0.05501	9.202900+4	5.320000+7
0.05800	9.912800+4	5.729100+7
0.06000	9.173100+4	5.296500+7
0.06301	9.862900+4	5.702600+7
0.06400	9.010400+4	5.204400+7
0.06500	9.892900+4	5.723900+7
0.06701	9.587100+4	5.549400+7
0.06801	1.003200+5	5.805800+7

TABLE 14.3.4-18

DOUBLE-ENDED HOT LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
0.07101	9.013600+4	5.208200+7
0.07200	9.396300+4	5.452900+7
0.07501	8.496600+4	4.913900+7
0.07600	9.286800+4	5.381600+7
0.08000	9.345900+4	5.411400+7
0.08301	9.631400+4	5.578500+7
0.08900	9.182300+4	5.321800+7
0.09401	8.716100+4	5.049300+7
0.10002	8.686700+4	5.036900+7
0.10103	8.751800+4	5.074300+7
0.10702	8.667200+4	5.026600+7
0.11702	8.066200+4	4.679300+7
0.12400	7.836000+4	4.550000+7
0.13004	7.823800+4	4.547300+7
0.19005	6.766600+4	3.960300+7
0.40013	6.328000+4	3.674300+7
0.60020	6.005400+4	3.460400+7
1.00020	5.560800+4	3.192700+7
1.52020	5.046300+4	2.929200+7
2.00020	4.687700+4	2.759500+7
3.00000	4.687700+4	2.759500+7

TABLE 14.3.4-19

SINGLE-ENDED COLD LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.00000	0.000000+4	0.000000+7
.00200	2.4652E+04	1.2752E+07
.00900	3.4491E+04	1.7946E+07
.01400	5.0203E+04	2.6009E+07
.02100	6.0914E+04	3.1606E+07
.03203	7.2136E+04	3.7456E+07
.04304	8.3502E+04	4.3434E+07
.05101	8.5426E+04	4.4414E+07
.06503	8.4836E+04	4.4078E+07
.08305	8.0678E+04	4.1866E+07
.09607	7.5506E+04	3.9152E+07
.11001	7.4227E+04	3.8487E+07
.13403	7.5861E+04	3.9362E+07
.14601	7.6620E+04	3.9755E+07
.16010	7.6233E+04	3.9551E+07
.18303	7.5634E+04	3.9236E+07
.19804	7.4886E+04	3.8846E+07
.21101	7.3690E+04	3.8219E+07
.23006	7.4895E+04	3.8860E+07
.24610	7.5605E+04	3.9233E+07
.25607	7.5224E+04	3.9028E+07
.26309	7.4595E+04	3.8696E+07
.28206	7.3024E+04	3.7873E+07
.30006	7.3101E+04	3.7920E+07
.31610	7.4255E+04	3.8528E+07
.33509	7.4163E+04	3.8475E+07
.35108	7.4723E+04	3.8773E+07

TABLE 14.3.4-19

SINGLE-ENDED COLD LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.37109	7.3988E+04	3.8382E+07
.41506	7.5856E+04	3.9368E+07
.44107	7.5568E+04	3.9214E+07
.46702	7.4918E+04	3.8871E+07
.49303	7.4959E+04	3.8896E+07
.53003	7.4459E+04	3.8635E+07
.64516	7.3810E+04	3.8313E+07
.69503	7.3409E+04	3.8118E+07
.73001	7.3524E+04	3.8194E+07
.77006	7.3550E+04	3.8224E+07
.83001	7.1814E+04	3.7342E+07
.87509	7.2210E+04	3.7577E+07
.92001	7.1425E+04	3.7191E+07
.96002	7.1669E+04	3.7344E+07
1.0400	7.0980E+04	3.7031E+07
1.1701	7.0215E+04	3.6723E+07
1.3202	6.9872E+04	3.6671E+07
1.4001	6.9903E+04	3.6760E+07
1.7002	6.5502E+04	3.4750E+07
2.0000	6.2185E+04	3.3253E+07
2.5001	5.5091E+04	2.9852E+07
3.0002	4.8491E+04	2.6562E+07
5.0000	4.8491E+04	2.6562E+07

TABLE 14.3.4-20

SINGLE-ENDED HOT LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.00000	0.000000+4	0.000000+7
.00100	2.986053E+04	1.811825E+07
.00301	4.343918E+04	2.634650E+07
.00501	4.292521E+04	2.602551E+07
.01001	4.446135E+04	2.695169E+07
.01400	5.141999E+04	3.123442E+07
.01700	4.673055E+04	2.831411E+07
.02200	4.933676E+04	2.992951E+07
.02700	6.370431E+04	3.867952E+07
.03301	7.988087E+04	4.855038E+07
.03901	7.280847E+04	4.417453E+07
.05001	7.321976E+04	4.444181E+07
.06002	6.824339E+04	4.137223E+07
.06503	6.529671E+04	3.957400E+07
.07204	6.781116E+04	4.112542E+07
.08003	6.387430E+04	3.870615E+07
.08701	6.107294E+04	3.699999E+07
.09200	6.153000E+04	3.728505E+07
.10101	5.928957E+04	3.591744E+07
.11003	5.571592E+04	3.374574E+07
.12001	5.454139E+04	3.303515E+07
.13202	5.230680E+04	3.168585E+07
.14102	5.268915E+04	3.193353E+07
.14802	5.253517E+04	3.184939E+07
.16105	5.355463E+04	3.248006E+07
.17003	5.336413E+04	3.235884E+07

TABLE 14.3.4-20

SINGLE-ENDED HOT LEG BREAK

MASS AND ENERGY RELEASES

Time (sec)	Mass (lb/sec)	Energy (BTU/sec)
.18500	5.353877E+04	3.246602E+07
.20003	5.186517E+04	3.149525E+07
.22500	4.640067E+04	2.829631E+07
.25002	4.433356E+04	2.709931E+07
.30003	4.316692E+04	2.649927E+07
.32811	4.406912E+04	2.715201E+07
.35016	4.359122E+04	2.691206E+07
.40004	4.291035E+04	2.645033E+07
.42302	4.323305E+04	2.665236E+07
.45011	4.282392E+04	2.641563E+07
.52004	4.230519E+04	2.601617E+07
.60016	4.197678E+04	2.568951E+07
.70035	4.194488E+04	2.555825E+07
.80004	4.204749E+04	2.547428E+07
.88531	4.220963E+04	2.546782E+07
1.00012	4.190713E+04	2.535124E+07
1.50000	3.994366E+04	2.439612E+07
2.00023	3.835372E+04	2.358048E+07
2.50028	3.711276E+04	2.282196E+07
3.00016	3.583929E+04	2.204359E+07
5.00000	3.583929E+04	2.204359E+07

TABLE 14.3.4-21

STEAM GENERATOR ENCLOSURE – TMD VOLUME INPUT

TMD Node	Volume (ft^3)
46	4106
47	1125
48	634
49	615
50	1021
51	1076
52	669
53	661
54	998
55	3900
56	1030
57	634
58	615
59	807
60	990
61	669
62	661
63	801

TABLE 14.3.4-22

PRESSURIZER ENCLOSURE MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Loop Subcompartment Model
1	Loop Compartment	2.2415E+04	No	Yes
2	Loop Compartment	2.2845E+04	No	Yes
3	Loop Compartment	4.1329E+04	No	Yes
4	Loop Compartment	2.7398E+04	No	Yes
5	Loop Compartment	2.2839E+04	No	Yes
6	Loop Compartment	1.9921E+04	No	Yes
7	Ice Condenser	3.5230E+03	No	Yes
8	Ice Condenser	3.5230E+03	No	Yes
9	Ice Condenser	3.4090E+03	No	Yes
10	Ice Condenser	4.1660E+03	No	Yes
11	Ice Condenser	4.1660E+03	No	Yes
12	Ice Condenser	4.0330E+03	No	Yes
13	Ice Condenser	8.3300E+03	No	Yes
14	Ice Condenser	8.3300E+03	No	Yes
15	Ice Condenser	8.0590E+03	No	Yes
16	Ice Condenser	5.7680E+03	No	Yes
17	Ice Condenser	5.7680E+03	No	Yes
18	Ice Condenser	5.5800E+03	No	Yes
19	Ice Condenser	4.4850E+03	No	Yes
20	Ice Condenser	4.4850E+03	No	Yes
21	Ice Condenser	4.3400E+03	No	Yes
22	Ice Condenser	4.4850E+03	No	Yes

TABLE 14.3.4-22

PRESSURIZER ENCLOSURE MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Loop Subcompartment Model
23	Ice Condenser	4.4850E+03	No	Yes
24	Ice Condenser	4.3400E+03	No	Yes
25	Upper Containment	7.3432E+05	No	Yes
26	Pipe Trench	1.0435E+04	No	Yes
27	Fan/Accumulator Room	2.6969E+04	No	Yes
28	Pipe Trench	1.0435E+04	No	Yes
29	Instrument Room	1.7479E+04	No	Yes
30	Pipe Trench	1.0435E+04	No	Yes
31	Fan/Accumulator Room	2.6969E+04	No	Yes
32	Pipe Trench	1.0435E+04	No	Yes
33	Upper Reactor Cavity	1.8012E+04	No	Yes
34	Ice Condenser	5.3850E+03	No	Yes
35	Ice Condenser	6.3650E+03	No	Yes
36	Ice Condenser	1.2729E+04	No	Yes
37	Ice Condenser	8.8130E+03	No	Yes
38	Ice Condenser	6.8540E+03	No	Yes
39	Ice Condenser	6.8540E+03	No	Yes
40	Ice Condenser	2.8910E+03	No	Yes
41	Ice Condenser	3.4180E+03	No	Yes
42	Ice Condenser	6.8350E+03	No	Yes
43	Ice Condenser	4.7320E+03	No	Yes
44	Ice Condenser	3.6810E+03	No	Yes
45	Ice Condenser	3.6810E+03	No	Yes

TABLE 14.3.4-22

PRESSURIZER ENCLOSURE MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Loop Subcompartment Model
46	Pressurizer Enclosure	1.5517E+03	Yes	No
47	Pressurizer Enclosure	3.0260E+02	Yes	No
48	Pressurizer Enclosure	4.3106E+02	Yes	No
49	Pressurizer Enclosure	3.5367E+02	Yes	No

TABLE 14.3.4-23

FAN ACCUMULATOR ROOM MODEL – TMD VOLUME INPUT

TMD Node	Volume (ft^3)
27	3800
54	4000
55	7800
56	4300
57	4400

TABLE 14.3.4-24

LOOP SUBCOMPARTMENT MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Pressurizer Enclosure & Steam Generator Enclosure Models
1	Loop Compartment	2.2415E+04	No	Yes
2	Loop Compartment	2.2845E+04	No	Yes
3	Loop Compartment	4.1329E+04	No	Yes
4	Loop Compartment	2.7398E+04	No	Yes
5	Loop Compartment	2.2839E+04	No	Yes
6	Loop Compartment	1.9921E+04	No	Yes
7	Ice Condenser	3.5230E+03	No	Yes
8	Ice Condenser	3.5230E+03	No	Yes
9	Ice Condenser	3.4090E+03	No	Yes
10	Ice Condenser	4.1660E+03	No	Yes
11	Ice Condenser	4.1660E+03	No	Yes
12	Ice Condenser	4.0330E+03	No	Yes
13	Ice Condenser	8.3300E+03	No	Yes
14	Ice Condenser	8.3300E+03	No	Yes
15	Ice Condenser	8.0590E+03	No	Yes
16	Ice Condenser	5.7680E+03	No	Yes
17	Ice Condenser	5.7680E+03	No	Yes
18	Ice Condenser	5.5800E+03	No	Yes
19	Ice Condenser	4.4850E+03	No	Yes
20	Ice Condenser	4.4850E+03	No	Yes
21	Ice Condenser	4.3400E+03	No	Yes

TABLE 14.3.4-24

LOOP SUBCOMPARTMENT MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Pressurizer Enclosure & Steam Generator Enclosure Models
22	Ice Condenser	4.4850E+03	No	Yes
23	Ice Condenser	4.4850E+03	No	Yes
24	Ice Condenser	4.3400E+03	No	Yes
25	Upper Containment	7.3432E+05	No	Yes
26	Pipe Trench	1.0435E+04	No	Yes
27	Fan/Accumulator Room	2.6969E+04	No	Yes
28	Pipe Trench	1.0435E+04	No	Yes
29	Instrument Room	1.7479E+04	No	Yes
30	Pipe Trench	1.0435E+04	No	Yes
31	Fan/Accumulator Room	2.6969E+04	No	Yes
32	Pipe Trench	1.0435E+04	No	Yes
33	Upper Reactor Cavity	1.8012E+04	No	Yes
34	Ice Condenser	5.3850E+03	No	Yes
35	Ice Condenser	6.3650E+03	No	Yes
36	Ice Condenser	1.2729E+04	No	Yes
37	Ice Condenser	8.8130E+03	No	Yes
38	Ice Condenser	6.8540E+03	No	Yes
39	Ice Condenser	6.8540E+03	No	Yes
40	Ice Condenser	2.8910E+03	No	Yes
41	Ice Condenser	3.4180E+03	No	Yes
42	Ice Condenser	6.8350E+03	No	Yes

TABLE 14.3.4-24

LOOP SUBCOMPARTMENT MODEL – TMD VOLUME INPUT

TMD Node	Description	Volume (ft^3)	TMD Node Unique to this Model	TMD Node Common to Pressurizer Enclosure & Steam Generator Enclosure Models
43	Ice Condenser	4.7320E+03	No	Yes
44	Ice Condenser	3.6810E+03	No	Yes
45	Ice Condenser	3.6810E+03	No	Yes
46	Steam Generator Enclosure	3.4040E+03	Yes	No
47	Steam Generator Enclosure	3.1210E+03	Yes	No
48	Steam Generator Enclosure	3.1210E+03	Yes	No
49	Steam Generator Enclosure	3.4040E+03	Yes	No
50	Steam Generator Enclosure	7.5010E+03	Yes	No
51	Steam Generator Enclosure	6.9860E+03	Yes	No
52	Steam Generator Enclosure	6.9860E+03	Yes	No
53	Steam Generator Enclosure	7.5010E+03	Yes	No

TABLE 14.3.4-25

REACTOR CAVITY – TMD VOLUME INPUT MODEL

TMD Node		Volume (ft^3)
1	Break Location (CPS 189) – Inspection Volume	131.4
2	Lower Reactor Cavity – Below RPV	3724.9
3	Reactor Vessel Annular Region	7.2
4	Reactor Vessel Annular Region	0.6
5	Reactor Vessel Annular Region	3.5
6	Reactor Vessel Annular Region	4.1
7	Reactor Vessel Annular Region	0.6
8	Reactor Vessel Annular Region	44.8
9	Reactor Vessel Annular Region	0.6
10	Reactor Vessel Annular Region	3.4
11	Reactor Vessel Annular Region	4.0
12	Reactor Vessel Annular Region	0.5
13	Reactor Vessel Annular Region	43.8
14	Reactor Vessel Annular Region	0.6
15	Reactor Vessel Annular Region	3.4
16	Reactor Vessel Annular Region	5.6
17	Reactor Vessel Annular Region	2.7
18	Reactor Vessel Annular Region	43.8
19	Reactor Vessel Annular Region	7.7

Unit 1

TABLE 14.3.4-25

REACTOR CAVITY – TMD VOLUME INPUT MODEL

TMD Node		Volume (ft^3)
20	Reactor Vessel Annular Region	11.0
21	Reactor Vessel Annular Region	91.0
22	Reactor Vessel Annular Region	18.9
23	Reactor Vessel Annular Region	92.8
24	Reactor Vessel Annular Region	19.0
25	Reactor Vessel Annular Region	94.6
26	Reactor Vessel Annular Region	18.9
27	Reactor Vessel Annular Region	92.8
28	Reactor Vessel Annular Region	18.7
29	Reactor Vessel Annular Region	91.0
30	Reactor Vessel Annular Region	7.9
31	Reactor Vessel Annular Region	11.0
32	Reactor Vessel Annular Region	92.8
33	Reactor Vessel Annular Region	0.6
34	Reactor Vessel Annular Region	3.5
35	Reactor Vessel Annular Region	5.5
36	Reactor Vessel Annular Region	2.5
37	Reactor Vessel Annular Region	44.8
38	Upper Reactor Cavity	15720.9
39	Inspection Volume (CPS 188)	135.0

Unit 1

TABLE 14.3.4-25

REACTOR CAVITY – TMD VOLUME INPUT MODEL

TMD Node		Volume (ft^3)
40	Inspection Volume (CPS 187)	132.1
41	Inspection Volume Port &Pipe Sleeve (CPS 186)	217.5
42	Inspection Volume Port &Pipe Sleeve (CPS 185)	214.0
43	Inspection Volume Port &Pipe Sleeve (CPS 184)	214.0
44	Inspection Volume (CPS 183)	132.1
45	Inspection Volume (CPS 182)	133.2
46	Broken Loop Pipe Sleeve (CPS 189)	75.2
47	Unbroken Loop Pipe Sleeve (CPS 188)	26.7
48	Unbroken Loop Pipe Sleeve (CPS 187)	26.7
49	Unbroken Loop Pipe Sleeve (CPS 183)	26.7
50	Unbroken Loop Pipe Sleeve (CPS 182)	61.1
51	Loop Compartment	147644.0
52	Loop Compartment	147644.0
53	Broken Loop Inspection Port (CPS 189)	46.900
54	Unbroken Loop Inspection Port (CPS 188)	52.2
55	Unbroken Loop Inspection Port (CPS 187)	52.2
56	Unbroken Loop Inspection Port (CPS 183)	52.2

Unit 1

TABLE 14.3.4-25

REACTOR CAVITY – TMD VOLUME INPUT MODEL

TMD Node		Volume (ft^3)
57	Unbroken Loop Inspection Port (CPS 182)	46.9
58	Instrument Tunnel	1825.9
59	Upper Containment	3934200.0 [1]
60	Lower RX Cavity Keyway	6547.1
61	Reactor Vessel Annular Region	0.5
62	Reactor Vessel Annular Region	0.5

[1] The upper compartment was modeled as an infinite sump.
Unit 1

TABLE 14.3.4-26

STEAM GENERATOR ENCLOSURE MODEL - TMD FLOW PATH INPUT

STEAM LINE BREAK

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
46H-47	0.94	0.022	9.451	4.794	55.9	4.514	0.573
46R-48	0.673	0.022	6.590	3.538	25.4	1.948	0.290
46A-55	0.902	0.022	8.958	4.771	48.9	2.876	0.308
47H-51	0.938	0.022	9.891	4.297	50.1	5.102	0.691
47R-48	0.385	0.022	10.599	4.984	40.7	8.747	0.295
47A-56	0.765	0.022	7.776	4.976	25.5	3.065	0.352
48H-52	0.723	0.022	8.652	3.524	25.3	3.779	0.609
48R-49	0.296	0.022	13.767	5.057	41.3	12.841	0.947
48A-57	0.765	0.022	3.524	4.976	25.5	2.61	0.614
49H-53	0.757	0.022	9.229	3.744	26.712	4.375	0.662
49R-50	0.012	0.022	11.303	5.609	45.808	10.437	0.326
49A-46	0.662	0.022	7.522	3.967	28.302	2.93	0.326
50H-54	0.795	0.022	9.366	5.318	44.852	4.648	0.628
50R-47	0.677	0.022	7.590	5.079	41.48	5.008	0.295
50A-46	0.982	0.022	8.957	6.599	55.652	4.241	0.471
51H-2	1.339	0.022	8.248	4.107	46.4	3.522	0.564
51R-52	0.866	0.022	10.780	6.412	48.18	8.594	0.427

TABLE 14.3.4-26

STEAM GENERATOR ENCLOSURE MODEL - TMD FLOW PATH INPUT

STEAM LINE BREAK

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
52H-2	0.722	0.022	10.937	7.201	49.1	8.128	0.962
52R-53	0.244	0.022	13.263	6.553	49.24	12.392	0.949
53H-1	2.100	0.022	9.453	6.272	48.212	7.392	0.963
53R-54	0.090	0.022	10.939	6.736	50.614	9.147	0.415
54H-1	0.988	0.022	6.483	3.730	39.852	3.164	0.526
54R-51	0.442	0.022	8.412	6.539	49.135	5.253	0.402
55H-56	0.703	0.022	7.977	3.765	43.90	2.775	0.470
55R-57	0.673	0.022	6.590	3.538	25.4	1.961	0.290
55A-58	0.649	0.022	7.456	3.91	27.9	2.863	0.322
56H-60	0.518	0.022	7.572	2.856	33.3	2.898	0.501
56R-57	0.373	0.022	10.568	4.972	40.6	8.713	0.291
57H-61	0.723	0.022	8.617	3.506	25.17	3.750	0.608
57R-58	0.296	0.022	13.767	5.057	41.3	12.841	0.947
58H-62	0.626	0.022	8.410	3.322	23.7	3.652	0.591
58R-59	0.015	0.022	11.778	5.609	45.644	10.611	0.429
59H-63	0.744	0.022	9.215	4.730	36.217	4.548	0.632
59R-56	0.703	0.022	7.253	3.88	31.69	4.938	0.227
59A-55	0.943	0.022	7.807	5.236	40.097	3.002	0.380

TABLE 14.3.4-26

STEAM GENERATOR ENCLOSURE MODEL - TMD FLOW PATH INPUT

STEAM LINE BREAK

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
60H-2	1.111	0.022	7.718	3.567	40.3	3.304	0.529
60R-61	0.599	0.022	10.819	6.468	48.6	8.937	0.402
61H-2	0.857	0.022	9.837	6.292	42.9	6.169	0.839
61R-62	0.287	0.022	13.247	6.373	47.89	12.349	0.947
62H-3	2.121	0.022	9.457	6.245	48.00	8.091	1.0
62R-63	0.230	0.022	11.335	7.026	52.793	10.153	0.432
63H-3	0.820	0.022	5.494	2.564	26.517	2.727	0.412
63R-60	0.684	0.022	7.090	4.434	33.317	4.767	0.273

TABLE 14.3.4-27

STEAM GENERATOR ENCLOSURE MODEL - TMD FLOW PATH INPUT

FEEDWATER LINE BREAK

(CHANGES TO TABLE 14.3.4-26 TO CONVERT TO A FEED LINE BREAK.)

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
46H-47							0.771
46R-48							0.612
47H-51							0.609
48H-52							0.496
49H-53							0.533
49A-46							0.701
50H-54							0.591
50A-46							0.780
55H-56							0.660
55R-57							0.613
55A-58							0.696
56H-60							0.437
57H-61							0.492
58H-62							0.476
59H-63							0.563
59A-55							0.700

TABLE 14.3.4-28

PRESSURIZER ENCLOSURE MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
1-2	0.63	0.	18.6	1.0	635.0	0.	0.601
1-33	1.5	0.	4.23	1.0	11.9	0.	0.016
1-27	2.85	0.	3.6	1.0	21.4	0.	0.129
2-3	0.72	0.	25.0	1.0	600.0	0.	0.601
2-27	2.85	0.	5.5	1.0	85.3	0.	0.252
3-4	0.28	0.	33.5	1.0	570.	0.	0.648
3-33	1.5	0.	4.33	1.0	32.4	0.	0.021
3-27	2.85	0.	3.6	1.0	21.3	0.	0.128
4-5	0.56	0.	19.1	1.0	600.0	0.	0.601
4-33	1.5	0.	4.42	1.0	24.5	0.	0.022
4-31	2.85	0.	3.6	1.0	21.3	0.	0.128
5-6	0.63	0.	18.6	1.0	635.0	0.	0.601
5-31	2.85	0.	5.5	1.0	85.3	0.	0.129
6-1	1.45	0.	29.2	1.0	58.5	0.	0.055
6-33	1.5	0.	4.23	1.0	11.9	0.	0.014
6-31	2.85	0.	3.6	1.0	21.4	0.	0.129
7-8	0.	0.0276	12.278	0.855	112.8	16.0	0.727
8-9	0.	0.0276	12.278	0.855	112.8	16.0	0.727
9-34	0.812	0.0276	8.8558	0.855	112.8	8.0	0.727

TABLE 14.3.4-28

PRESSURIZER ENCLOSURE MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
10-11	0.	0.0276	12.278	0.855	131.31	16.0	0.727
11-12	0.	0.0276	12.278	0.855	131.31	16.0	0.727
12-35	0.812	0.0276	8.8558	0.855	131.31	8.0	0.727
13-14	0.	0.0276	12.278	0.855	266.63	16.0	0.727
14-15	0.	0.0276	12.278	0.855	266.63	16.0	0.727
15-36	0.812	0.0276	8.8558	0.855	266.63	8.0	0.727
16-17	0.	0.0276	12.278	0.855	184.59	16.0	0.727
17-18	0.	0.0276	12.278	0.855	184.59	16.0	0.727
18-37	0.812	0.0276	8.8558	0.855	184.59	8.0	0.727
19-20	0.	0.0276	12.278	0.855	143.57	16.0	0.727
20-21	0.	0.0276	12.278	0.855	143.57	16.0	0.727
21-38	0.812	0.0276	8.8558	0.855	143.57	8.0	0.727
22-23	0.	0.0276	12.278	0.855	143.57	16.0	0.727
23-24	0.	0.0276	12.278	0.855	143.57	16.0	0.727
24-39	0.812	0.0276	8.8558	0.855	143.57	8.0	0.727
25-6	1.45	0.	6.08	1.0	2.2	0.	.01
26-32	0.99	0.	64.5	1.0	17.0	0.	0.85
26-28	0.69	0.	45.8	1.0	25.0	0.	0.357
27-26	2.85	0.	8.0	1.0	55.0	0.	0.417

TABLE 14.3.4-28

PRESSURIZER ENCLOSURE MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
27-29	2.85	0.	2.7	1.0	2.5	0.	0.008
28-3	2.6	0.	13.2	1.0	35.7	0.	0.077
28-27	2.85	0.	8.0	1.0	43.0	0.	0.254
29-28	2.85	0.	2.0	1.0	0.25	0.	0.001
29-3	2.85	0.	3.0	1.0	0.25	0.	0.002
30-28	0.99	0.	46.6	1.0	20.0	0.	1.0
30-4	2.6	0.	13.2	1.0	35.7	0.	0.106
31-30	2.85	0.	8.0	1.0	43.0	0.	0.254
31-29	2.85	0.	2.7	1.0	2.5	0.	0.007
32-30	0.69	0.	40.0	1.0	25.0	0.	0.417
32-31	2.85	0.	8.0	1.0	55.0	0.	0.331
33-2	1.5	0.	4.69	1.0	23.8	0.	0.034
33-5	1.5	0.	4.65	1.0	23.8	0.	0.034
34-25	1.45	0.	2.8	1.0	233.8	0.	0.659
35-25	1.43	0.	2.8	1.0	267.6	0.	0.65
36-25	1.43	0.	2.8	1.0	539.5	0.	0.625
37-25	1.41	0.	3.2	1.0	376.5	0.	0.636
38-25	1.44	0.	2.8	1.0	289.4	0.	0.646
39-25	1.43	0.	2.8	1.0	296.3	0.	0.646

TABLE 14.3.4-28

PRESSURIZER ENCLOSURE MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
40-1	0.89	0.	10.36	1.0	121.9	1.0	0.225
40-7	0.227	0.01517	8.222	0.855	106.7	8.0	0.33
40-41	7.5	0.	13.8	1.0	24.7	0.	0.075
41-2	0.89	0.	10.36	1.0	144.0	1.0	0.225
41-10	0.227	0.01517	8.222	0.855	126.1	8.0	0.33
41-42	12.5	0.	22.4	1.0	24.7	0.	0.046
42-3	0.89	0.	10.36	1.0	288.0	1.0	0.225
42-13	0.227	0.01517	8.222	0.855	252.2	8.0	0.33
42-43	12.5	0.	25.3	1.0	24.7	0.	0.041
43-4	0.89	0.	10.36	1.0	199.4	1.0	0.225
43-16	0.227	0.01517	8.222	0.855	174.6	8.0	0.33
43-44	10.0	0.	18.4	1.0	24.7	0.	0.056
44-5	0.89	0.	10.36	1.0	155.1	1.0	0.225
44-19	0.227	0.01517	8.222	0.855	135.8	8.0	0.33
44-45	10.0	0.	16.1	1.0	24.7	0.	0.064
45-6	0.89	0.	10.36	1.0	155.1	1.0	0.225
45-22	0.227	0.01517	8.222	0.855	135.87	8.0	0.33
46-47	1.264	0.025	15.54	2.50	17.93	13.86	0.41
46-48	0.856	0.025	17.86	5.19	27.24	15.80	0.65

TABLE 14.3.4-28

PRESSURIZER ENCLOSURE MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
46-49	0.788	0.025	17.43	3.66	25.14	15.40	0.60
47-4	1.91	0.025	11.69	2.50	17.93	11.69	1.00
48-4	1.665	0.025	8.87	3.84	18.93	9.22	0.73
48-49	1.268	0.025	7.883	4.50	52.61	7.883	0.47
48-47	0.888	0.025	10.302	2.50	29.23	10.302	0.26
49-4	1.291	0.025	8.80	2.66	17.60	9.05	0.72
49-47	1.064	0.025	11.793	2.50	29.23	14.99	0.26

TABLE 14.3.4-29

FAN / ACCUMULATOR ROOM MODEL – TMD FLOW PATH INPUT

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_E (ft)	A_T /A
27R-29	1.61	0.	1.66	1.0	1.0	0.	0.003
27H-28	2.17	0.	0.36	1.0	13.2	0.	0.094
27-3A	2.02	0.	0.085	1.0	0.68	0.	0.002
54H-27	0.25	0.	11.77	1.0	108	0.	0.320
54R-28	1.75	0.	4.22	1.0	21.2	0.	0.068
54A-3	2.12	0.	7.89	1.0	17.3	0.	0.075
55H-54	0.21	0.	15.84	1.0	170	0.	0.578
55A-28	2.10	0.	2.0	1.0	34.3	0.	0.110
55R-26	2.09	0.	29.91	1.0	34.7	0.	0.111
55-2R	1.86	0.	14.07	1.0	90.9	0.	0.382
55-56H	0.21	0.	16.24	1.0	170	0.	0.578
56R-26	1.89	0.	4.30	1.0	24.7	0.	0.076
56A-1	1.72	0.	5.99	1.0	14.5	0.	0.060
56-57H	0.25	0.	14.26	1.0	108	0.	0.635
57R-26	2.06	0.	0.32	1.0	17.2	0.	0.105
57A-1	2.36	0.	1.27	1.0	29.6	0.	0.068

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
1-2	0.63	0.	18.6	1.0	635.0	0.	0.601
1-33	1.5	0.	4.23	1.0	11.9	0.	0.016
1-27	2.85	0.	3.6	1.0	21.4	0.	0.129
2-3	0.72	0.	25.0	1.0	600.0	0.	0.601
2-27	2.85	0.	5.5	1.0	85.3	0.	0.252
3-4	0.28	0.	33.5	1.0	570.	0.	0.648
3-33	1.5	0.	4.33	1.0	32.4	0.	0.021
3-27	2.85	0.	3.6	1.0	21.3	0.	0.128
4-5	0.56	0.	19.1	1.0	600.0	0.	0.601
4-33	1.5	0.	4.42	1.0	24.5	0.	0.022
4-31	2.85	0.	3.6	1.0	21.3	0.	0.128
5-6	0.63	0.	18.6	1.0	635.0	0.	0.601
5-31	2.85	0.	5.5	1.0	85.3	0.	0.129
6-1	1.45	0.	29.2	1.0	58.5	0.	0.055
6-33	1.5	0.	4.23	1.0	11.9	0.	0.014

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
6-31	2.85	0.	3.6	1.0	21.4	0.	0.129
7-8	0.	0.0276	12.278	0.855	112.8	16.0	0.727
8-9	0.	0.0276	12.278	0.855	112.8	16.0	0.727
9-34	0.812	0.0276	8.8558	0.855	112.8	8.0	0.727
10-11	0.	0.0276	12.278	0.855	131.31	16.0	0.727
11-12	0.	0.0276	12.278	0.855	131.31	16.0	0.727
12-35	0.812	0.0276	8.8558	0.855	131.31	8.0	0.727
13-14	0.	0.0276	12.278	0.855	266.63	16.0	0.727
14-15	0.	0.0276	12.278	0.855	266.63	16.0	0.727
15-36	0.812	0.0276	8.8558	0.855	266.63	8.0	0.727
16-17	0.	0.0276	12.278	0.855	184.59	16.0	0.727
17-18	0.	0.0276	12.278	0.855	184.59	16.0	0.727
18-37	0.812	0.0276	8.8558	0.855	184.59	8.0	0.727
19-20	0.	0.0276	12.278	0.855	143.57	16.0	0.727
20-21	0.	0.0276	12.278	0.855	143.57	16.0	0.727

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
21-38	0.812	0.0276	8.8558	0.855	143.57	8.0	0.727
22-23	0.	0.0276	12.278	0.855	143.57	16.0	0.727
23-24	0.	0.0276	12.278	0.855	143.57	16.0	0.727
24-39	0.812	0.0276	8.8558	0.855	143.57	8.0	0.727
25-6	1.45	0.	6.08	1.0	2.2	0.	.01
26-32	0.99	0.	64.5	1.0	17.0	0.	0.85
26-28	0.69	0.	45.8	1.0	25.0	0.	0.357
27-26	2.85	0.	8.0	1.0	55.0	0.	0.417
27-29	2.85	0.	2.7	1.0	2.5	0.	0.008
28-3	2.6	0.	13.2	1.0	35.7	0.	0.077
28-27	2.85	0.	8.0	1.0	43.0	0.	0.254
29-28	2.85	0.	2.0	1.0	0.25	0.	0.001
29-3	2.85	0.	3.0	1.0	0.25	0.	0.002
30-28	0.99	0.	46.6	1.0	20.0	0.	1.0
30-4	2.6	0.	13.2	1.0	35.7	0.	0.106

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
31-30	2.85	0.	8.0	1.0	43.0	0.	0.254
31-29	2.85	0.	2.7	1.0	2.5	0.	0.007
32-30	0.69	0.	40.0	1.0	25.0	0.	0.417
32-31	2.85	0.	8.0	1.0	55.0	0.	0.331
33-2	1.5	0.	4.69	1.0	23.8	0.	0.034
33-5	1.5	0.	4.65	1.0	23.8	0.	0.034
34-25	1.45	0.	2.8	1.0	233.8	0.	0.659
35-25	1.43	0.	2.8	1.0	267.6	0.	0.65
36-25	1.43	0.	2.8	1.0	539.5	0.	0.625
37-25	1.41	0.	3.2	1.0	376.5	0.	0.636
38-25	1.44	0.	2.8	1.0	289.4	0.	0.646
39-25	1.43	0.	2.8	1.0	296.3	0.	0.646
40-1	0.89	0.	10.36	1.0	121.9	1.0	0.225
40-7	0.227	0.01517	8.222	0.855	106.7	8.0	0.33
40-41	7.5	0.	13.8	1.0	24.7	0.	0.075

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
41-2	0.89	0.	10.36	1.0	144.0	1.0	0.225
41-10	0.227	0.01517	8.222	0.855	126.1	8.0	0.33
41-42	12.5	0.	22.4	1.0	24.7	0.	0.046
42-3	0.89	0.	10.36	1.0	288.0	1.0	0.225
42-13	0.227	0.01517	8.222	0.855	252.2	8.0	0.33
42-43	12.5	0.	25.3	1.0	24.7	0.	0.041
43-4	0.89	0.	10.36	1.0	199.4	1.0	0.225
43-16	0.227	0.01517	8.222	0.855	174.6	8.0	0.33
43-44	10.0	0.	18.4	1.0	24.7	0.	0.056
44-5	0.89	0.	10.36	1.0	155.1	1.0	0.225
44-19	0.227	0.01517	8.222	0.855	135.8	8.0	0.33
44-45	10.0	0.	16.1	1.0	24.7	0.	0.064
45-6	0.89	0.	10.36	1.0	155.1	1.0	0.225
45-22	0.227	0.01517	8.222	0.855	135.87	8.0	0.33
46-1	2.09	0.	10.0	1.0	123.31	1.0	0.001

Table 14.3.4-30
Loop Subcompartment Model – TMD Flow Path Input

Flow Path	K	f	L_I (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
46-2	2.21	0.	11.5	1.0	104.12	1.0	0.001
47-2	2.21	0.	11.5	1.0	104.12	1.0	0.001
47-3	2.09	0.	10.0	1.0	123.31	1.0	0.001
48-5	2.21	0.	11.5	1.0	104.12	1.0	0.001
48-4	2.09	0.	10.0	1.0	123.31	1.0	0.001
49-6	2.09	0.	10.0	1.0	123.31	1.0	0.001
49-5	2.21	0.	11.5	1.0	104.12	1.0	0.001
50-46	2.93	0.	17.6	1.0	121.43	1.0	0.001
50-51	0.874	0.	8.43	1.0	44.89	1.0	0.282
51-47	2.93	0.	17.6	1.0	121.43	1.0	0.001
52-48	2.93	0.	17.6	1.0	121.43	1.0	0.001
53-49	2.93	0.	17.6	1.0	121.43	1.0	0.001
53-52	0.874	0.	8.43	1.0	44.89	1.0	0.282

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
1H-3	1.312	0.021	1.895	1.338	12.570	1.130	0.463
1R-53	0.386	0.021	2.200	1.420	9.290	1.290	0.293
1A-46	0.419	0.021	7.080	1.125	5.780	6.690	0.211
2H-60	0.230	0.021	20.202	13.953	199.980	17.524	0.645
2R-32	0.969	0.021	14.211	1.082	3.488	14.071	1.000
2A-8	0.984	0.021	12.638	1.082	1.783	12.567	1.000
3H-6	0.412	0.021	2.008	0.759	1.081	0.590	0.721
3R-7	0.287	0.021	1.752	0.902	1.357	1.032	0.522
3A-11	0.403	0.021	2.026	0.759	1.081	0.617	0.738
4H-9	0.000	0.021	3.627	0.459	0.043	3.627	1.000
4R-38	0.996	0.021	0.122	0.467	0.842	0.094	1.000
4A-5	0.363	0.021	0.431	0.467	0.842	0.134	0.349
5H-10	0.000	0.021	3.539	1.349	1.305	3.539	1.000
5R-34	0.000	0.021	3.578	1.349	1.305	3.578	1.000
5A-6	0.144	0.021	1.727	0.904	1.498	1.376	1.000
6H-11	0.000	0.021	3.285	0.902	1.016	3.285	1.000
6R-35	0.499	0.021	2.661	0.902	1.016	2.361	1.000
6A-61	0.755	0.021	1.033	0.805	0.197	0.088	1.000
7H-61	0.000	0.021	2.879	0.819	0.2000	2.879	1.000
7R-36	0.411	0.021	0.942	0.681	0.314	0.702	0.231
7A-8	0.788	0.021	2.915	0.426	0.200	1.577	1.000
8H-3	0.489	0.021	8.814	0.759	1.081	3.803	0.606
8R-13	0.000	0.021	3.268	1.079	13.563	3.268	1.000
8A-37	0.000	0.021	3.304	1.079	13.563	3.304	1.000
9H-14	0.000	0.021	3.587	0.459	0.043	3.587	1.000
9R-38	0.996	0.021	0.122	0.467	0.823	0.094	1.000
9A-10	0.366	0.021	0.423	0.467	0.823	0.132	0.341
10H-15	0.000	0.021	3.500	1.349	1.305	3.500	1.000

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
10R-11	0.144	0.021	1.727	0.904	1.466	1.376	1.000
11H-16	0.444	0.021	2.513	0.902	1.016	2.169	1.000
11R-62	0.789	0.021	1.056	0.671	0.164	0.049	1.000
12H-17	0.382	0.021	0.897	0.722	0.408	0.580	0.300
12R-3	0.287	0.021	1.752	0.902	1.357	1.032	0.522
12A-13	0.817	0.021	2.711	0.353	0.168	1.548	1.000
13H-18	0.000	0.021	3.232	1.079	13.563	3.232	1.000
13R-2	0.985	0.021	12.637	1.082	1.744	12.567	1.000
13A-3	0.479	0.021	8.983	0.759	1.081	3.984	0.620
14H-19	0.937	0.021	1.902	0.459	0.043	1.795	1.000
14R-38	0.996	0.021	0.122	0.467	0.823	0.094	1.000
14A-15	0.366	0.021	0.423	0.467	0.823	0.132	0.341
15H-19	0.001	0.021	5.057	1.349	1.305	5.150	1.000
15R-16	0.144	0.021	3.102	0.904	1.466	2.751	1.000
16H-39	0.971	0.021	0.506	1.901	4.232	0.070	0.320
16R-20	0.177	0.021	4.552	0.837	1.307	4.393	0.579
16A-17	0.361	0.021	3.748	0.647	0.515	3.648	0.351
17H-21	0.943	0.021	1.715	0.722	0.408	1.626	1.000
17R-39	0.698	0.021	0.591	2.150	4.943	0.109	0.785
17A-18	0.424	0.021	4.625	0.647	0.515	1.455	1.000
18H-21	0.097	0.021	4.634	1.079	13.563	4.530	0.909
18R-2	0.985	0.021	12.637	1.082	1.744	12.567	1.000
19H-22	0.262	0.021	4.919	1.271	1.348	4.304	1.000
19R-38	1.356	0.021	0.547	0.467	1.610	0.224	1.000
19A-20	0.144	0.021	3.160	0.904	2.866	2.775	1.000
20H-22	0.667	0.021	4.177	0.655	1.307	2.793	0.363
20R-40	0.934	0.021	0.557	1.901	4.232	0.116	0.166
20A-21	0.852	0.021	7.973	0.433	1.018	4.682	0.299

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
21H-23	0.067	0.021	6.285	1.064	13.971	6.160	0.936
21R-40	1.042	0.021	0.484	1.599	3.677	0.073	0.021
21A-2	0.970	0.021	14.208	1.082	3.411	14.071	1.000
22H-24	0.281	0.021	6.008	1.017	2.562	5.613	0.711
22R-23	0.879	0.021	8.429	0.428	0.992	5.084	0.284
22A-38	1.401	0.021	1.727	0.467	1.647	0.503	1.000
23H-25	0.073	0.021	6.435	1.045	13.877	6.314	0.930
23R-41	1.033	0.021	0.969	1.810	4.330	0.151	0.025
23A-2	0.969	0.021	14.211	1.082	3.488	14.071	1.000
24H-26	0.281	0.021	6.008	1.017	2.562	5.613	0.711
24R-38	1.401	0.021	1.728	0.467	1.683	0.503	1.000
24A-25	0.905	0.021	8.247	0.404	0.966	5.018	0.271
25H-27	0.073	0.021	6.435	1.045	13.877	6.314	0.930
25R-42	1.044	0.021	0.850	1.392	3.330	0.112	0.019
25A-2	0.969	0.021	14.214	1.082	3.566	14.071	1.000
26H-28	0.253	0.021	5.843	1.012	2.656	5.413	0.737
26R-38	1.401	0.021	1.727	0.467	1.647	0.503	1.000
26A-27	0.879	0.021	8.429	0.428	0.992	5.084	0.284
27H-29	0.067	0.021	6.285	1.064	13.971	6.160	0.936
27R-43	1.030	0.021	1.115	2.150	4.943	0.175	0.028
27A-2	0.969	0.021	14.211	1.082	3.488	14.071	1.000
28H-30	0.260	0.021	4.969	1.271	1.348	4.369	1.000
28R-38	1.401	0.021	1.726	0.467	1.610	0.503	1.000
28A-29	0.852	0.021	8.350	0.433	1.018	4.746	0.299
29H-32	0.067	0.021	6.421	1.044	13.971	6.284	0.936
29R-43	1.029	0.021	1.115	2.150	4.943	0.175	0.029
29A-2	0.970	0.021	14.208	1.082	3.411	14.071	1.000
30H-33	0.937	0.021	1.945	0.459	0.043	1.835	1.000

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
30R-38	1.355	0.021	0.548	0.467	1.647	0.224	1.000
30A-31	0.144	0.021	3.160	0.904	2.931	2.775	1.000
31H-35	0.214	0.021	4.778	0.832	1.213	4.701	0.538
31R-45	1.049	0.021	0.489	1.551	3.613	0.063	0.150
31A-28	0.667	0.021	4.192	0.655	1.307	2.805	0.363
32H-36	0.955	0.021	1.733	0.681	0.314	1.662	1.000
32R-31	0.879	0.021	8.070	0.428	0.992	5.027	0.284
32A-44	1.042	0.021	0.484	1.599	3.677	0.073	0.021
33H-4	0.000	0.021	3.667	0.459	0.043	3.667	1.000
33R-38	0.996	0.021	0.122	0.467	0.842	0.094	1.000
33A-34	0.363	0.021	0.431	0.467	0.842	0.134	0.349
34H-30	0.001	0.021	5.171	1.349	1.305	5.266	1.000
34R-35	0.144	0.021	3.102	0.904	1.498	2.751	1.000
35H-45	0.996	0.021	0.489	1.551	3.613	0.063	0.281
35R-36	0.373	0.021	4.946	0.635	0.483	4.700	0.322
36H-45	0.720	0.021	0.586	1.810	4.330	0.105	0.748
36R-37	0.462	0.021	4.435	0.635	0.483	1.495	1.000
37H-32	0.096	0.021	4.764	1.079	13.563	4.678	0.909
37R-2	0.984	0.021	12.638	1.082	1.783	12.567	1.000
38H-43	0.957	0.021	3.670	1.590	9.820	2.050	0.021
38R-42	0.957	0.021	3.670	1.590	9.820	2.050	0.021
38A-41	0.957	0.021	3.670	1.590	9.820	2.050	0.021
39H-20	1.033	0.021	0.506	1.901	4.232	0.070	0.166
39R-54	0.473	0.021	2.450	1.590	9.820	1.380	0.314
39A-21	1.029	0.021	0.591	2.150	4.943	0.109	0.029
40H-22	0.951	0.021	0.557	1.901	4.232	0.116	0.123
40R-55	0.473	0.021	2.450	1.590	9.820	1.380	0.314
40A-23	1.042	0.021	0.484	1.599	3.677	0.073	0.021

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
41H-24	1.071	0.021	0.856	1.551	3.613	0.091	0.093
41R-25	1.033	0.021	1.025	1.810	4.330	0.153	0.024
41A-22	1.066	0.021	0.856	1.551	3.613	0.091	0.105
42H-26	0.982	0.021	0.922	1.551	3.613	0.147	0.105
42R-27	1.044	0.021	0.850	1.392	3.330	0.112	0.019
42A-24	0.987	0.021	0.922	1.551	3.613	0.147	0.093
43H-28	1.055	0.021	0.954	1.901	4.232	0.114	0.110
43R-52	1.407	0.021	4.500	1.095	5.938	4.500	0.0001
43A-26	1.050	0.021	0.954	1.901	4.232	0.114	0.123
44H-29	1.042	0.021	0.484	1.599	3.677	0.073	0.021
44R-31	0.930	0.021	0.557	1.901	4.232	0.116	0.176
44A-28	0.956	0.021	0.557	1.901	4.232	0.116	0.110
45H-50	0.422	0.021	6.120	1.060	5.490	5.590	0.202
45R-57	0.394	0.021	2.200	1.420	9.290	1.290	0.293
45A-32	1.033	0.021	0.586	1.810	4.330	0.105	0.025
46H-51	0.995	0.021	6.505	1.125	5.780	6.505	1.000
47H-51	0.995	0.021	2.250	1.095	5.938	2.250	1.000
47R-39	0.412	0.021	2.280	1.095	5.940	2.300	0.228
48H-51	0.995	0.021	2.250	1.095	5.938	2.250	1.000
48R-40	0.412	0.021	2.280	1.095	5.940	2.300	0.228
49H-44	0.412	0.021	2.280	1.095	5.940	2.300	0.228
49R-52	0.995	0.021	2.250	1.095	5.938	2.250	1.000
50H-51	0.995	0.021	5.560	1.058	5.493	5.560	1.000
51H-38	1.400	0.021	4.500	5.011	80.4	4.500	0.059
51R-52	0.280	0.021	33.500	1.000	570.000	0.000	0.648
51A-58	0.854	0.021	9.183	9.509	126.000	7.282	1.000
52H-42	1.417	0.021	5.860	1.058	5.493	5.860	0.0001
52R-38	1.400	0.021	4.500	5.011	80.4	4.500	0.059

Table 14.3.4-31
Reactor Cavity Model – TMD Flow Path Input

Flow Path	K	f	L_l (ft)	D_H (ft)	A_T (ft^2)	L_{eq} (ft)	A_T /A
52A-41	1.417	0.021	5.860	1.058	5.493	5.860	0.0001
53H-38	0.958	0.021	2.236	2.400	9.710	2.086	1.000
54H-38	0.956	0.021	1.275	2.780	10.240	1.275	1.000
55H-38	0.956	0.021	1.275	2.780	10.240	1.275	1.000
56H-44	0.473	0.021	2.450	1.590	9.820	1.380	0.314
56R-38	0.956	0.021	1.275	2.780	10.240	1.275	1.000
57H-38	0.958	0.021	2.240	2.400	9.710	2.086	1.000
58H-60	0.374	0.021	9.918	9.509	126.000	7.675	0.321
59H-52	2.819	0.000	50.625	1.000	465.65	50.625	0.001
59R-51	2.819	0.000	50.625	1.000	465.65	50.625	0.001
60H-0	0.000	0.000	0.000	1.000	1.000	0.000	0.000
60R-0	0.000	0.000	0.000	1.000	1.000	0.000	0.000
60A-0	0.000	0.000	0.000	1.000	1.000	0.000	0.000
61H-3	0.307	0.021	1.623	0.902	1.240	0.903	0.478
61R-35	0.474	0.021	1.434	0.832	1.213	1.137	1.000
62H-3	0.307	0.021	1.623	0.902	1.240	0.903	0.478
62R-12	0.000	0.021	2.879	0.685	0.168	2.879	1.000
62A-16	0.438	0.021	1.329	0.902	1.240	1.056	1.000

Compartment Volume and Area[1]

Compartment	Free Volume (ft^3)	Vent Area (ft^2)
Upper Reactor Cavity	15,720	165
Lower Reactor Cavity	14,769	172
Steam Generator		
Enclosure A	10,905	412
Enclosure B	10,107	330
Pressurizer	2,,639	54
Fan Accumulator Room	26,969	299

[1] The volumes listed are those that were utilized for the respective subcompartment analysis.

PEAK DIFFERENTIAL PRESSURE (PSI)

STEAM LINE BREAK AT OUTLET NOZZLE (BOUNDING)[1]

						Limiting Containment Conditions
Across Structures:	DP55-25=42.7691	PSI	@	1.210	SEC	T_{High}/P_{Low}
	DP56-25=31.1990	PSI	@	1.297	SEC	T_{High}/P_{Low}
	DP57-25=31.1953	PSI	@	1.296	SEC	T_{High}/P_{Low}
	DP58-25=31.5021	PSI	@	1.291	SEC	T_{High}/P_{Low}
	DP59-25=31.5003	PSI	@	1.292	SEC	T_{High}/P_{Low}
	DP60-25=19.3257	PSI	@	1.344	SEC	T_{High}/P_{Low}
	DP61-25=19.1868	PSI	@	1.346	SEC	T_{High}/P_{Low}
	DP62-25=19.1902	PSI	@	1.342	SEC	T_{High}/P_{Low}
	DP63-25=19.3621	PSI	@	1.340	SEC	T_{High}/P_{Low}
	DP55-46=25.7593	PSI	@	.017	SEC	T_{Low}/P_{Low}
	DP56-47=13.7783	PSI	@	.022	SEC	T_{Low}/P_{Low}
	DP57-48=12.1139	PSI	@	.034	SEC	T_{Low}/P_{Low}
	DP60-51=11.0594	PSI	@	.038	SEC	T_{Low}/P_{Low}
	DP61-52=10.0894	PSI	@	.041	SEC	T_{Low}/P_{Low}
Across Steam Generator Vessel:	DP56-58=-2.8489	PSI	@	.024	SEC	T_{Low}/P_{Low}
	DP57-59=-3.9901	PSI	@	.023	SEC	T_{Low}/P_{Low} Node 46 Break
	DP60-62=2.6747	PSI	@	.041	SEC	T_{Low}/P_{Low}
	DP61-63=-1.9412	PSI	@	.030	SEC	T_{Low}/P_{Low} Node 46 Break

[1] All breaks are in Node 55 unless otherwise noted.

PEAK DIFFERENTIAL PRESSURE (PSI)

FEEDWATER LINE BREAK AT SIDE

(BOUNDING)[1]

						Limiting Containment Conditions
Across Structures:	DP55-25=5.3159	PSI	@	.220	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP56-25=5.3788	PSI	@	.217	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP57-25=5.3801	PSI	@	.219	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP58-25=5.8566	PSI	@	.222	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP59-25=6.0058	PSI	@	.161	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP60-25=5.6043	PSI	@	.214	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP61-25=5.5785	PSI	@	.212	SEC	$T_{Low}/P_{Low}/ICE_{Low}$
	DP62-25=6.8782	PSI	@	.022	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP63-25=16.2857	PSI	@	.012	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP55-46=3.2606	PSI	@	.045	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP56-47=3.3787	PSI	@	.030	SEC	$T_{Low}/P_{Low}/ICE_{Low}$ Node 54 Break
	DP57-48=2.9672	PSI	@	.039	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP60-51=5.2378	PSI	@	.021	SEC	$T_{Low}/P_{Low}/ICE_{Low}$ Node 54 Break
	DP61-52=5.0053	PSI	@	.027	SEC	$T_{Low}/P_{Low}/ICE_{High}$
Across Steam Generator Vessel:	DP56-58=-1.4657	PSI	@	.023	SEC	$T_{High}/P_{Low}/ICE_{High}$
	DP57-59=-3.9920	PSI	@	.015	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP60-62=-2.2928	PSI	@	.027	SEC	$T_{Low}/P_{Low}/ICE_{High}$
	DP61-63=-15.5871	PSI	@	.011	SEC	$T_{Low}/P_{Low}/ICE_{High}$

[1] All breaks are in Node 63 unless otherwise noted.

ICE CONDENSER AZIMUTHAL DIFFERENTIAL PRESSURE DISTRIBUTION

TMD BREAK LOCATION ELEMENTS						
	1	2	3	4	5	6
Ice Condenser	Bays 1 thru 2.75	Bays 2.75 thru 6	Bays 7 thru 12.5	Bays 12.5 thru 17	Bays 18 thru 20.5	Bays 20.5 thru 24
Elements	9	12	15	18	21	24
Pressure	7.4 psid	6.1 psid	5.5 psid	5.5 psid	6.1 psid	7.4 psid
Elements	8	11	14	17	20	23
Pressure	9.2 psid	7.6 psid	6.8 psid	6.8 psid	7.5 psid	9.2 psid
Elements	7	10	13	16	19	22
Pressure	11.8 psid	9.8 psid	8.7 psid	8.7 psid	9.7 psid	11.8 psid
Elements	40	41	42	43	44	45
Pressure	14.8 psid	12.6 psid	11.2 psid	11.2 psid	12.4 psid	14.5 psid

SENSITIVITY STUDIES FOR COOK NUCLEAR PLANT

Parameter	Change Made From Base Value	Change In Operating Deck Dp	Change In Peak Pressure Against The Shell
Blowdown	+10%	+11%	+12%
Blowdown	-10%	-10%	-12%
Blowdown	-20%	-20%	-23%
Blowdown	-50%	-50%	-53%
Break Compartment Inertial Length	+10%	+4%	+1%
Break Compartment Inertial Length	-10%	-4%	-1%
Break Compartment Volume	+10%	-2%	-1%
Break Compartment Volume	-10%	+2%	+1%
Break Compartment Vent Areas	+10%	-6%	-5%
Break Compartment Vent Areas	-10%	+8%	+5%
Door Port Failure in Break Compartment	one door port fails to open	+1%	-1%
Ice Mass	+10%	0	0
Ice Mass	-10%	0	0
Door Inertia	+10%	+1%	0
Door Inertia	-10%	-1%	0
All Inertial Lengths	+10%	+5%	+4%
All Inertial Lengths	-10%	-5%	-3%
Ice Bed Loss Coefficients	+10%	0	0
Ice Bed Loss Coefficients	- 10%	0	0
Entrainment Level	0% Ent	-27%	-11%

SENSITIVITY STUDIES FOR COOK NUCLEAR PLANT

Parameter	Change Made From Base Value	Change In Operating Deck Dp	Change In Peak Pressure Against The Shell
Entrainment Level	30% Ent.	-19%	-15%
Entrainment Level	50% Ent.	-13%	-12%
Entrainment Level	75% Ent.	-6%	-6%
Lower Compartment Loss Coefficients	+10%	0	0
Lower Compartment Loss Coefficients	-10%	0	0
Cross Flow in Lower Plenum	Low estimate of resistance	0	-7%
Cross Flow in Lower Plenum	High estimate of resistance	0	-3%
Ice Condenser Flow Area	+10%	0	-3%
Ice Condenser Flow Area	-10%	0	+4%
Ice Condenser	+20%	0	-6%
Ice Condenser Flow Area	-50%	0	+8%
Initial Pressure in Containment	+0.3 psi	+2%	+2%
Initial Pressure in Containment	-0.3 psi	-2%	-2%
Reactor Coolant Break Enthalpy	-13.0%	+6%	+3%
Compressibility Factor	Addition of the compressibility factor	+4%	0

All values shown are to the nearest percent.

1973 WALTZ MILL PRELIMINARY TEST CONDITIONS

			Nominal Conditions	
Test Series	**G_{test}/G_{plant}**	**(Total Energy/Ice Wt.) test/ (Total Energy/Ice Wt.) plant**	**Subcooling In Piping**	**Varied in Test Setup**
Blowdown rate Series	37% 75% 100% 150% 10% 1.5%	100%	40°F	Variable Orifice Sizes
Blowdown Energy Series	75% 100% 100%	150% 150% 200%	~40°F	Variable Boiler Water levels
Blowdown Transient Shape Series	75% 75% 100% 100%	100%	~10°F ~25°F ~10°F ~25°F	Variable Conditions In Subcooled Leg

PEAK PRESSURES / DIFFERENTIALS

	DEHL Break In Element #6	DECL Break In Element #6
Pressure In Element #6 (Psig)	14.8 / 14.4	13.4 / 13.0
Peak Pressure In Ice Condenser Compartments (Psig)	10.6 / 10.6	9.8 / 9.9
Peak Differential Pressure Across Operating Deck or Lower Crane Wall (Psi)	14.5 / 14.1	12.3 / 11.7

EFFECTS OF VARYING POLYTROPIC EXPONENT

	Base Case	5% Decrease	10% Decrease	20% Decrease
Pressure In Element #6 (Psig)	14.8	14.8	14.8	14.9
Peak Pressure In Ice Condenser Compartment (Psig)	10.6	10.6	10.6	10.6
Peak Differential Pressure Across Operating Deck or Lower Crane Wall (Psi)	14.5	14.5	14.5	14.6

CALCULATED MAXIMUM PEAK PRESSURES COMPARED WITH DESIGN PRESSURE

(HISTORICAL INFORMATION)

Type of Break	Location[1]	Peak Pressure		Peak Differential Pressure[2]		Design
		Augmented	Unaugmented	Augmented	Unaugmented	
DECL	Element 1	13.7	14.1	10.8	12.7	16.6
DECL	Element 2	10.8	12.2[3]	8.6 [3]	10.5 [3]	12.0
DECL	Element 3	9.8	11.2 [3]	7.5 [3]	9.4 [3]	12.0
DECL	Element 4	9.7	11.1 [3]	7.6 [3]	9.5 [3]	12.0
DECL	Element 5	10.5	11.9 [3]	8.6 [3]	10.5 [3]	12.0
DECL	Element 6	11.6	13.0 [3]	10.4 [3]	12.3 [3]	16.6
DEHL	Element 1	13.3	13.7 [3]	13.0 [3]	13.5 [3]	16.6
DEHL	Element 2	10.6	11.0 [3]	10.3 [3]	10.8 [3]	12.0
DEHL	Element 3	8.9	9.3 [3]	8.3 [3]	8.8 [3]	12.0
DEHL	Element 4	9.0	9.4 [3]	8.0 [3]	8.5 [3]	12.0
DEHL	Element 5	10.5	10.9 [3]	10.2 [3]	10.7 [3]	12.0
DEHL	Element 6	13.6	14.0	13.2	13.7	16.6
DECL	Element 40	9.8	10.6	9.8	10.6	12.0
DECL	Element 41	8.7	9.5 [3]	8.7	9.5	12.0
DECL	Element 42	7.8	8.6 [3]	7.8	8.6	12.0
DECL	Element 43	7.8	8.6 [3]	7.8	8.6	12.0
DECL	Element 44	8.5	9.3 [3]	8.5	9.3	12.0

[1] Element 1-6 are break locations

[2] For Elements 1 through 6 the peak differential pressure is across the operating deck or the lower crane wall. For Elements 7 through 24 the peak differential pressure is across the upper crane wall. For Elements 40 through 45 the peak differential pressure is across the containment shell.

[3] The unaugmented peak pressure and peak differential pressure other than Elements 1/40 (DECL) and 6/45 (DEHL) are conservatively estimated by taking the ΔP (unaug-aug) and adding it to the augmented pressure. Elements 2 through 6 and 41 through 45 for DECL and 1 through 5 and 40 through 44 for DEHL reflect this change. In Elements 7 through 24 the ΔP (unaug-aug) for peak pressure was used to estimate the unaugmented peak differential pressure.

CALCULATED MAXIMUM PEAK PRESSURES COMPARED WITH DESIGN PRESSURE

(HISTORICAL INFORMATION)

Type of Break	Location[1]	Peak Pressure		Peak Differential Pressure[2]		Design
		Augmented	Unaugmented	Augmented	Unaugmented	
DECL	Element 45	9.5	10.3 [3]	9.5	10.3	12.0
DEHL	Element 40	10.7	10.8 [3]	10.7	10.8	12.0
DEHL	Element 41	8.3	8.4 [3]	8.3	8.4	12.0
DEHL	Element 42	7.0	8.1 [3]	7.0	8.1	12.0
DEHL	Element 43	7.1	7.2 [3]	7.1	7.2	12.0
DEHL	Element 44	8.4	8.5 [3]	8.4	8.5	12.0
DEHL	Element 45	10.7	10.8	10.7	10.8	12.0
DECL	Elements 7-8-9	6.1	6.1	6.6 [3]	6.6 [3]	12.0
DECL	Elements 10-11-12	5.9	6.1	5.9	6.1 [3]	12.0
DECL	Elements 13-14-15	5.6	6.0	5.2	5.6 [3]	12.0
DECL	Elements 16-17-18	6.0	6.2	5.4	5.6 [3]	12.0
DECL	Elements 19-20-21	6.7	6.7	6.0	6.0 [3]	12.0
DECL	Elements 22-23-24	6.0	6.1	6.6	6.7 [3]	12.0
DEHL	Elements 7-8-9	7.1	7.2	7.8	7.9 [3]	12.0
DEHL	Elements 10-11-12	7.6	7.6	6.8	6.8 [3]	12.0
DEHL	Elements 13-14-15	6.4	6.8	6.0	6.4 [3]	12.0
DEHL	Elements 16-17-18	6.0	6.5	6.1	6.6 [3]	12.0
DEHL	19-20-21	6.8	6.8	6.9	6.9 [3]	12.0
DEHL	22-23-24	7.1	7.5	7.6	8.0 [3]	12.0
STEAMLINE	S.G. Doghouse	20.8	20.8	20.5	20.5	26.4
STEAMLINE	Fan Room	13.9	13.9	13.9	13.9	16.0

CALCULATED MAXIMUM PEAK PRESSURES COMPARED WITH DESIGN PRESSURE

(HISTORICAL INFORMATION)

Type of Break	Location[1]	Peak Pressure		Peak Differential Pressure[2]		Design
		Augmented	Unaugmented	Augmented	Unaugmented	
SECL	Lower Rx Cavity	12.2	13.8	11.4	12.3	15.0
SECL	Upper Rx Cavity	40.4	47.0	36.9	44.1	48.0
6" Spray Line	Pressurizer Enclosure	14.0	17.8	13.1	16.4	80.0
LOCA	Reactor Vessel Annulus	63.0	95.0	63.0	95.0	1000.0
LOCA	Reactor Pipe Annulus	419.0	735.0	419.0	735.0	2000.0

Table 14.3.4-41 (U2) – DECL Minimum Safeguards Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
0.00	0.00	0.00	0.00	0.00
1.00	69,324.41	38,046,066.83	25,604.42	13,924,974.79
2.00	58,625.69	32,585,399.61	23,872.88	13,300,981.72
3.00	43,953.38	24,985,488.13	18,192.76	10,558,606.92
4.00	35,778.97	20,653,136.67	13,815.32	7,888,864.62
5.00	31,097.02	18,152,077.40	10,861.52	6,476,386.63
6.00	28,528.60	16,786,336.34	9,703.72	5,882,279.60
7.00	24,952.00	15,259,323.37	9,255.70	5,612,730.10
8.00	20,604.75	13,468,955.05	8,717.87	5,310,922.65
9.00	16,699.54	11,703,351.34	7,816.20	4,840,034.12
10.00	13,679.78	10,305,339.93	6,973.83	4,372,920.81
11.00	11,506.04	9,198,144.32	6,215.06	3,908,456.76
12.00	9,819.95	8,229,132.22	5,513.67	3,437,842.17
13.00	8,698.90	6,994,089.17	4,682.16	2,783,916.19
14.00	9,013.70	5,845,848.15	3,898.85	2,220,327.75
15.00	8,581.58	4,812,359.26	3,125.03	1,632,595.84
16.00	8,130.97	3,912,545.06	1,711.39	702,389.35
17.00	7,949.05	3,344,345.65	1,262.82	234,020.67
18.00	7,581.36	2,835,603.04	1,454.41	211,081.81
19.00	7,491.60	2,423,955.34	1,581.81	195,049.93
20.00	6,265.09	1,798,694.46	1,694.77	202,941.86

Table 14.3.4-41 (U2) – DECL Minimum Safeguards Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
21.00	5,926.23	1,456,776.38	1,783.47	216,266.04
22.00	5,603.63	1,220,355.04	1,810.69	220,164.07
23.00	5,589.36	1,064,941.06	2,031.48	266,994.55
24.00	5,758.15	985,245.44	1,775.59	230,283.74
25.00	4,684.52	743,432.80	1,919.02	235,497.51
26.00	2,230.43	363,444.17	1,592.20	172,466.25
27.00	2,498.47	359,261.62	1,590.49	146,728.09
28.00	37.31	6,477.01	1,612.44	128,216.33
29.00	37.31	6,477.01	1,329.69	99,486.91
30.00	37.31	6,477.01	1,414.50	102,275.58
31.00	37.31	6,477.01	2,048.86	148,748.81

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
30.90	0.00	0.00	0.00	0.00
31.00	37.31	6,477.00	1,570.12	123,750.70
31.90	37.31	6,477.00	1,570.12	123,750.70
32.00	37.31	6,477.00	1,505.73	121,482.70
32.90	37.31	6,477.00	1,505.73	121,482.70
33.00	37.31	6,477.00	1,505.91	118,795.40
33.90	37.31	6,477.00	1,505.91	118,795.40
34.00	2,053.52	403,268.50	711.78	174,169.60
53.90	2,053.52	403,268.50	711.78	174,169.60
54.00	226.44	149,978.90	186.94	67,790.90
73.90	226.44	149,978.90	186.94	67,790.90
74.00	70.82	56,316.40	174.93	53,965.60
93.90	70.82	56,316.40	174.93	53,965.60
94.00	142.15	93,861.50	183.26	59,139.20
113.90	142.15	93,861.50	183.26	59,139.20
114.00	264.99	133,941.10	198.97	68,564.80
133.90	264.99	133,941.10	198.97	68,564.80
134.00	504.71	185,713.30	209.65	77,838.00
153.90	504.71	185,713.30	209.65	77,838.00
154.00	721.28	221,521.60	196.68	75,330.60
173.90	721.28	221,521.60	196.68	75,330.60

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
174.00	598.87	187,240.20	198.51	68,659.10
193.90	598.87	187,240.20	198.51	68,659.10
194.00	452.54	151,643.70	195.37	63,673.30
213.90	452.54	151,643.70	195.37	63,673.30
214.00	388.28	132,983.20	193.27	60,220.70
233.90	388.28	132,983.20	193.27	60,220.70
234.00	342.34	126,452.80	196.76	63,124.60
433.90	342.34	126,452.80	196.76	63,124.60
434.00	397.67	149,608.80	203.37	71,255.10
633.90	397.67	149,608.80	203.37	71,255.10
634.00	407.13	154,358.20	205.48	73,978.10
833.90	407.13	154,358.20	205.48	73,978.10
834.00	398.29	155,105.60	215.61	80,216.10
1,033.90	398.29	155,105.60	215.61	80,216.10
1,034.00	372.93	156,797.20	239.80	97,244.50
1,233.90	372.93	156,797.20	239.80	97,244.50
1,234.00	368.03	164,336.10	256.48	107,947.30
1,433.90	368.03	164,336.10	256.48	107,947.30
1,434.00	296.60	149,678.90	324.98	124,829.60
1,633.90	296.60	149,678.90	324.98	124,829.60
1,634.00	101.73	88,253.60	322.13	110,404.00

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
1,833.90	101.73	88,253.60	322.13	110,404.00
1,834.00	62.62	62,987.70	98.93	53,973.90
2,033.90	62.62	62,987.70	98.93	53,973.90
2,034.00	56.72	51,650.30	291.13	90,744.10
2,233.90	56.72	51,650.30	291.13	90,744.10
2,234.00	48.59	44,833.40	392.80	115,795.10
2,433.90	48.59	44,833.40	392.80	115,795.10
2,434.00	32.75	32,475.70	401.76	112,649.40
2,633.90	32.75	32,475.70	401.76	112,649.40
2,634.00	25.14	22,598.30	396.48	103,254.60
2,833.90	25.14	22,598.30	396.48	103,254.60
2,834.00	36.35	23,574.70	408.65	106,412.10
3,033.90	36.35	23,574.70	408.65	106,412.10
3,034.00	41.73	20,167.10	399.94	97,820.50
3,233.90	41.73	20,167.10	399.94	97,820.50
3,234.00	10.83	11,547.30	382.98	95,454.10
3,433.90	10.83	11,547.30	382.98	95,454.10
3,434.00	43.29	15,762.60	409.16	95,211.10
3,633.90	43.29	15,762.60	409.16	95,211.10
3,634.00	67.71	18,434.80	403.23	92,426.20
3,833.90	67.71	18,434.80	403.23	92,426.20

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
3,834.00	221.83	53,491.90	293.30	62,115.40
4,033.90	221.83	53,491.90	293.30	62,115.40
4,034.00	303.47	81,818.00	69.08	7,930.90
4,233.90	303.47	81,818.00	69.08	7,930.90
4,234.00	120.19	59,411.90	36.56	4,933.70
4,433.90	120.19	59,411.90	36.56	4,933.70
4,434.00	95.34	55,403.20	34.06	4,698.70
4,633.90	95.34	55,403.20	34.06	4,698.70
4,634.00	91.96	55,617.70	32.52	4,439.10
4,833.90	91.96	55,617.70	32.52	4,439.10
4,834.00	94.18	56,229.50	32.09	4,363.50
5,033.90	94.18	56,229.50	32.09	4,363.50
5,034.00	94.96	56,353.80	32.68	4,361.70
5,233.90	94.96	56,353.80	32.68	4,361.70
5,234.00	91.44	55,324.70	33.62	4,448.00
5,433.90	91.44	55,324.70	33.62	4,448.00
5,434.00	89.52	54,376.60	32.21	4,198.40
5,633.90	89.52	54,376.60	32.21	4,198.40
5,634.00	94.45	54,613.80	32.90	4,285.40
5,833.90	94.45	54,613.80	32.90	4,285.40
5,834.00	95.51	54,028.30	33.07	4,290.10

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
6,033.90	95.51	54,028.30	33.07	4,290.10
6,034.00	90.50	52,677.20	34.89	4,490.60
6,233.90	90.50	52,677.20	34.89	4,490.60
6,234.00	90.46	52,428.40	30.70	3,805.80
6,433.90	90.46	52,428.40	30.70	3,805.80
6,434.00	94.21	52,493.40	33.95	4,382.30
6,633.90	94.21	52,493.40	33.95	4,382.30
6,634.00	93.49	51,867.00	30.88	3,884.90
6,833.90	93.49	51,867.00	30.88	3,884.90
6,834.00	94.71	51,770.40	32.94	4,211.40
7,033.90	94.71	51,770.40	32.94	4,211.40
7,034.00	94.59	51,510.60	33.57	4,244.30
7,233.90	94.59	51,510.60	33.57	4,244.30
7,234.00	88.95	49,986.70	33.38	4,258.70
7,433.90	88.95	49,986.70	33.38	4,258.70
7,434.00	92.68	50,241.20	34.27	4,437.90
7,633.90	92.68	50,241.20	34.27	4,437.90
7,634.00	94.83	50,262.90	32.88	4,269.80
7,833.90	94.83	50,262.90	32.88	4,269.80
7,834.00	95.29	49,975.50	30.74	3,988.10
8,033.90	95.29	49,975.50	30.74	3,988.10

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
8,034.00	92.18	49,103.80	36.42	4,613.60
8,233.90	92.18	49,103.80	36.42	4,613.60
8,234.00	98.61	50,118.80	32.94	4,082.40
8,433.90	98.61	50,118.80	32.94	4,082.40
8,434.00	94.08	49,050.30	32.72	4,146.70
8,633.90	94.08	49,050.30	32.72	4,146.70
8,634.00	97.80	49,412.60	33.77	4,265.50
8,833.90	97.80	49,412.60	33.77	4,265.50
8,834.00	94.12	48,424.70	33.15	4,155.90
9,033.90	94.12	48,424.70	33.15	4,155.90
9,034.00	94.99	48,448.40	32.75	4,114.70
9,233.90	94.99	48,448.40	32.75	4,114.70
9,234.00	96.81	48,542.60	33.48	4,169.20
9,433.90	96.81	48,542.60	33.48	4,169.20
9,434.00	96.55	48,157.70	32.70	4,061.90
9,633.90	96.55	48,157.70	32.70	4,061.90
9,634.00	94.78	47,623.80	34.81	4,365.20
9,833.90	94.78	47,623.80	34.81	4,365.20
9,834.00	97.02	47,967.30	31.94	3,991.90
10,033.90	97.02	47,967.30	31.94	3,991.90
10,034.00	96.90	47,658.10	29.29	3,627.30

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
10,233.90	96.90	47,658.10	29.29	3,627.30
10,234.00	95.49	47,145.90	36.11	4,431.10
10,433.90	95.49	47,145.90	36.11	4,431.10
10,434.00	96.60	47,223.10	34.92	4,282.50
10,633.90	96.60	47,223.10	34.92	4,282.50
10,634.00	101.33	47,983.40	33.09	4,060.20
10,833.90	101.33	47,983.40	33.09	4,060.20
10,834.00	93.68	46,303.10	34.13	4,202.80
11,033.90	93.68	46,303.10	34.13	4,202.80
11,034.00	97.44	46,904.30	32.64	4,005.20
11,233.90	97.44	46,904.30	32.64	4,005.20
11,234.00	97.78	46,727.70	32.38	3,894.60
11,433.90	97.78	46,727.70	32.38	3,894.60
11,434.00	97.90	46,551.90	35.15	4,270.00
11,633.90	97.90	46,551.90	35.15	4,270.00
11,634.00	98.75	46,672.40	33.49	4,095.10
11,833.90	98.75	46,672.40	33.49	4,095.10
11,834.00	96.22	45,927.00	33.71	4,120.60
12,033.90	96.22	45,927.00	33.71	4,120.60
12,034.00	100.37	46,574.20	32.77	3,984.40
12,233.90	100.37	46,574.20	32.77	3,984.40

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
12,234.00	94.58	45,307.00	33.11	4,011.80
12,433.90	94.58	45,307.00	33.11	4,011.80
12,434.00	98.32	45,745.60	33.30	4,017.70
12,633.90	98.32	45,745.60	33.30	4,017.70
12,634.00	100.24	46,076.80	31.33	3,688.30
12,833.90	100.24	46,076.80	31.33	3,688.30
12,834.00	96.54	45,142.20	34.79	4,170.10
13,033.90	96.54	45,142.20	34.79	4,170.10
13,034.00	95.18	44,877.20	32.94	3,919.00
13,233.90	95.18	44,877.20	32.94	3,919.00
13,234.00	98.31	45,168.00	33.49	4,016.50
13,433.90	98.31	45,168.00	33.49	4,016.50
13,434.00	97.64	44,889.60	33.61	4,037.90
13,633.90	97.64	44,889.60	33.61	4,037.90
13,634.00	105.27	46,604.60	33.27	3,980.40
13,833.90	105.27	46,604.60	33.27	3,980.40
13,834.00	92.04	43,404.60	32.45	3,879.80
14,033.90	92.04	43,404.60	32.45	3,879.80
14,034.00	97.53	44,291.10	33.04	3,944.20
14,233.90	97.53	44,291.10	33.04	3,944.20
14,234.00	96.02	43,869.70	34.19	4,084.50

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
14,433.90	96.02	43,869.70	34.19	4,084.50
14,434.00	101.49	44,885.40	34.09	4,075.60
14,633.90	101.49	44,885.40	34.09	4,075.60
14,634.00	96.69	43,647.50	30.80	3,590.70
14,833.90	96.69	43,647.50	30.80	3,590.70
14,834.00	97.19	43,705.40	34.20	4,062.60
15,033.90	97.19	43,705.40	34.20	4,062.60
15,034.00	96.55	43,377.10	34.24	4,069.30
15,233.90	96.55	43,377.10	34.24	4,069.30
15,234.00	97.98	43,562.70	31.86	3,708.20
15,433.90	97.98	43,562.70	31.86	3,708.20
15,434.00	99.92	43,940.90	32.25	3,767.10
15,633.90	99.92	43,940.90	32.25	3,767.10
15,634.00	96.68	43,244.30	34.66	4,096.70
15,833.90	96.68	43,244.30	34.66	4,096.70
15,834.00	97.92	43,084.20	33.67	3,970.80
16,033.90	97.92	43,084.20	33.67	3,970.80
16,034.00	100.45	43,787.70	33.09	3,893.90
16,233.90	100.45	43,787.70	33.09	3,893.90
16,234.00	101.48	43,594.10	34.05	4,021.70
16,433.90	101.48	43,594.10	34.05	4,021.70

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
16,434.00	100.76	43,456.50	32.71	3,791.30
16,633.90	100.76	43,456.50	32.71	3,791.30
16,634.00	97.35	42,846.40	33.87	3,979.80
16,833.90	97.35	42,846.40	33.87	3,979.80
16,834.00	94.49	41,848.30	34.20	4,020.80
17,033.90	94.49	41,848.30	34.20	4,020.80
17,034.00	100.64	43,365.30	33.35	3,918.40
17,233.90	100.64	43,365.30	33.35	3,918.40
17,234.00	95.22	41,964.40	33.43	3,927.60
17,433.90	95.22	41,964.40	33.43	3,927.60
17,434.00	97.48	42,341.80	32.10	3,721.30
17,633.90	97.48	42,341.80	32.10	3,721.30
17,634.00	116.53	46,664.00	33.90	3,975.30
17,833.90	116.53	46,664.00	33.90	3,975.30
17,834.00	64.38	36,510.30	34.06	3,988.60
18,033.90	64.38	36,510.30	34.06	3,988.60
18,034.00	65.90	38,757.40	33.01	3,893.80
18,233.90	65.90	38,757.40	33.01	3,893.80
18,234.00	74.85	39,517.80	37.01	4,572.20
18,433.90	74.85	39,517.80	37.01	4,572.20
18,434.00	89.20	42,182.30	35.71	4,325.70

Table 14.3.4-42 (U2) – DECL Minimum Safeguards Post-Blowdown M&E

Time (sec)	Break Path 1		Break Path 2	
	Flow (lbm/s)	Energy (Btu/s)	Flow (lbm/s)	Energy (Btu/s)
18,633.90	89.20	42,182.30	35.71	4,325.70
18,634.00	88.01	41,454.30	32.50	3,816.20
18,833.90	88.01	41,454.30	32.50	3,816.20
18,834.00	101.20	43,919.00	34.87	4,171.20
19,033.90	101.20	43,919.00	34.87	4,171.20
19,034.00	96.13	42,607.50	33.68	4,024.10
19,233.90	96.13	42,607.50	33.68	4,024.10
19,234.00	84.78	39,992.80	33.42	3,981.00
19,433.90	84.78	39,992.80	33.42	3,981.00
19,434.00	97.51	42,588.10	41.87	5,855.70
19,633.90	97.51	42,588.10	41.87	5,855.70
19,634.00	100.52	43,109.70	21.59	2,267.20
19,833.90	100.52	43,109.70	21.59	2,267.20
19,834.00	111.91	43,408.65	19.59	2,004.22
40,000.00	55.58	32,378.51	75.92	7,760.90
60,568.90	35.27	27,552.45	96.23	9,828.70
60,569.00	34.60	27,028.21	96.90	9,897.25
100,000.00	19.31	22,440.43	112.19	11,440.77
150,000.00	17.14	19,913.48	114.36	11,662.56
174,651.90	16.41	19,063.81	115.09	11,737.14
174,652.00	15.85	18,420.99	115.65	11,793.56

Parameters Used in Steamline Break Mass / Energy Releases

Parameter	Parameter Value
NSSS Power, MWt	3,608
Core Power, MWt	3,588
RCS Flow, gpm / loop	79,000
Minimum Measured Flow, gpm / loop	91,600
Core Outlet Temperature, °F	618.0
Vessel Outlet Temperature, °F	615.2
Vessel Average Temperature, °F	581.3
Vessel/Core Inlet Temperature, °F	547.4
Steam Generator Outlet Temperature, °F	547.1
Zero Load Temperature, °F	547.0
RCS Pressure, psia	2,250 or 2,100
Steam Pressure, psia	858.2
Steam Flow (10^6 lb / hr total)	16.00
Feedwater Temp., °F	449.0
SG Tube Plugging, %	0