

Table 6.2.1-9—Peak Containment Pressure and Temperature for MSLB

Description	Time of Peak Pressure (s)	Peak Pressure (psia)	Time of Peak Temperature (s)	Peak Temperature (°F)
100 % Power Cases				
DEG ¹	47.02	65.22	30.02	420.07
1.0 ft ² split	260.02	60.05	43.02	358.72
0.7 ft ² split	390.02	59.15	98.02	327.53
0.5 ft ² split	610.02	58.20	550.02	305.79
80 % Power Cases				
DEG ¹	55.02	65.70	28.02	421.03
1.0 ft ² split	245.02	60.01	74.02	360.44
0.7 ft ² split	370.02	59.01	57.02	333.66
0.5 ft ² split	630.02	57.54	490.02	303.66
50 % Power Cases				
DEG ¹	48.02	68.84	27.02	427.93
1.0 ft ² split	150.02	60.40	49.02	369.11
0.7 ft ² split	370.02	58.18	52.02	335.58
0.5 ft ² split	550.02	57.04	490.02	303.90
20 % Power Cases				
DEG ¹	60.01	59.49	60.01	264.99
1.0 ft ² split	155.01	61.20	45.01	368.85
0.7 ft ² split	357.50	58.47	52.51	340.23
0.5 ft ² split	617.50	55.84	425.10	298.61
0 % Power Cases				
DEG ¹	54.02	60.09	54.02	365.88
1.0 ft ² split	230.02	56.41	230.02	260.30
0.7 ft ² split	350.02	55.96	360.02	263.78
0.5 ft ² split	590.02	55.35	560.02	280.79

Notes:

1. DEG = double-ended guillotine.

Table 6.2.1-10—Critical Subcompartments in Containment

Room Name (30UJA)	Room Description	System Name (Pipe Name)	Operating Pressure (psia)	Operating Temperature (°F)	NPS (in)	Accident Pressure (psia)
11 - 004	SG Loop 2	SIS/RHR (JNG23 BR002)	710.7	77.0	12	*
11 - 006	RCP Loop 3	CVCS (KBA35 BR002)	2324.0	512.3	4	*
11 - 027	SI valves Loop 3	SIS/RHR (JNG33 BR001)	710.7	77.0	12	*
15 - 004	SG Loop 2	CVCS (KBA34 BR019)	2324.0	512.3	3	*
15 - 006	RCP Loop 3	SIS/RHR(JNG33 BR007)	2250.0	563.4	10	29.02
18 - 004	SG Loop 2	SG Blowdown (LCQ10 BR012)	1144.3	561.0	2	*
23 - 004	SG Loop 2	FW(LAB70 BR005)	1131.2	446.3	20	28.36
29 - 004	SG Loop 2	FW(LAB70 BR005)	1131.2	446.3	20	31.07
29 - 019	Pressurizer Cavity	RCS (JEF10 BR004)	2250.0	653.0	6	17.82
34 - 004	SG Loop 2	SG (JEA20 BR302)	1123.0	559.0	1	*
34 - 019	Pressurizer Relief Valve Cavity	RCS (JEF10 BR004)	2250.0	653.0	6	18.59

Table 6.2.1-11—Free Volume and Vent Path Hydraulic Data for RCP Cavity (30UJA15-006)

Node No.		Room Code (See Arrangement Drawings) (30UJA)		Free Volume (ft ³)	From Elev. (ft)	To Elev. (ft)	
31		15-006		3208.2	15.22	24.08	
Connecting Nodes							
2		04-003		52400.9	-22.47	0	
8		11-001		2932.2	-20.67	24.41	
10		11-006, 11-007, 15-007		21091.4	4.92	30.77	
11		11-008, 11-009, 15-008, 15-009		25541.6	4.92	30.77	
12		18-006, 18-007, 23-006, 23-007		35311.1	24.08	64.8	
13		18-008, 18-009, 23-008, 23-009, 23-018, 23-031,		41082.43	24.08	64.8	
22		11-015, 11-016, 11-027, 11-028, 11-032, 15-015, 15-016, 18-015, 18-016, 23-015, 23-016		176396.75	4.92	63.98	
Vent Path No.	Node No.		Vent Area (ft ²)	Inertia Length (ft)	Form Loss Factor	Opening Type (Required ΔP)	Delay Time (s)
	From	To					
Vent Path Data							
7	2	10	53.82	17.1	1.5	N/A	N/A
35	8	10	17.761	18.3	1.5	N/A	N/A
39	10	11	430.57	30.0	1.5	N/A	N/A
40	10	13	32.29	30.2	1.5	N/A	N/A
41	10	12	447.79	33.3	1.5	N/A	N/A
42	10	22	28.42	41.6	1.5	Door (1.45 psid)	Remains closed
43	10	22	47.15	41.6	1.5	Door (8.071 psid)	Remains closed
97	8	31	17.76	13.5	1.5	N/A	N/A
98	31	12	274.70	24.8	1.5	N/A	N/A
99	31	22	29.064	36.8	1.5	Door (8.071 psid)	Remains closed
100	10	31	241.12	17.4	1.5	N/A	N/A

Table 6.2.1-12—Free Volume and Vent Path Hydraulic Data for SG Cavity (30UJA23-004)

Node No.		Room Code (See Arrangement Drawings) (30UJA)		Free Volume (ft ³)	From Elev. (ft)	To Elev. (ft)	
31		23-004		10797.5	45.28	64.8	
Connecting Nodes							
4		11-004, 11-005, 15-004, 15-005		24299.7	4.92	30.77	
5		18-002, 18-003, 23-002, 23-003, 23-017, 23-020		39785.3	24.08	64.8	
6		18-004, 18-005, 23-005		27666.56	24.08	63.98	
7		29-003, 29-004, 29-005, 34-003, 34-004, 34-005		37032.5	63.98	103.51	
9		15-001, 15-017, 15-024		50948.6	24.41	60.53	
21		11-013,14, 21, 25, 26, 31 15-13, 14, 20, 21, 25 18-13, 14 23-13, 14, 42		171746.58	4.92	63.98	
Vent Path No.	Node No.		Vent Area (ft ²)	Inertia Length (ft)	Form Loss Factor	Opening Type (Required ΔP)	Delay Time (s)
	From	To					
Vent Path Data							
20	4	6	722.5	32.9	1.5	N/A	N/A
24	5	6	468.46	28.8	1.5	N/A	N/A
28		7	258.34	39.7	1.5	N/A	N/A
29	31	9	5.17	30.5	1.5	N/A	N/A
30	6	21	78.58	41.0	1.5	Door (7.252 psid)	Remains Closed
97	5	31	378.9	27.4	1.5	N/A	N/A
98	31	7	271.91	29.5	1.5	N/A	N/A
99	6	31	340.15	29.7	1.5	N/A	N/A
100	31	6	132.62	24.9	1.5	N/A	N/A

Table 6.2.1-13—Free Volume and Vent Path Hydraulic Data for SG Cavity (30UJA29-004)

Volume Data		Free Vol. (ft ³)	From Elev. (ft)	To Elev. (ft)			
Node No.	Room Code (See Arrangement Drawings) (30UJA)						
31	29-004	5140.0	64.8	79.07			
Connecting Nodes							
5	18-002, 18-003, 23-002, 23-003, 23-017, 23-020	39785.3	24.08	64.8			
6	18-004, 18-005, 23-005	38464.1	24.08	63.98			
7	29-003, 29-, 04, 29-005, 34-003, 34-004, 34-005	37032.5	63.98	103.51			
16	23-019, 23-041, 29-019, 34-019	18921.6	49.11	91.86			
23	29-014, 29-018, 34-014, 34-018	80170.9	63.98	93.5			
25	15-023, 29-013, 29-016, 34-104, 34-108, 40-001	1579198.53	20.67	188.68			
Vent Path No.	Node No. From To		Vent Area (ft ²)	Inertia Length (ft)	Form Loss Factor	Opening Type (Required ΔP)	Delay Time (s)
Vent Path Data							
25	5	7	271.19	40.1	1.5	N/A	N/A
28	6	7	258.342	40.1	1.5	N/A	N/A
31	7	16	10.76	24.7	1.5	N/A	N/A
32	7	25	318.62	103.8	1.5	Door (0.6962 psid)	Remains Closed
33	7	23	43.06	40.3	1.5	Door (1.45 psid)	Remains Closed
34	7	25	43.06	103.8	1.5	Door (7.252 psid)	Remains Closed
97	6	31	271.905	27.5	1.5	N/A	N/A
98	7	31	265,02	23.7	1.5	N/A	N/A
99	31	7	21.53	23.7	1.5	N/A	N/A
100	31	7	185.36	26.9	1.5	N/A	N/A

Table 6.2.1-14—Free Volume and Vent Path Hydraulic Data for PZR Cavities (30UJA29-019 and UJA34-019)

Volume Data		Free Volume (ft ³)	From Elev. (ft)	To Elev. (ft)			
Node No.	Room Code (See Arrangement Drawings) (30UJA)						
31	29-019	5347.0	67.91	81.56			
32	34-019	4415.6	83.2	91.86			
Connecting Nodes							
7	29-003, 29-, 04, 29-005, 34-003, 34-004, 34-005	37032.5	63.98	103.51			
14	29-006, 29-007, 29-008, 34-006, 34-007, 34-008	37032.49	63.98	103.51			
15	11-018, 11-019, 15-018, 15-019, 18-018, 18-019	40696.1	4.92	49.11			
16	23-019, 23-041	9158.9	49.11	65.29			
21	11-13, 14, 21, 25, 26, 31, 15-13, 14, 20, 21, 25, 18-13, 14, 23-13, 14, 42	171746.58	4.92	63.98			
24	29-015, 29-022, 34-015, 34-022	63922.87	63.98	93.5			
Vent Path No.	Node No.		Vent Area (ft ²)	Inertia Length (ft)	Form Loss Factor	Opening Type (Required ΔP)	Delay Time (s)
	From	To					
Vent Path Data							
31	7	31	10.76	25.2	1.5	N/A	N/A
52	14	32	26.91	26.6	1.5	N/A	N/A
56	15	16	71.69	30.2	1.5	N/A	N/A
61	16	21	43.06	39.7	1.5	Door (1.450 psid)	Remains Closed
62	32	24	21.53	34.6	1.5	Door (1.450 psid)	Remains Closed
63	31	24	21.53	33.2	1.5	Door (7.252 psid)	Remains Closed
97	16	31	21.529	14.9	1.5	N/A	N/A
98	31	32	21.529	11.2	1.5	N/A	N/A

Table 6.2.1-15—High Energy Lines in Critical Subcompartments

Room Name (30 UJA)	Pipe Name	Pressure (psia)	Temp. (°F)	Pipe ID (in)	Enthalpy (BTU/lb _m)	Mass Flux (lb _m /ft ² - s)	CSA (ft ²)	Energy Flux (MMBTU/hr)
11 - 004	JNG23 BR002	710.7	77.0	10.126	47.0184	12243.9100	0.5592	2.3180564x10 ³
11 - 006	KBA35 BR002	2324.0	512.3	3.438	501.7042	16233.5300	0.0645	3.7803532x10 ³
11 - 027	JNG33 BR001	710.7	77.0	11.750	47.0184	12243.9100	0.7530	3.1212164x10 ³
15 - 004	KBA34 BR019	2324.0	512.3	2.624	501.7042	16233.5300	0.0376	2.2021571x10 ³
15 - 006	JNG33 BR007	2250.0	563.4	8.500	See Table 6.2.1-16			
18 - 004	LCQ10 BR012	1144.3	561.0	1.687	563.5935	3657.1790	0.0155	2.303574x10 ²
23 - 004	LAB70 BR005	1131.2	446.3	17.000	See Table 6.2.1-17			
29 - 004	LAB70 BR005	1131.2	446.3	17.000	See Table 6.2.1-17			
29 - 019	JEF10 BR004	2250.0	653.0	5.187	1116.8417	2968.1370	0.1467	3.5024176x10 ³
34 - 004	JEA20 BR302	1123.0	559.0	0.815	1187.7103	1384.4530	0.0036	4.28908x10 ¹
34 - 019	JEF10 BR004	2250.0	653.0	5.187	1116.8417	2968.1370	0.1467	3.5024176x10 ³

Table 6.2.1-16—Mass and Energy Release Data (RCP Cavity)
Sheet 1 of 2

Time (s)	Mass flow Rate (lb_m/s)	Energy Flow Rate (BTU/s)	Enthalpy (BTU/lb_m)
0.000	0.00	0.00E+00	0.00
0.004	6126.72	3.32E+06	541.36
0.008	9383.54	5.07E+06	539.96
0.012	10657.90	5.76E+06	540.86
0.016	10596.60	5.73E+06	540.80
0.020	10815.80	5.85E+06	540.95
0.024	11546.70	6.25E+06	541.51
0.028	11227.80	6.08E+06	541.25
0.032	11558.60	6.26E+06	541.53
0.036	12987.10	7.05E+06	542.78
0.040	13873.50	7.54E+06	543.59
0.044	13424.20	7.29E+06	543.15
0.048	13254.10	7.20E+06	543.00
0.052	13286.00	7.21E+06	543.03
0.056	12962.00	7.03E+06	542.73
0.060	12792.40	6.94E+06	542.58
0.064	12242.50	6.64E+06	542.09
0.068	11695.00	6.33E+06	541.63
0.072	12014.00	6.51E+06	541.90
0.076	12611.50	6.84E+06	542.42
0.080	13002.00	7.06E+06	542.77
0.084	12962.40	7.04E+06	542.73
0.088	12699.60	6.89E+06	542.49
0.092	12305.70	6.67E+06	542.15
0.096	12006.90	6.51E+06	541.89
0.100	12158.00	6.59E+06	542.02
0.117	11851.40	6.42E+06	541.76
0.133	12705.30	6.89E+06	542.52
0.150	12637.90	6.86E+06	542.47
0.167	11692.50	6.33E+06	541.65
0.183	11526.20	6.24E+06	541.52
0.200	11912.40	6.45E+06	541.84

Table 6.2.1-16—Mass and Energy Release Data (RCP Cavity)
Sheet 2 of 2

Time (s)	Mass flow Rate (lb_m/s)	Energy Flow Rate (BTU/s)	Enthalpy (BTU/lb_m)
0.217	11471.80	6.21E+06	541.48
0.233	11039.60	5.97E+06	541.13
0.250	10967.30	5.93E+06	541.07
0.267	10968.00	5.93E+06	541.07
0.283	11011.90	5.96E+06	541.11
0.300	10869.00	5.88E+06	541.01
0.317	10608.70	5.74E+06	540.81
0.333	10660.70	5.77E+06	540.85
0.350	10439.50	5.64E+06	540.69
0.367	10115.00	5.47E+06	540.46
0.383	9926.03	5.36E+06	540.33
0.400	9788.35	5.29E+06	540.23
0.417	9690.09	5.23E+06	540.16
0.433	9923.69	5.36E+06	540.33
0.450	10153.30	5.49E+06	540.49
0.467	10022.10	5.42E+06	540.40
0.483	9971.50	5.39E+06	540.36

Table 6.2.1-17—Mass and Energy Release Data (SG Cavity)
Sheet 1 of 2

Time (s)	Mass flow Rate (lb_m/s)	Energy Flow Rate (BTU/s)	Enthalpy (BTU/lb_m)
0.000	0.00	0.00E+00	0.00
0.004	4313.62	1.88E+06	435.57
0.008	23269.80	1.02E+07	437.21
0.012	43239.00	1.90E+07	439.58
0.016	42334.50	1.86E+07	440.53
0.020	41588.90	1.84E+07	441.49
0.024	42730.80	1.89E+07	443.04
0.028	40484.20	1.80E+07	443.48
0.032	42311.30	1.88E+07	445.27
0.036	40084.00	1.79E+07	445.67
0.040	41547.20	1.86E+07	447.35
0.044	39986.10	1.79E+07	447.97
0.048	40510.00	1.82E+07	449.35
0.052	40050.30	1.80E+07	450.36
0.056	39489.20	1.78E+07	451.33
0.060	39713.90	1.80E+07	452.61
0.064	38570.70	1.75E+07	453.35
0.068	39292.30	1.79E+07	454.87
0.072	38115.50	1.74E+07	455.61
0.076	38390.50	1.75E+07	456.95
0.080	37564.60	1.72E+07	457.84
0.084	37416.00	1.72E+07	459.02
0.088	37273.90	1.72E+07	460.25
0.092	36450.50	1.68E+07	461.17
0.096	36674.80	1.70E+07	462.55
0.100	35618.30	1.65E+07	463.36
0.117	35260.70	1.64E+07	466.24
0.133	34516.00	1.62E+07	469.96
0.150	33790.60	1.60E+07	473.46
0.167	33114.40	1.58E+07	476.85
0.183	32511.90	1.56E+07	480.14

Table 6.2.1-17—Mass and Energy Release Data (SG Cavity)
Sheet 2 of 2

Time (s)	Mass flow Rate (lb_m/s)	Energy Flow Rate (BTU/s)	Enthalpy (BTU/lb_m)
0.200	31899.90	1.54E+07	483.27
0.217	31235.80	1.52E+07	486.18
0.233	30678.10	1.50E+07	488.94
0.250	30264.30	1.49E+07	491.54
0.267	29799.50	1.47E+07	493.88
0.283	29339.00	1.46E+07	496.04
0.300	29012.10	1.45E+07	498.13
0.317	28693.10	1.43E+07	500.10
0.333	28325.20	1.42E+07	501.94
0.350	28019.00	1.41E+07	503.68
0.367	27730.00	1.40E+07	505.30
0.383	27448.90	1.39E+07	506.80
0.400	27194.90	1.38E+07	508.20
0.417	26926.30	1.37E+07	509.48
0.433	26663.00	1.36E+07	510.69
0.450	26423.40	1.35E+07	511.86
0.467	26194.00	1.34E+07	512.98
0.483	25975.70	1.34E+07	514.06

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 1 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
0	2298.5	0	1212.4	0	410	2298.2	0	1197	0	600
0.0001	2339.8	0	1212.4	1000	510	2231.8	0	1197	1000	600
0.1001	1611.5	2307	1171.3	45552	626.6	1212	4870	1193.7	32209	571.8
0.2001	1443.2	3334	1178.1	42748	610.2	990.3	5041	1196.1	31580	560.3
0.3001	1426.5	3420	1179.3	42303	606.4	852	4478	1199.3	27477	555.9
0.4001	1387.8	3740	1181.6	41043	601.2	767.7	4730	1204.7	23684	530
0.5	1358.4	3977	1183.6	40025	596.9	730.8	4478.5	1206.5	23083.1	519.2
0.6	1333.9	4187	1185	39138	593.5	701.7	4210	1207.5	22918	512.6
0.7	1310.4	4409	1186.4	38258	590.5	684.5	4008	1207.9	22884	505.9
0.8	1286.7	4685	1187.7	37254	587.4	670.6	3813	1208.8	23488	500
0.9	1259.5	5171	1189.5	35760	584.3	650.9	3773	1209	22980	496.5
1	1219.7	5891	1190.4	33477	580.7	632.3	3760	1209.5	22343	492.6
1.1	1202	5799	1189.5	31884	587.6	601	4026	1213.9	21742	480.2
1.2	1181.2	5690	1189.2	30521	595.1	585.7	4065	1215.5	21053	473.2
1.3	1156.7	5742	1189.3	29158	598.9	573.3	4037	1216	20668	470.3
1.4	1132.2	5992	1190.3	27780	597.9	562.9	4009	1216.1	20360	467.9
1.5	1106.5	6240	1191.8	26575	594.9	554.4	3976	1216.7	20122	465.9
1.6	1082.9	6427	1193.5	25569	591.2	547.5	3938	1216.4	19972	464.2

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 2 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
1.7	1063.3	6562	1194.7	24794	587.4	542.2	3889	1216.7	19910	462.8
1.8	1019.7	6321	1196.9	25056	573.1	538.6	3833	1216.7	19932	461.8
1.9	1006.9	5978	1197.7	26377	564.5	536.3	3773	1216.4	20028	461.1
2	990.7	5970	1198.1	26078	561.6	534.9	3714	1216.2	20158	460.7
2.1	974.5	5998	1199.4	25630	558.5	533.7	3662	1216.1	20278	460.3
2.2	958.4	6094	1200.1	24987	555.8	532.2	3623	1215.7	20354	460
2.3	944.3	6214	1201.2	24267	553.5	529.8	3596	1216.1	20360	459.5
2.4	931.6	6306	1201.9	23659	551.4	526.3	3585	1215.8	20278	458.9
2.5	903.8	6726	1206.9	23009	540.4	521.7	3585	1216.1	20109	458
2.6	894.9	6980	1210.8	22339	530.4	515.9	3595	1216	19866	456.9
2.7	884.9	6969	1211.4	22048	528.7	510.4	3603	1216.5	19600	455.5
2.8	876.2	6941	1211.7	21841	527.2	503.3	3620	1216.7	19284	454.2
2.9	868.2	6895	1212.1	21717	525.8	496.1	3641	1217.3	18911	452.6
3	860.8	6835	1212.2	21658	524.5	489	3661	1217.4	18543	451
3.1	853.8	6762	1212.5	21650	523.3	481.9	3676	1217.9	18181	449.4
3.2	846.9	6686	1212.5	21664	522.1	475.5	3688	1218	17847	447.8
3.3	840.2	6606	1212.7	21692	521	469.3	3695	1218.4	17535	446.3
3.4	833.7	6528	1212.9	21726	519.9	463.3	3698	1218.7	17254	444.9
3.5	827.5	6452	1212.9	21763	518.8	457.7	3699	1219	16990	443.5

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 3 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
3.6	821.4	6380	1213	21792	517.7	452.5	3701	1219.1	16728	442.2
3.7	816.1	6315	1213.1	21806	516.7	446.9	3701	1219.5	16474	440.9
3.8	810.7	6261	1213.1	21798	515.7	442.5	3699	1219.7	16244	439.7
3.9	808.9	6220	1213.4	21796	515.1	437.4	3696	1219.8	16033	438.5
4	802.2	6202	1213.3	21708	514.3	433.1	3696	1219.9	15795	437.3
4.1	796.9	6150	1213.6	21678	513.3	428.9	3689	1220.3	15623	436.4
4.2	793.3	6101	1213.6	21658	512.4	424.2	3694	1220.2	15378	435.2
4.3	788.8	6074	1213.8	21611.9	511.8	419.4	3697	1220.7	15128.9	434
4.4	784.2	6044	1213.7	21545	511	414.6	3703	1221	14860	432.8
4.5	780.5	5998	1214	21541	510.2	410.2	3707	1221.2	14609	431.7
4.6	777.6	5949	1214.1	21568	509.6	405.6	3708	1221.3	14376	430.5
4.7	775.9	5902	1214	21637	509.2	401.4	3708	1221.5	14137	429.4
4.8	773.6	5854	1213.8	21712.9	508.8	398	3701	1221.7	13964.9	428.4
4.9	770.7	5792	1213.7	21803	508.3	395	3688	1221.9	13852	427.5
5	768.6	5717	1213.8	21934	507.8	391.5	3678	1222.1	13718	426.7
5.1	767	5645	1213.5	22081	507.4	388.2	3671	1222.2	13563	425.8
5.2	765.9	5580	1213.4	22217	507.2	385.4	3662	1221.9	13438	424.9
5.3	764.6	5526	1213.2	22327.9	506.9	382.6	3649	1222.4	13337.9	424.2
5.4	762.4	5478	1213.2	22405	506.6	379.8	3643	1222.2	13213	423.4

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 4 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
5.5	759.9	5436	1213.2	22452	506.2	377	3637	1222.8	13076	422.7
5.6	757.5	5403	1213.1	22488	505.7	374.3	3631	1222.5	12955	421.9
5.7	754.8	5375	1213.1	22499	505.2	371.7	3625	1222.7	12831	421.2
5.8	752.1	5352	1213.2	22488.9	504.8	369	3621	1222.7	12698	420.5
5.9	748.9	5333	1213.3	22459	504.2	366.5	3614	1223.2	12578	419.7
6	747.3	5323	1213.4	22430	503.9	364	3609	1223	12460	419.1
6.1	743.6	5324	1213.6	22321	503.3	361.5	3605	1223	12335	418.4
6.2	740.4	5320	1213.6	22229	502.7	359.1	3598	1223.4	12216	417.7
6.3	736.9	5321	1213.9	22117.9	502.1	356.7	3592	1223.4	12104	417
6.4	733.3	5328	1214	21982	501.4	354.3	3588	1223.5	11980	416.3
6.5	729.5	5336	1214.4	21833	500.8	352	3585	1223.3	11856	415.7
6.6	725.6	5347	1214.4	21673	500.1	349.6	3578	1223.7	11742	415
6.7	721.8	5356	1214.6	21514	499.4	347.2	3571	1224.1	11624	414.4
6.8	718	5362	1214.9	21366.9	498.7	344.7	3566	1223.8	11498	413.6
6.9	714.7	5362	1215.1	21249	498.1	342.3	3559	1223.9	11379	412.9
7	711.4	5353	1215.2	21170	497.5	340.1	3548	1224	11287	412.3
7.1	708	5336	1215.4	21112	496.9	338.3	3534	1224.1	11227	411.7
7.2	704.3	5322	1215.1	21041	496.2	336.6	3521	1224.2	11176	411.2
7.3	700.4	5316	1215.7	20923.9	495.5	335.4	3514	1223.9	11120	410.7

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 5 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
7.4	696.3	5325	1215.8	20756	494.8	334	3508	1224	11069	410.3
7.5	691.8	5342	1215.9	20552	494	332.7	3498	1224.4	11024	409.9
7.6	687.2	5361	1216.1	20328	493.2	330.5	3489	1223.9	10971	409.4
7.7	682.8	5371	1216.4	20134	492.3	327.6	3475	1224.1	10861	408.6
7.8	678.6	5369	1216.9	19985.9	491.5	324.6	3471	1224.4	10680	407.7
7.9	674.7	5361	1216.8	19872	490.8	321.6	3475	1224.8	10453	406.9
8	670.9	5347	1216.9	19781	490	318.5	3482	1225	10203	406
8.1	667	5330	1217	19699.9	489.3	315.4	3487	1225.4	9943	405.1
8.2	663.1	5312	1217.3	19619.1	488.5	312.3	3490	1225.5	9686.1	404.2
8.3	659.1	5297	1217.4	19528.9	487.8	309	3491	1225.6	9424	403.2
8.4	654.3	5297	1217.5	19364.1	486.9	305.4	3492	1226.2	9152.1	402.2
8.5	649.5	5306	1217.7	19151.9	486	301.7	3495	1226.7	8864	401.1
8.6	644.8	5312	1218.3	18947.9	485.1	298.1	3499	1226.7	8561	400
8.7	640.5	5313	1218.3	18777.1	484.3	294.4	3500	1227.3	8257	398.8
8.8	636.5	5305	1218.4	18649.9	483.4	290.9	3499	1227.7	7956	397.8
8.9	632.4	5289	1218.6	18549.1	482.7	287.3	3495	1227.9	7668	396.7
9	628.5	5270	1218.7	18459.9	481.9	284	3488	1228.1	7392	395.5
9.1	624.4	5251	1218.7	18371.9	481	280.9	3480	1228.5	7125	394.5
9.2	620.3	5234	1219	18267.1	480.2	277.9	3470	1228.8	6871	393.5

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 6 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
9.3	616	5223	1218.9	18140.9	479.4	275	3459	1228.7	6624	392.6
9.4	611.7	5214	1219.3	17999.1	478.5	272.3	3445	1229.2	6387	391.6
9.5	607.5	5208	1219.5	17847.9	477.7	269.7	3432	1228.9	6159	390.7
9.6	603	5203	1219.7	17691.9	476.8	267.3	3415	1229.4	5946	389.9
9.7	598.4	5198	1219.7	17525.1	475.9	265	3399	1229	5757	389
9.8	593.9	5191	1220.1	17351.9	475	262.7	3379	1229.4	5594	388.2
9.9	589.3	5187	1220.2	17171.1	474.1	260.6	3360	1229.1	5460	387.4
10	584.3	5183	1220.6	16973.9	473.1	258.5	3339	1229.2	5353	386.7
10.1	578.8	5179	1220.7	16755.9	472	256.5	3319	1229.2	5266	385.9
10.2	573.1	5171	1221	16530.1	470.9	254.7	3301	1228.8	5189	385.2
10.3	567.2	5156	1221.4	16318.9	469.6	253.1	3283	1229.1	5108	384.6
10.4	561.2	5137	1221.4	16121.1	468.4	251.6	3267	1229.3	5013	384
10.5	555.1	5115	1221.6	15923.9	467.1	249.9	3256	1228.7	4900	383.4
10.6	548.8	5093	1221.9	15717.9	465.8	248.4	3245	1229.2	4765	382.9
10.7	542.4	5072	1222	15501.1	464.4	247	3237	1229.2	4612	382.3
10.8	536.8	5049	1222.4	15295.9	463.1	246	3230	1229.2	4441	381.9
10.9	530.4	5008	1222.4	15198.1	461.8	245.1	3223	1229	4260	381.6
11	526	4877	1222.2	15448.9	460.4	244.1	3214	1229.2	4077	381.1
11.1	524	4683	1221.2	16066.9	459.5	242.3	3208	1229	3896	380.6

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 7 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
11.2	519.5	4557	1220.6	16372.1	458.7	240.6	3199	1229.4	3719	380.1
11.3	512.7	4538	1221	16169.9	457.4	239.1	3189	1229.3	3547	379.4
11.4	505.5	4569	1221.4	15737.1	455.8	237.8	3177	1229.4	3375	378.9
11.5	498.4	4615	1222	15227.9	454.3	236.8	3164	1229.3	3205	378.4
11.6	491.6	4666	1222.7	14691.9	452.9	235.9	3149	1229	3038	378
11.7	485.2	4708	1223.1	14190.1	451.4	234.3	3131	1229	2880	377.6
11.8	478.9	4732	1223.8	13748.9	450	232.7	3110	1228.8	2743	376.8
11.9	472.7	4744	1224.4	13351.1	448.6	230.8	3085	1228.5	2634	376.2
12	466.5	4748	1224.5	12984	447.2	228.6	3056	1228.5	2562	375.3
12.5	437.5	4716.6	1225.6	12045.8	443	218.7	2973.6	1228.1	2483	372.5
13	410.5	4600.8	1226.6	10793.6	436.1	214.2	2880.8	1227.4	2183.6	369.9
13.5	382.7	4446.8	1227.4	9660	429.1	211.6	2806.8	1226.8	1810.6	367.7
14	356.1	4276.4	1228.2	8555.2	421.5	216.3	2767.2	1225.5	1327.8	368.2
14.5	332	4113.2	1228.8	7457.2	414.4	220.6	2703.4	1223.4	764.4	369.5
15	307.9	3962.2	1229.6	6353	407.1	216.4	2584.6	1221	386.4	369.5
16	265.9	3689.2	1230.2	4972.4	396.7	195	2334.1	1218.3	177.9	364
17	229.4	3278.6	1229.6	3534.3	382.6	162.4	1980.4	1217.7	70.3	351.3
18	200.5	2848.5	1227.4	2286.9	369.1	133.7	1634.2	1223.3	42.5	336.9
19	143	2372.6	1223.5	1193.2	354.6	69.7	1211.8	1228.6	22.9	311.3

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 8 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
20	120.6	1669.8	1217.1	707.2	323.4	52	557.2	1219.8	41.2	254
22	92.8	1253.5	1210.6	454.6	300.7	59.8	681.1	1205.6	86.4	263.6
24	82.3	1252.9	1209.6	378.1	299.4	73	795.5	1204	140.4	274.6
26	80.5	1111.9	1209.8	1509.3	291	72.1	916.4	1207.1	265.2	279.4
28	72.7	815.3	1198.3	3306	285.1	64.8	731.2	1215.1	56.4	270.4
30	65.3	681.2	1194.1	3655.7	275.9	56.7	699.8	1221.9	40.6	272.1
34	49.3	515	1188.3	3377.8	261.4	36.4	518.8	1225.6	21.7	252.4
38	44.5	280	1178.7	4514	248.8	23.1	342.8	1198.5	54.9	215.8
42	37.5	159.6	1172.6	5691.7	238.4	22.9	330.2	1183.7	133.3	211.3
46	31.1	100.7	1168.3	5865.5	224.6	19.9	306.5	1181.3	135.2	208.8
50	25.2	47.8	1163.2	6909.2	202.8	19.1	243.2	1173.8	132.4	201.3
54	23.3	33	1163.2	6614.1	192.7	17.8	201.3	1168.6	146	196.4
58	18.7	111.3	1183.5	1797.9	196.9	15.3	135.6	1162.7	125.2	189.4
62	18	78.8	1186.1	1857.1	190	14.8	42	1156.9	63.6	181.4
66	16	86.8	1189.5	808.5	187.5	14.7	22.4	1158.9	22.5	180.4
69.9	16.9	78.8	1182.9	678.1	184.9	14.7	3.9	1146.7	5.6	179.1
90.1	21.3	167.5	1164.8	1000.8	200	14.7	0.9	1186.7	0	180
120.1	21.9	164.9	1165.1	1163.9	201.9	14.7	76.3	1162.3	68.1	187
150.1	22.1	186.8	1166.7	999	202.4	15.2	82.8	1155.5	208.9	183.9

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 9 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
180.1	20.1	205.5	1169.2	568.7	199.5	14.9	50.3	1153.2	186.7	181.6
210.1	19.7	192.9	1167.7	517.9	197.5	14.8	31.1	1154.6	48.9	181
240.1	19.3	167.9	1164.9	658.2	196.4	14.7	12.9	1182.3	1.8	177.2
270.1	19.2	154.9	1163.3	622.1	194.6	14.7	0.3	1180	0	240
300.1	19.8	136.1	1161.6	834.6	194.8	14.7	0.3	1073.3	0	240
330.1	19.3	133.4	1161.1	739.5	193.5	14.7	0.1	1030	0	240
360.1	19.3	124.7	1160	888.7	194.3	14.7	0.5	1124	0	240
400	18.5	109.6	1158.8	914.5	192.6	14.7	0	1430	0	240
Begin ong-Term Release (Total Break Flow)¹										
430	14.7	126	1160	870	193	—	—	—	—	—
500	14.7	116	1159	870	192	—	—	—	—	—
700	14.7	93	1157	870	190	—	—	—	—	—
910	14.7	79	1156	870	188	—	—	—	—	—
1120	14.7	74	1156	870	187	—	—	—	—	—
1508	14.7	61	1154	870	184	—	—	—	—	—
2016	14.7	53	1152	870	183	—	—	—	—	—
3997	14.7	35	1152	870	182	—	—	—	—	—
4903	14.7	20	1150	870	181	—	—	—	—	—
5038	14.7	29	1151	870	181	—	—	—	—	—

Table 6.2.1-18—Mass and Energy Results for Case 7A Blowdown HL
Sheet 10 of 10

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
5098	14.7	24	1151	870	181	—	—	—	—	—
5158	14.7	13	1151	870	181	—	—	—	—	—
5188	14.7	9	1146	870	181	—	—	—	—	—
5308	14.7	7.5	1143	870	181	—	—	—	—	—
5529 ²	Note 3	4.5	1318	870	200	—	—	—	—	—
6244	Note 3	4.1	1391	870	200	—	—	—	—	—
7009	Note 3	4.0	1407	870	210	—	—	—	—	—
8005	Note 3	4.0	1410	870	212	—	—	—	—	—
13,409	Note 3	4.0	1412	870	213	—	—	—	—	—
13,509	Note 3	0	—	870	213	—	—	—	—	—
86,400	Note 3	0	—	870	149	—	—	—	—	—

Notes:

1. Tabulated values are produced by averaging the instantaneous mass and energy releases at discrete times.
2. The code transition from RELAP5/MOD2-B&W to GOTHIC results in a discontinuity in the mass and energy releases due to distinct modeling approaches.
3. RCS upstream pressure equal to containment pressure over this interval.

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 1 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb ^m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
0	2246.8	0	1212.4	0	410	2247.9	0	1197	0	460
0.0001	2237.2	0	1212.4	1000	440	2237.1	0	1197	1000	460
0.1001	938.8	1945	1203.7	32873	522	599	2695	1206	28447	516.7
0.2001	948.7	1690	1196.5	40287	532.7	595.5	2696	1205.7	24065	503.7
0.3001	923.7	1332	1196.2	41197	540	634.3	2412	1205.1	24370	511.5
0.4001	1007.2	1010	1196.5	39172	539.7	642.1	2365	1205	22869	511.7
0.5	1002.1	944.9	1196.9	39293.3	543.2	638.2	2307.3	1204.4	23655.7	516.1
0.6	1006.5	979	1195.9	39238	543.8	639.5	2311	1204.5	23405	518.2
0.7	1012.6	1019	1196.1	39275	544.4	639.9	2349	1204.6	23203	519.8
0.8	1018.1	1070	1195.6	39316	545	639.7	2396	1204.4	22946	521.5
0.9	1025.6	1133	1194.9	39362	545.5	639.2	2453	1205	22644	523.1
1	1027.7	1212	1196	39352	545.9	634.7	2533	1204.5	22214	524.4
1.1	1025.5	1300	1195.6	39142	546.1	628.7	2626	1205	21638	525.3
1.2	1022.9	1376	1196.1	38869	546.5	625.6	2702	1205.1	21120	526.7
1.3	1018.3	1473	1195.8	38529	546.8	624.2	2781	1205.5	20673	528.3
1.4	1008.2	1649	1196.5	38016	545.6	617.2	2881	1205.6	20168	529.1
1.5	993.7	1834	1196.9	37404	543.8	609.3	3002	1205.8	19490	528.8
1.6	977.4	2035	1198.3	36649	541.5	603.1	3094	1206.8	18888	529.4

Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 2 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
1.7	911.7	2168	1200	35183	533.4	567.3	4807	1217	18570	486.7
1.8	906.5	2343	1200.7	34810	527.4	531.2	4984	1221.9	15516	463.1
1.9	899.4	2755	1202.1	34177	520.4	515.1	4993	1223	14661	459.4
2	892.6	2920	1202.7	33844	518.2	505.8	5003	1223.7	13990	456.7
2.1	881.9	3010	1202.9	33370	517.5	495.7	5024	1224.5	13367	454.7
2.2	845.6	3053	1204.5	32270	517.4	456.9	4974	1225.5	11947	449.1
2.3	829.4	3061	1210.7	30953	517.7	429.4	4819	1226.9	10276	440.3
2.4	824.7	3008	1230.2	30804	516.8	421.3	4704	1227	9921	436.6
2.5	816.2	2967	1240.6	30315	517.9	414.2	4717	1227.7	9246	434.5
2.6	808	2936	1247.1	29911	519.1	409.5	4736	1228.3	8820	433.4
2.7	795.4	2916	1254.1	29428	519.2	403.3	4737	1228.7	8426	432
2.8	781.5	2913	1264	28820	518.6	395.8	4722	1229.4	7991	430.3
2.9	768	2938	1271.1	28185	517.4	388	4694	1229.6	7565	428.2
3	755.6	2979	1274.2	27571	516.3	380.7	4660	1230	7156	426.2
3.1	744.5	3018	1274.1	27003	515.4	374.5	4626	1230.4	6780	424.4
3.2	734.8	3042	1272.4	26520	514.7	369.6	4593	1230.7	6480	422.9
3.3	726.1	3046	1271.2	26136	514.1	365.7	4561	1230.7	6284	421.6
3.4	718.4	3041	1268.2	25844	513.4	362.4	4529	1230.8	6182	420.6
3.5	711.5	3026	1266.6	25619	512.6	359.6	4497	1230.8	6149	419.8

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 3 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
3.6	705.5	3011	1264.1	25443	511.7	357.1	4465	1230.8	6161	419
3.7	700.2	2994	1262.3	25305	510.9	355.1	4436	1230.4	6202	418.3
3.8	695.6	2979	1260.3	25196	510.1	353.3	4406	1230.6	6261	417.8
3.9	691.5	2965	1258.8	25102	509.3	351.8	4378	1230.6	6332	417.2
4	687.8	2954	1257.3	25021	508.6	350.5	4352	1230.2	6406	416.8
4.1	684.4	2946	1255.8	24946	507.8	349.2	4325	1230.4	6483	416.3
4.2	681.2	2940	1254.6	24873	507.1	348	4301	1230.3	6558	416
4.3	678.2	2936	1253.6	24801.9	506.4	346.9	4279	1229.9	6631	415.6
4.4	675.4	2936	1252	24731	505.8	345.9	4257	1229.9	6700	415.3
4.5	672.7	2937	1250.9	24663	505.1	345	4236	1229.9	6762	415
4.6	670.2	2941	1249.7	24597	504.5	344.1	4217	1229.7	6821	414.6
4.7	667.7	2946	1248.9	24527	504	343.2	4198	1229.7	6870	414.5
4.8	665.4	2953	1247.9	24455.9	503.4	342.5	4181	1229.5	6917	414.1
4.9	663.2	2961	1246.9	24384	502.9	341.7	4165	1229.4	6959	413.9
5	660.9	2971	1245.7	24305	502.4	341	4149	1229.5	6996	413.7
5.1	658.8	2982	1244.6	24224	501.9	340.4	4135	1229.3	7029	413.4
5.2	656.7	2993	1243.8	24140	501.5	339.7	4121	1229.3	7059	413.2
5.3	654.6	3005	1242.9	24052.9	501.1	339.1	4109	1229	7087	413
5.4	655.1	3021	1241.9	23967	500.7	338.7	4096	1229.1	7114	412.8

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 4 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
5.5	641.6	3540	1228.5	23786	489	334.8	4097	1229	7198	413.2
5.6	640.1	3816	1213.2	23527	483.1	333	4043	1229.2	7055	411.3
5.7	634.9	3837	1213.5	23275	482	329.1	4012	1228.9	7003	410.4
5.8	629.6	3864	1213.5	23025.9	480.9	324.8	3972	1228.9	6916	409.1
5.9	624.5	3891	1213.5	22776	479.9	320.8	3933	1228.9	6828	407.9
6	619.7	3915	1214	22541	478.9	317.2	3897	1229.1	6753	406.6
6.1	615.1	3938	1214.4	22313	478	313.7	3865	1229.3	6688	405.6
6.2	610.8	3962	1214.4	22093	477.2	310.5	3837	1228.9	6632	404.5
6.3	606.9	3985	1214.7	21880.9	476.4	307.6	3809	1229.1	6577	403.6
6.4	602.6	4009	1214.9	21666	475.6	304.7	3783	1229.3	6524	402.6
6.5	598.2	4035	1215.1	21430	474.7	301.6	3756	1229.3	6458	401.7
6.6	594	4061	1215.4	21191	473.8	298.5	3728	1229.1	6391	400.6
6.7	590.1	4086	1215.8	20956	473	295.6	3700	1229.3	6330	399.6
6.8	586.3	4113	1215.8	20722.9	472.2	292.8	3674	1229.2	6272	398.6
6.9	582.5	4139	1216.5	20488	471.5	290.1	3648	1229.4	6211	397.8
7	578.8	4169	1216.4	20247	470.7	287.5	3624	1229.2	6147	396.9
7.1	575.2	4200	1216.6	19998	470	284.9	3599	1229.2	6078	396
7.2	571.9	4231	1217.3	19748	469.3	282.5	3575	1229.4	6007	395.1
7.3	568.7	4271	1217.1	19479.9	468.7	280.3	3554	1229.2	5939	394.4

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 5 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
7.4	563.6	4324	1217.8	19112	467.9	277.7	3531	1229.5	5869	393.5
7.5	557.2	4397	1218.1	18587	466.8	273.7	3500	1229.2	5764	392.4
7.6	552.2	4476	1218.8	18031	465.6	269.6	3460	1229.1	5626	391
7.7	548.2	4551	1219.3	17577	464.7	266.7	3425	1229.4	5501	389.7
7.8	545.1	4612	1219.8	17233.9	464.1	264.5	3402	1229	5392	388.9
7.9	542.4	4658	1220.2	16953	463.5	262.5	3381	1229.1	5294	388
8	539.4	4694	1220.4	16709	462.9	260.5	3363	1229.1	5205	387.4
8.1	536.1	4723	1220.9	16466.9	462.3	258.4	3345	1229.3	5120	386.7
8.2	532.8	4751	1221	16220.1	461.6	256.3	3326	1229.3	5034	385.9
8.3	529.5	4776	1221.5	15975.9	460.9	254.3	3308	1229.1	4948	385.1
8.4	525.9	4798	1221.7	15736.1	460.3	252.2	3289	1229.3	4862	384.3
8.5	522.4	4813	1222	15513.9	459.5	250	3269	1229.2	4775	383.6
8.6	518.9	4824	1222.2	15305.9	458.8	248	3249	1228.9	4697	382.8
8.7	515.9	4828	1222.3	15135.1	458	246.1	3228	1229.1	4630	382.1
8.8	512.5	4823	1222.7	14999.9	457.4	244.3	3209	1229.2	4578	381.4
8.9	510.2	4815	1222.5	14902.1	456.7	242.8	3191	1228.6	4531	380.7
9	508.7	4805	1222.7	14850.9	456.2	242	3177	1229.1	4507	380.3
9.1	506.2	4790	1222.9	14812.9	455.8	241	3169	1228.9	4497	380
9.2	503.8	4775	1222.8	14743.1	455.2	239.5	3153	1229	4471	379.4

Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 6 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
9.3	501.9	4762	1222.9	14694.9	454.7	238.3	3138	1228.8	4444	379
9.4	500	4749	1222.8	14659.1	454.3	237.1	3125	1228.7	4423	378.5
9.5	498.4	4736	1222.9	14623.9	453.9	236	3111	1229.1	4401	377.9
9.6	496.9	4726	1223	14593.9	453.5	235	3100	1228.8	4376	377.6
9.7	495.3	4719	1223	14546.1	453.2	233.9	3089	1228.7	4345	377.3
9.8	493.6	4718	1222.9	14470.9	452.8	232.8	3077	1228.7	4302	376.7
9.9	491.8	4722	1223.2	14363.1	452.4	231.6	3066	1228.4	4240	376.3
10	489.8	4735	1223.3	14207.9	452	230.4	3053	1228.7	4159	375.8
10.1	487.2	4755	1223.5	13998.9	451.5	229.1	3040	1228.6	4058	375.4
10.2	484.4	4780	1223.9	13738.1	450.9	227.7	3024	1228.5	3943	374.7
10.3	481.4	4806	1224.2	13452.9	450.3	226.3	3005	1228.6	3822	374.2
10.4	478.3	4828	1224.4	13173.1	449.7	224.9	2987	1228.1	3708	373.7
10.5	475.1	4842	1224.8	12917	449	223.5	2968	1228.3	3612	373
10.6	471.8	4847	1225.2	12685	448.2	221.9	2953	1228.3	3535	372.4
10.7	468.6	4848	1225.1	12485.1	447.5	220.4	2938	1228	3473	371.8
10.8	465.6	4843	1225.5	12309	446.8	219	2922	1228	3424	371.2
10.9	462.8	4837	1225.5	12158.1	446	217.7	2906	1228.1	3384	370.5
11	460.1	4828	1225.6	12035	445.4	216.5	2892	1227.9	3350	370.1
11.1	457.7	4817	1226	11930	444.8	215.5	2878	1228	3323	369.6

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 7 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
11.2	454.8	4806	1225.9	11801.1	444.1	214	2864	1227.5	3296	369.1
11.3	452.1	4793	1225.9	11690	443.5	212.5	2844	1227.8	3263	368.5
11.4	449.6	4780	1226	11598.1	442.8	211.3	2827	1227.7	3237	367.8
11.5	447.2	4770	1226.1	11486	442.2	210.1	2812	1227.7	3213	367.4
11.6	444.8	4762	1226.3	11358	441.7	209	2798	1227.4	3189	367
11.7	442.4	4755	1226.3	11224.1	441.1	207.8	2784	1227.1	3167	366.4
11.8	440.1	4748	1226.4	11087	440.5	206.8	2769	1227.4	3146	365.9
11.9	437.6	4741	1226.6	10938.1	439.9	205.7	2756	1227	3126	365.4
12	435	4735	1226.6	10770	439.3	204.6	2741	1227.5	3104	364.9
12.5	422.7	4711.4	1227	10252.4	437.5	199.8	2704.8	1226.9	3045.2	363.7
13	409.4	4630.4	1227.3	9692.8	434.2	193.7	2638.4	1226.6	2962.2	361.3
13.5	398.4	4533.2	1227.4	9350	430.9	189.1	2571.8	1226.3	2894	358.8
14	387.2	4465	1227.7	8866.8	428	184.8	2517.4	1226	2864.6	356.7
14.5	375	4407	1228.2	8379.8	424.9	179.5	2463	1225.7	2761.2	354.5
15	360.6	4329.6	1228.7	7889.4	421.2	173	2394.4	1225.5	2628.8	351.6
16	333.3	4187.9	1229.3	7172	415.3	161.6	2294.4	1225	2440.3	347.3
17	315	3972.5	1229.2	6755.2	408.6	151.9	2165.8	1224.5	2471.9	341.5
18	286.1	3857.8	1230.5	5031.3	401.4	147.9	2066.1	1223.1	1693.2	338
19	256.3	3552	1230.3	3890.1	390.8	133.4	1924.4	1221.2	1259.8	332.7

Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 8 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
20	235.5	3239.8	1229.4	3730.7	381.3	123.8	1736	1219.3	1076.3	324.2
22	213.5	2918.2	1226.3	1702.9	374.9	152.3	1712.4	1216.1	497	326.3
24	170	2218.4	1221.3	690.2	350.4	126.5	1408.3	1210.1	124.3	316.1
26	107.9	1600	1212.3	110.5	330.1	80	1183.5	1206.7	27.7	310.3
28	105.4	1303.8	1214.2	1344.8	313.2	65.3	801.7	1199	112.8	273.5
30	99.5	1264.7	1213	1775.5	319.3	64.1	826.3	1198.6	23.3	278
34	83.5	922.6	1202.7	1676.8	301	55.9	704.3	1197.9	37	265.8
38	73.3	620.1	1193	2209.4	286	49.4	627.5	1194	88.7	256.6
42	57.1	286.8	1197.1	5482.7	265.6	38.1	502.8	1190	53.9	241.8
46	31.7	67.9	1200.1	9950.5	236.5	30.8	454.3	1187.5	78	234.4
50	29	56.3	1197	8307.7	207.7	30.2	433.1	1186.8	60.2	233.4
54	40.9	50	1194.2	7899.6	209	37.5	369.8	1194.8	8.8	232.3
58	45.3	29.4	1205.6	7474.4	202.2	25	291.3	1202.5	5.8	221.6
62	32.5	32	1198	6726.4	184.4	23	277.7	1189.6	27.3	208
66	32	19.9	1176.9	6382.5	186.2	20.3	251.1	1176.4	30.5	201.4
70	20.9	31.2	1178.6	5177.5	188.6	16.2	229.8	1179	34.2	197.1
74	21.2	45.9	1168.9	3207.7	187.7	15.1	167.7	1164.8	76.3	191.2
78	21.1	90.7	1168.7	1291.3	201.2	15.3	177.7	1172.2	36.5	192.2
82	21.1	118.7	1169.5	630.1	200.9	16.1	171.7	1177.5	21.5	191.6

**Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 9 of 11**

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
86	20.3	114.4	1166.3	629.4	200	15.6	163.9	1167.4	33.3	191.3
90	20.8	108.9	1165	632.4	199.2	15.8	157.2	1164.8	39.8	190.1
120	20	96.2	1161.9	663.9	197.1	15.5	137.5	1160.3	67.4	188.1
150	19.7	93.8	1160.9	667.6	196.5	15.6	134.8	1160.1	69.9	188.1
180	19.7	92.4	1160.5	703.5	196.6	15.3	134.7	1160	75.2	188
210	20.1	91.8	1159.9	682	196.1	15.8	132.3	1159.3	72.2	187.8
240	19.8	90.5	1161	685.5	195.9	15	125.9	1158.4	87	187
270	18.9	82.6	1159.9	719	194.5	15.2	126	1158.5	62.5	186.9
300	18.5	75.8	1158.7	683.8	192.5	15	113.5	1157.5	63.6	185.8
330	17.2	69.3	1160	670.6	190	14.5	102.6	1155.9	51.1	184.7
360	16.9	63.4	1160	638.2	188	14.5	94.6	1156.5	35.5	183.7
400	16.7	56.6	1160.8	620.5	186.1	14.5	86.8	1158.1	31	183

Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 10 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
Begin Long-Term Release (Total Break Flow)¹										
480	14.7	130	1160	636	183	—	—	—	—	—
580	14.7	117	1155	711	183	—	—	—	—	—
600	14.7	126	1158	675	184	—	—	—	—	—
700	14.7	120	1156	727	184	—	—	—	—	—
1400	14.7	91	1153	762	181	—	—	—	—	—
1800	14.7	84	1154	761	179	—	—	—	—	—
2200	14.7	70	1152	752	178	—	—	—	—	—
2800	14.7	62	1153	800	175	—	—	—	—	—
4200	14.7	38	1150	829	170	—	—	—	—	—
5400	14.7	35	1153	850	158	—	—	—	—	—
6600	14.7	26	1148	871	152	—	—	—	—	—
8800	14.7	24	1151	900	148	—	—	—	—	—
10,000	14.7	18.6	1147	893	146	—	—	—	—	—
10,811 ²	Note 3	11.1	1271	871	177	—	—	—	—	—
11,811	Note 3	12.2	1242	868	177	—	—	—	—	—
12,811	Note 3	12.2	1237	867	177	—	—	—	—	—
15,611	Note 3	11.6	1234	867	177	—	—	—	—	—
17,211	Note 3	10.8	1234	867	177	—	—	—	—	—

Table 6.2.1-19—Mass and Energy Results for Case 14E Cold Leg Pump Suction
Sheet 11 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Press (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
18,811	Note 3	9.8	1233	868	177	—	—	—	—	—
20,211	Note 3	9.1	1232	869	177	—	—	—	—	—
25,011	Note 3	7.6	1230	870	176	—	—	—	—	—
30,011	Note 3	5.8	1227	872	174	—	—	—	—	—
35,011	Note 3	4.7	1225	873	173	—	—	—	—	—
40,012	Note 3	1.2	1221	876	171	—	—	—	—	—
45,012	Note 3	0.68	1217	877	170	—	—	—	—	—
49,412	Note 3	0	—	878	168	—	—	—	—	—
86,400	Note 3	0	—	879	158	—	—	—	—	—

Notes:

1. Tabulated values are produced by averaging the instantaneous mass and energy releases at discrete times.
2. The code transition from RELAP5/MOD2-B&W to GOTHIC results in a discontinuity in the mass and energy releases due to distinct modeling approaches.
3. RCS upstream pressure equal to containment pressure over this interval.

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 1 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
0	2356.7	0.0	1212.4	0.0	410.0	2357.1	0.0	1197.0	0.0	480.0
1E-04	2286.4	0.0	1212.4	1000.0	350.0	2428.9	0.0	1197.0	1000.0	480.0
0.1001	998.9	889.0	1194.0	38745.0	551.9	1289.4	1160.0	1194.0	45578.0	548.4
0.2001	1089.4	1181.0	1197.3	39244.0	546.6	1476.9	3265.0	1176.8	55632.0	558.1
0.3001	1080.9	362.0	1191.3	41977.0	557.5	1076.8	4061.0	1175.9	49473.0	564.6
0.4001	1030.5	1605.0	1197.2	37513.0	542.0	1464.7	2386.0	1177.9	58683.0	557.2
0.5	994.2	1669.7	1198.7	37128.1	540.4	1432.7	2525.5	1181.2	56345.3	555.1
0.6	980.0	1788.0	1198.7	36662.0	538.3	1424.8	2633.0	1181.3	55836.0	554.0
0.7	985.7	1882.0	1199.8	36283.0	536.6	1276.7	2675.0	1181.7	55029.0	553.1
0.8	981.9	1959.0	1199.3	35906.0	535.2	1004.7	2627.0	1184.6	52955.0	551.8
0.9	950.8	2119.0	1200.7	35143.0	532.5	1026.4	2276.0	1184.5	53552.0	551.5
1	880.6	2257.0	1201.0	34426.0	530.1	1449.7	2122.0	1185.4	52719.0	550.8
1.1	858.6	2380.0	1201.3	33917.0	527.6	1362.5	2044.0	1185.3	53786.0	550.7
1.2	851.4	2473.0	1202.3	33469.0	525.7	1272.6	2111.0	1186.2	51991.0	549.5
1.3	864.7	2502.0	1202.6	33337.0	524.9	1309.5	2210.0	1186.1	50762.0	548.8
1.4	886.9	2585.0	1202.7	32935.0	523.2	1367.8	2525.0	1186.3	49886.0	547.4
1.5	879.5	2705.0	1204.0	32215.0	520.5	1224.5	1902.0	1188.4	48374.0	548.9
1.6	867.2	2682.0	1203.2	32281.0	520.6	979.3	2104.0	1191.6	45592.0	546.9

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 2 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
1.7	787.1	2937.0	1205.1	30841.0	515.5	1314.0	1533.0	1191.5	49046.0	547.2
1.8	820.6	2987.0	1204.8	30632.0	513.8	950.5	1992.0	1191.5	46321.0	545.1
1.9	827.9	3007.0	1205.1	30098.0	513.0	999.6	1742.0	1190.6	46547.0	547.7
2	771.4	3035.0	1205.0	30169.0	512.6	1161.5	1182.0	1192.4	45365.0	549.7
2.1	811.6	3065.0	1205.0	29750.0	511.2	1112.6	1535.0	1190.8	48642.0	547.5
2.2	782.1	3022.0	1205.1	29709.0	511.8	1019.4	1648.0	1194.7	42938.9	545.5
2.3	761.2	3083.0	1205.4	29225.0	510.2	1276.7	1273.0	1193.1	46668.0	548.9
2.4	818.5	3016.0	1205.0	29713.0	511.6	958.1	1636.0	1193.2	43486.9	546.6
2.5	774.8	3030.0	1205.4	29223.0	510.8	1007.0	1427.0	1195.2	41955.0	546.6
2.6	736.2	3029.0	1204.8	28669.0	510.2	1051.7	1226.0	1194.4	41959.0	548.6
2.7	711.3	2959.0	1205.0	28026.0	510.4	1150.5	1266.0	1194.4	41491.9	547.7
2.8	709.0	2828.0	1205.0	27333.0	511.8	1174.0	1315.0	1195.0	41511.0	547.0
2.9	751.3	2708.0	1204.3	26793.0	513.7	1115.1	1390.0	1193.8	41173.9	546.7
3	747.8	2656.0	1204.9	26225.0	514.2	973.9	1567.0	1195.9	39921.0	545.1
3.1	713.2	2539.0	1204.2	25506.0	515.6	960.2	1593.0	1195.5	39856.0	544.6
3.2	695.8	2462.0	1204.7	24876.0	516.4	957.4	1623.0	1195.4	39880.9	544.1
3.3	694.2	2404.0	1204.2	24391.0	517.2	946.9	1700.0	1196.0	39893.0	543.6
3.4	674.5	2364.0	1204.6	23779.0	517.3	945.7	1794.0	1195.4	39651.9	542.6
3.5	676.9	2268.0	1204.1	23232.0	518.9	955.5	1794.0	1195.9	39657.0	542.7

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 3 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
3.6	666.4	2263.0	1204.3	22793.0	518.7	950.9	1871.0	1195.8	39342.0	541.4
3.7	639.9	2270.0	1204.5	22400.0	518.4	1220.0	1944.0	1196.9	38782.9	540.3
3.8	601.8	2286.0	1204.5	22123.0	518.1	1067.1	2092.0	1198.4	37226.0	539.1
3.9	602.0	2303.0	1204.5	22020.0	518.3	1002.5	2230.0	1197.2	38189.9	534.3
4	595.6	2297.0	1204.8	21490.0	518.1	995.4	2483.0	1198.1	37682.0	530.1
4.1	588.2	2295.0	1205.3	21181.0	518.2	983.5	2589.0	1198.9	37148.0	529.2
4.2	580.6	2289.0	1204.8	20806.0	518.4	973.5	2705.0	1199.2	36563.0	528.2
4.3	573.6	2279.0	1205.6	20445.9	518.7	962.7	2817.0	1199.9	35992.9	527.5
4.4	569.7	2270.0	1205.1	20154.0	519.2	949.5	2920.0	1200.5	35361.0	526.9
4.5	565.0	2258.0	1205.8	19939.0	519.8	935.2	3026.0	1200.7	34636.0	525.9
4.6	560.2	2250.0	1205.7	19680.0	520.4	922.3	3087.0	1201.8	34013.0	525.3
4.7	556.4	2246.0	1205.9	19430.0	520.9	910.1	3125.0	1202.0	33435.0	525.0
4.8	554.2	2271.0	1205.9	19165.9	521.6	898.2	3160.0	1202.9	32851.9	524.9
4.9	552.5	2316.0	1206.5	18896.0	522.6	889.5	3211.0	1203.0	32266.0	525.2
5	549.4	2334.0	1206.2	18693.0	523.0	881.7	3228.0	1203.7	31888.0	525.1
5.1	547.0	2350.0	1206.6	18514.0	522.9	873.4	3238.0	1203.8	31563.0	524.7
5.2	543.7	2375.0	1206.5	18345.0	522.6	863.3	3281.0	1204.7	31222.0	523.3
5.3	539.0	2436.0	1206.7	18050.9	521.8	853.1	3314.0	1205.9	30869.9	522.0
5.4	534.3	2502.0	1206.8	17714.0	520.9	843.5	3329.0	1206.8	30530.0	521.0

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 4 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
5.5	544.7	3972.0	1216.2	18189.0	485.3	766.6	3814.0	1216.6	29331.0	505.8
5.6	504.0	4598.0	1220.8	16142.0	458.8	763.3	4820.0	1237.3	28079.0	476.4
5.7	479.5	4587.0	1222.7	14753.0	451.8	761.3	5201.0	1246.3	27917.0	467.4
5.8	466.6	4580.0	1223.4	13921.9	447.6	759.6	5387.0	1249.4	27511.9	466.0
5.9	455.0	4551.0	1224.0	13443.0	444.9	750.1	5299.0	1249.1	26973.0	469.3
6	441.7	4575.0	1224.8	12610.0	441.9	751.0	5220.0	1248.5	26174.0	475.0
6.1	384.3	4347.0	1225.5	11553.0	432.8	753.9	5164.0	1253.3	25977.0	477.3
6.2	363.8	4125.0	1227.0	10279.0	422.2	748.0	5156.0	1259.4	25842.0	477.4
6.3	351.2	4084.0	1227.4	9372.0	417.9	741.3	5126.0	1253.1	24772.9	485.3
6.4	341.8	4045.0	1228.3	8686.0	414.8	733.7	5133.0	1238.6	23533.0	492.8
6.5	335.0	4012.0	1228.5	8163.0	412.5	728.3	5229.0	1221.4	22408.0	498.0
6.6	328.8	3977.0	1228.8	7773.0	410.6	721.4	5361.0	1215.2	21553.0	499.4
6.7	322.7	3935.0	1228.9	7469.0	408.8	714.9	5476.0	1215.5	20904.0	498.5
6.8	317.0	3891.0	1229.0	7207.0	406.9	707.7	5562.0	1216.0	20382.9	497.4
6.9	311.4	3844.0	1229.0	6962.0	405.1	699.1	5634.0	1216.5	19857.0	495.9
7	307.6	3808.0	1229.1	6791.0	403.7	696.3	5674.0	1216.9	19549.0	494.9
7.1	304.0	3776.0	1229.1	6668.0	402.4	690.8	5690.0	1217.3	19351.0	494.2
7.2	300.5	3745.0	1229.3	6539.0	401.4	684.9	5705.0	1217.5	19082.0	493.2
7.3	296.8	3716.0	1229.0	6355.0	400.2	678.6	5748.0	1217.9	18709.9	492.1

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 5 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
7.4	292.2	3679.0	1229.2	6125.0	398.8	670.9	5813.0	1218.6	18216.0	490.9
7.5	287.8	3648.0	1229.3	5881.0	397.3	664.2	5888.0	1219.3	17640.0	489.5
7.6	283.3	3623.0	1229.9	5612.0	395.9	658.6	5984.0	1219.9	17040.0	488.5
7.7	278.7	3598.0	1229.5	5310.0	394.3	652.2	6096.0	1220.7	16320.0	487.5
7.8	275.1	3567.0	1230.1	4994.0	393.0	647.0	6211.0	1221.4	15517.9	486.4
7.9	272.2	3546.0	1229.7	4690.0	391.9	643.5	6323.0	1222.2	14749.0	485.7
8	269.4	3534.0	1230.2	4391.0	390.9	638.2	6429.0	1222.8	13895.0	485.1
8.1	267.0	3522.0	1230.2	4092.0	390.0	632.9	6546.0	1223.6	13046.0	484.1
8.2	264.7	3502.0	1230.1	3756.0	389.2	628.7	6692.0	1224.4	12207.1	483.4
8.3	263.8	3477.0	1229.9	3433.0	388.5	625.1	6821.0	1225.2	11349.0	482.7
8.4	263.4	3473.0	1229.6	3142.0	388.4	622.6	6942.0	1226.0	10546.1	482.3
8.5	263.7	3464.0	1229.6	2878.0	388.1	619.6	7033.0	1226.5	9765.0	481.8
8.6	264.4	3469.0	1229.8	2664.0	388.3	616.7	7085.0	1226.9	9084.0	481.4
8.7	265.3	3472.0	1229.3	2480.0	388.7	611.5	7088.0	1227.1	8460.0	480.5
8.8	265.2	3467.0	1229.0	2308.0	388.7	607.5	7117.0	1227.4	7956.0	479.8
8.9	265.3	3451.0	1229.0	2166.0	388.7	604.6	7131.0	1227.7	7564.0	478.9
9	265.7	3443.0	1228.6	2021.0	388.6	601.1	7159.0	1228.0	7177.0	478.4
9.1	266.4	3429.0	1228.5	1895.0	388.9	597.9	7156.0	1228.4	6810.0	477.6
9.2	266.9	3422.0	1228.2	1788.0	389.0	594.8	7157.0	1228.4	6501.0	477.1

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 6 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
9.3	267.8	3416.0	1227.6	1691.0	389.1	591.3	7136.0	1228.5	6199.0	476.4
9.4	268.2	3409.0	1227.6	1615.0	389.3	588.8	7119.0	1228.7	5965.0	475.8
9.5	268.9	3401.0	1227.4	1540.0	389.4	585.8	7096.0	1228.7	5736.0	475.3
9.6	270.0	3402.0	1227.1	1464.0	389.7	582.7	7056.0	1228.6	5468.0	474.4
9.7	270.3	3405.0	1227.0	1395.0	390.0	578.9	7022.0	1228.7	5212.0	474.0
9.8	269.3	3390.0	1227.3	1339.0	389.7	573.0	6979.0	1228.7	5014.0	472.8
9.9	267.1	3367.0	1226.7	1291.0	389.2	566.3	6921.0	1228.9	4831.0	471.4
10	264.5	3333.0	1226.7	1262.0	388.6	558.3	6845.0	1229.1	4715.0	469.9
10.1	262.7	3300.0	1226.5	1218.0	387.2	551.0	6765.0	1229.2	4547.0	468.2
10.2	259.2	3266.0	1226.1	1186.0	386.7	543.9	6691.0	1229.5	4407.0	466.7
10.3	255.2	3222.0	1226.3	1182.0	384.9	536.4	6609.0	1229.4	4359.0	465.1
10.4	250.6	3178.0	1226.1	1185.0	383.5	529.0	6523.0	1229.6	4331.0	463.3
10.5	245.7	3133.0	1226.1	1221.0	381.8	523.9	6453.0	1229.6	4406.0	462.0
10.6	240.6	3084.0	1225.9	1267.0	379.9	516.1	6369.0	1229.7	4509.0	460.5
10.7	235.4	3029.0	1226.1	1304.0	378.0	508.7	6290.0	1229.9	4598.0	458.8
10.8	231.0	2983.0	1226.0	1335.0	376.0	503.4	6219.0	1230.1	4646.0	457.2
10.9	226.7	2939.0	1226.3	1364.0	374.4	496.8	6160.0	1230.3	4691.0	456.0
11	223.4	2899.0	1225.7	1386.0	372.8	491.6	6087.0	1230.3	4695.0	454.5
11.1	221.0	2866.0	1226.1	1382.0	371.5	485.5	6032.0	1230.3	4615.0	453.3

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 7 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
11.2	218.5	2838.0	1225.7	1368.0	370.6	478.9	5959.0	1230.4	4470.0	451.7
11.3	215.4	2805.0	1225.6	1359.0	369.6	471.3	5879.0	1230.5	4331.0	450.0
11.4	210.8	2759.0	1225.5	1375.0	367.8	462.8	5789.0	1230.6	4270.0	448.2
11.5	204.9	2707.0	1225.0	1420.0	365.5	454.0	5685.0	1230.7	4300.0	445.7
11.6	198.3	2649.0	1225.7	1486.0	363.1	444.9	5587.0	1230.5	4412.0	443.8
11.7	191.7	2586.0	1225.2	1554.0	360.3	436.1	5486.0	1231.0	4550.0	441.4
11.8	185.9	2518.0	1225.2	1618.0	357.2	427.9	5392.0	1231.2	4697.0	439.2
11.9	181.0	2455.0	1225.1	1675.0	354.9	421.8	5311.0	1231.0	4856.0	437.5
12	175.4	2396.0	1224.3	1737.0	352.4	414.0	5218.0	1231.0	5021.0	435.5
12.5	157.3	2244.4	1224.5	1884.2	345.2	375.8	4895.0	1230.6	5415.0	429.8
13	157.2	2199.6	1224.5	2242.6	343.1	372.3	4054.4	1226.1	5346.8	426.8
13.5	143.7	2097.2	1224.1	2475.2	338.2	344.7	3534.4	1224.3	5403.4	419.7
14	134.5	1947.0	1223.2	2435.6	331.6	317.0	3222.0	1224.6	5203.2	411.8
14.5	127.6	1853.2	1222.3	2548.0	327.2	301.5	2866.8	1223.4	5031.6	406.4
15	121.1	1773.8	1221.7	2657.4	323.4	281.8	2589.4	1218.5	4892.4	402.0
16	106.2	1621.5	1220.3	2660.1	315.8	247.6	2285.7	1223.0	4710.4	390.0
17	98.0	1462.5	1217.6	2935.2	308.5	217.7	1951.1	1246.0	4926.7	366.0
18	89.6	1353.6	1216.1	3217.5	302.5	201.5	1723.6	1254.7	4808.6	345.7
19	109.4	1012.2	1205.6	3584.2	309.8	203.3	1629.6	1263.9	4443.4	323.9

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 8 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
20	100.7	873.8	1201.3	3079.6	303.4	185.6	1446.7	1264.9	3800.6	309.9
22	68.8	734.8	1195.6	2839.8	298.3	121.0	1153.4	1256.7	3625.5	299.5
24	69.7	550.4	1189.6	2630.4	283.5	113.7	705.3	1242.5	3817.5	284.8
26	59.0	478.6	1188.7	1683.6	275.8	70.7	605.9	1218.9	2563.4	276.2
28	60.7	231.6	1189.5	615.7	261.6	60.6	268.8	1228.2	908.7	264.1
30	60.0	245.0	1202.7	239.8	263.2	62.6	256.8	1209.0	376.6	264.6
34	60.0	208.5	1180.8	284.6	263.1	61.9	227.1	1201.4	529.6	264.1
38	60.2	133.9	1212.7	242.0	260.4	67.9	133.1	1262.5	537.3	261.9
42	62.7	143.4	1192.4	2280.5	256.2	61.4	195.4	1250.8	1689.6	262.0
46	62.4	95.5	1212.6	3491.6	236.4	60.9	173.3	1253.1	1090.7	249.6
50	66.0	107.0	1220.0	2005.3	228.2	60.4	139.3	1260.0	661.1	254.2
54	60.2	113.7	1215.0	1166.5	238.3	61.9	136.0	1248.2	516.8	247.4
58	60.2	139.6	1232.6	225.0	257.3	61.7	153.7	1228.8	472.8	258.9
62	60.2	149.2	1230.0	145.2	261.1	61.5	161.5	1210.5	333.0	262.4
66	60.2	155.5	1205.7	220.4	261.4	61.7	176.5	1196.9	456.2	262.7
90	60.1	79.2	1203.3	27.4	257.4	60.2	68.9	1263.9	66.2	259.2
120	60.2	149.4	1193.6	57.7	262.0	61.3	143.5	1206.8	133.7	262.9
150	60.3	154.2	1188.2	77.1	262.1	61.0	152.7	1194.0	214.0	263.0
180	60.2	97.7	1208.5	87.3	256.6	60.6	87.2	1220.8	225.4	258.8

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 9 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
210	60.1	146.0	1183.6	236.0	261.7	61.5	173.7	1184.0	572.9	262.6
240	60.3	129.8	1185.3	73.3	260.2	60.8	122.5	1196.9	183.4	261.6
270	60.2	127.0	1184.0	70.2	261.4	60.8	122.3	1184.4	201.4	262.5
300	60.1	127.3	1191.1	147.0	258.5	61.2	131.8	1185.4	424.5	259.9
350	60.2	110.6	1192.7	127.0	251.8	60.8	103.0	1191.0	308.0	254.2
400	60.0	110.8	1186.6	44.2	260.7	60.6	108.3	1184.5	113.9	262.1
450	60.1	108.1	1188.0	39.7	260.8	60.5	106.1	1184.7	98.2	262.0
500	60.1	108.7	1180.9	41.9	260.6	60.5	106.6	1181.0	119.5	262.1
550	60.0	102.9	1181.4	38.7	259.6	60.5	101.2	1181.5	107.3	261.7
600	60.1	93.7	1182.0	58.9	257.9	60.3	89.9	1181.2	165.3	260.2
650	60.1	87.7	1181.8	68.0	256.1	60.4	82.1	1182.5	167.3	258.2
700	60.1	90.3	1180.3	62.0	257.2	60.4	86.3	1181.5	149.7	259.5
750	60.1	86.8	1181.8	52.5	256.8	60.3	83.6	1181.3	136.0	259.3
800	60.0	87.7	1179.2	51.7	256.6	60.4	85.2	1179.5	145.2	259.2
850	60.1	87.9	1179.5	57.7	258.1	60.4	85.1	1179.9	161.6	260.0
900	60.0	85.5	1178.8	62.5	257.6	60.4	82.4	1179.9	174.2	259.8
950	60.0	82.7	1179.4	55.3	256.8	60.3	80.5	1179.3	151.1	259.5
1000	60.0	81.1	1179.1	62.3	257.1	60.3	78.2	1179.0	162.8	259.2

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 10 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
Begin Long-Term Release (Total Break Flow)¹										
1125	60	152	1180	225	258	—	—	—	—	—
1375	60	134	1180	252	254	—	—	—	—	—
1625	60	116	1179	265	250	—	—	—	—	—
1875	60	104	1179	283	240	—	—	—	—	—
2500	60	88	1179	303	229	—	—	—	—	—
3500	60	69	1179	335	212	—	—	—	—	—
4500	60	54	1177	378	218	—	—	—	—	—
5500	60	48	1178	391	230	—	—	—	—	—
6500	60	46	1179	391	236	—	—	—	—	—
7500	60	37	1180	391	240	—	—	—	—	—
9000	60	32	1179	391	222	—	—	—	—	—
9252 ²	Note 3	18.6	1221	391	252	—	—	—	—	—
10,000	Note 3	16.0	1263	391	250	—	—	—	—	—
15,000	Note 3	15.8	1263	391	243	—	—	—	—	—
18,000	Note 3	14.4	1255	391	241	—	—	—	—	—
35,000	Note 3	6.2	1214	391	231	—	—	—	—	—
40,000	Note 3	5.2	1210	397	228	—	—	—	—	—
50,000	Note 3	2.8	1202	397	222	—	—	—	—	—

Table 6.2.1-20—Mass and Energy Results for Case 31 CLPD (Long-Term Case B)
Sheet 11 of 11

Time (s)	Reactor Vessel Side of the Break					SG Side of the Break				
	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)	Upstream Pressure (psia)	Average Steam Mass Flow (lb _m /s)	Average Steam Enthalpy (BTU/lb _m)	Average Liquid Mass Flow (lb _m /s)	Average Liquid Enthalpy (BTU/lb _m)
60,000	Note 3	1.8	1197	397	219	—	—	—	—	—
70,000	Note 3	1.1	1194	397	216	—	—	—	—	—
86,400	Note 3	0.075	1189	397	213	—	—	—	—	—

Notes:

1. Tabulated values are produced by averaging the instantaneous mass and energy releases at discrete times.
2. The code transition from RELAP5/MOD2-B&W to GOTHIC results in a discontinuity in the mass and energy releases due to distinct modeling approaches.
3. RCS upstream pressure equal to containment pressure over this interval.

Table 6.2.1-21—Input Summary for Mass and Energy Release

Parameter	Value
RCS Conditions	
Core Power	4612 MWt
Decay Heat	1.2*ANS71 (plus actinides)
Core Inlet Temperature	565.5°F
Total RCS Flow Rate	498932 gpm
Pressurizer	
PZR Liquid Level	59.7 span%
IRWST	
Liquid Temperature	122°F
Safety Injection Accumulators	
Liquid Volume	1236 – 1324.3 ft ³
Total Volume	1942.5 ft ³
Pressure	653 – 682 psia
Liquid Temperature	90.5°F

Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 1 of 6

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
0.00	0.00	0.00	0.00	0.00
0.00	7956.19	1172.22	0.00	508.89
1.00	8644.91	1234.80	0.00	446.19
2.00	8395.33	1240.19	0.00	453.46
3.00	10,842.02	1242.35	0.00	535.39
4.00	12,944.36	1244.07	0.00	542.36
5.00	13,690.85	1245.02	0.00	542.86
6.00	13,497.64	1244.40	0.00	541.10
7.00	12,582.59	1239.73	0.00	538.70
8.00	11,638.76	1234.10	0.00	536.99
9.00	10,869.53	1228.90	0.00	535.70
10.00	10,247.24	1223.97	0.00	534.25
11.00	9731.39	1219.42	0.00	532.40
12.00	9246.65	1215.84	0.00	529.83
13.00	8559.26	1214.13	0.00	527.21
14.00	7990.50	1213.18	0.00	523.98
15.00	7600.12	1213.29	0.00	520.26
16.00	7328.61	1215.54	0.00	516.24
17.00	7132.66	1216.77	0.00	512.54
18.00	6979.76	1217.61	0.00	509.15
19.00	6865.99	1218.28	0.00	505.98
20.00	6789.44	1218.71	0.00	502.97
21.00	6708.73	1219.05	0.00	500.13
22.00	6527.66	1219.72	0.00	497.23
23.00	6131.66	1221.13	0.00	494.25
24.00	5688.01	1222.62	0.00	491.14
25.00	5210.93	1224.34	0.00	486.62
26.00	4415.65	1227.06	0.00	476.62
27.00	3587.21	1229.00	0.00	467.06
28.00	3009.15	1229.81	0.00	459.50
29.00	2625.09	1229.76	0.00	455.46

**Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 2 of 6**

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
30.00	2378.98	1229.25	0.00	454.35
31.00	2217.35	1228.97	0.00	453.98
32.00	2103.54	1228.18	0.00	454.77
33.00	1984.45	1227.52	0.00	453.75
34.00	1874.55	1226.94	0.00	452.32
35.00	1782.54	1226.44	0.00	450.94
36.00	1637.85	1225.68	0.00	447.07
37.00	1534.98	1225.72	0.00	445.62
38.00	1568.30	1225.83	0.00	449.89
39.00	1576.88	1224.81	0.00	451.03
40.00	1529.37	1224.30	0.00	450.14
41.00	1444.08	1223.68	0.00	447.27
42.00	1342.26	1223.15	0.00	443.76
43.00	1294.65	1222.91	0.00	441.87
44.00	1267.37	1222.68	0.00	439.99
45.00	1234.39	1222.64	0.00	436.95
46.00	1203.29	1222.59	0.00	433.91
47.00	1172.83	1222.54	0.00	431.25
48.00	1145.67	1222.57	0.00	428.16
49.00	1121.62	1223.27	0.00	434.56
50.00	1095.91	1224.80	0.00	437.36
52.00	1048.02	1224.24	0.00	432.72
54.00	1015.12	1228.99	0.00	430.73
56.00	957.31	1226.34	0.00	423.81
58.00	919.16	1230.07	0.00	450.00
60.00	860.99	1226.95	0.00	0.00
62.00	797.73	1226.14	0.00	0.00
64.00	734.76	1226.19	0.00	0.00
66.00	678.35	1227.74	0.00	0.00
68.00	628.00	1227.01	0.00	0.00
70.00	584.23	1227.96	0.00	0.00

**Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 3 of 6**

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
72.00	559.30	1229.23	0.00	0.00
74.00	569.54	1231.21	0.00	0.00
76.00	588.32	1230.22	0.00	0.00
78.00	621.06	1229.75	0.00	0.00
80.00	657.05	1228.63	0.00	0.00
82.00	669.85	1227.59	0.00	0.00
84.00	667.00	1226.89	0.00	0.00
86.00	650.12	1226.87	0.00	0.00
88.00	634.82	1226.87	0.00	0.00
90.00	618.97	1226.88	0.00	0.00
92.00	597.49	1226.25	0.00	0.00
94.00	563.89	1225.04	0.00	0.00
96.00	528.37	1224.55	0.00	0.00
98.00	491.66	1224.19	0.00	0.00
100.00	454.34	1224.23	0.00	0.00
105.00	411.68	1223.09	0.00	0.00
110.00	363.48	1223.21	0.00	0.00
115.00	297.66	1220.83	0.00	0.00
120.00	240.05	1217.74	0.00	0.00
125.00	217.26	1217.51	0.00	0.00
130.00	197.36	1216.56	0.00	0.00
135.00	180.75	1216.66	0.00	0.00
140.00	179.20	1218.83	0.00	0.00
145.00	175.36	1222.36	0.00	0.00
150.00	167.01	1223.83	0.00	0.00
155.00	157.40	1228.89	0.00	0.00
160.00	148.66	1230.86	0.00	0.00
165.00	141.36	1230.36	0.00	0.00
170.00	135.08	1229.88	0.00	0.00
175.00	129.70	1229.50	0.00	0.00
180.00	124.99	1229.52	0.00	0.00

Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 4 of 6

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
185.00	120.61	1230.91	0.00	0.00
190.00	116.79	1230.92	0.00	0.00
195.00	113.52	1230.87	0.00	0.00
200.00	110.66	1230.86	0.00	0.00
205.00	108.10	1230.89	0.00	0.00
210.00	105.74	1230.99	0.00	0.00
215.00	103.62	1231.08	0.00	0.00
220.00	101.61	1231.23	0.00	0.00
225.00	99.72	1231.40	0.00	0.00
230.00	98.06	1231.52	0.00	0.00
235.00	96.50	1231.59	0.00	0.00
240.00	95.14	1231.75	0.00	0.00
245.00	93.83	1231.79	0.00	0.00
250.00	92.57	1233.37	0.00	0.00
255.00	91.30	1234.57	0.00	0.00
260.00	90.32	1234.62	0.00	0.00
265.00	89.39	1234.64	0.00	0.00
270.00	88.55	1234.60	0.00	0.00
275.00	87.78	1234.68	0.00	0.00
280.00	87.06	1234.64	0.00	0.00
285.00	86.39	1234.65	0.00	0.00
290.00	85.76	1234.70	0.00	0.00
295.00	85.20	1234.73	0.00	0.00
300.00	84.68	1234.67	0.00	0.00
305.00	84.18	1234.68	0.00	0.00
310.00	83.73	1234.68	0.00	0.00
315.00	83.30	1234.67	0.00	0.00
320.00	82.90	1234.64	0.00	0.00
325.00	82.50	1234.62	0.00	0.00
330.00	82.16	1234.57	0.00	0.00
335.00	81.86	1234.53	0.00	0.00

**Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 5 of 6**

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
340.00	81.59	1234.50	0.00	0.00
345.00	81.35	1234.47	0.00	0.00
350.00	81.14	1234.45	0.00	0.00
355.00	80.96	1234.40	0.00	0.00
360.00	80.79	1234.37	0.00	0.00
365.00	80.62	1234.33	0.00	0.00
370.00	80.44	1234.30	0.00	0.00
375.00	80.29	1234.27	0.00	0.00
380.00	80.14	1234.24	0.00	0.00
385.00	80.01	1234.20	0.00	0.00
390.00	79.88	1234.17	0.00	0.00
395.00	79.78	1234.14	0.00	0.00
400.00	79.68	1234.11	0.00	0.00
405.00	79.59	1234.08	0.00	0.00
410.00	79.51	1234.04	0.00	0.00
415.00	79.44	1234.01	0.00	0.00
420.00	79.37	1233.98	0.00	0.00
425.00	79.31	1233.95	0.00	0.00
430.00	79.25	1233.92	0.00	0.00
435.00	79.20	1233.89	0.00	0.00
440.00	79.15	1233.86	0.00	0.00
445.00	79.11	1233.81	0.00	0.00
450.00	79.07	1233.76	0.00	0.00
455.00	79.04	1233.73	0.00	0.00
460.00	79.00	1233.70	0.00	0.00
465.00	78.98	1233.68	0.00	0.00
470.00	78.95	1233.64	0.00	0.00
475.00	78.92	1233.61	0.00	0.00
480.00	78.90	1233.58	0.00	0.00
485.00	78.88	1233.55	0.00	0.00
490.00	78.86	1233.52	0.00	0.00

**Table 6.2.1-22—MSLB Mass and Energy Release Data
Sheet 6 of 6**

Time (s)	Average Steam Mass Flow Rate (lb_m/s)	Average Steam Enthalpy (BTU/lb_m)	Average Liquid Mass Flow Rate (lb_m/s)	Average Liquid Enthalpy¹ (BTU/lb_m)
495.00	78.84	1233.49	0.00	0.00
500.00	78.83	1233.47	0.00	0.00

Note:

1. The Average Liquid Enthalpy is reported for completeness. Since the Average Liquid Mass Flow Rate is zero the liquid enthalpy is not considered in the analysis.

Table 6.2.1-23—Containment Energy Distribution for Hot Leg Break
Sheet 1 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	End of Blowdown t = 20 seconds	Peak Pressure t = 26 seconds	End of Reflood t = 3957 seconds	1 day into recirculation
Reactor Coolant Internal Energy	4.004E+08	3.886E+07	4.135E+07	3.402E+07	5.398E+07
Accumulator Coolant Internal Energy	3.5577E+07	2.9167E+07	2.2555E+07	1.3066E+05	1.3066E+05
Energy Stored in RV Internals	N/A (included in Pressurizer, Primary Piping, Valves and Pumps)				
Energy Stored in Core	3.545E+07	1.369E+07	1.104E+07	5.207E+06	(Included in Energy stored in Pressurizer, Primary Piping, Valves, and Pumps)
Energy Generated During Shutdown from Decay Heat	0.000E+00	1.140E+07	1.290E+07	4.129E+08	5.213E+08 ¹
Energy Stored in Pressurizer, Primary Piping, Valves, and Pumps	2.140E+08	2.034E+08	2.014E+08	1.308E+08	4.135E+07
Energy Stored in SG Metals	2.075E+08	2.077E+08	2.076E+08	1.814E+08	1.234E+08
Secondary Coolant Internal Energy in SG	4.801E+08	5.113E+08	5.152E+08	4.189E+08	(Included in SG Metals)
Energy Content in RCB Atmosphere	2.996E+07	4.495E+08	4.536E+08	2.183E+08	7.426E+07
Energy Content in RCB and Internals	3.863E+09	3.882E+09	3.890E+09	4.235E+09	4.764E+09
Energy Content of Recirculation Intake Water (IRWST)	2.831E+08	2.908E+08	2.944E+08	6.494E+08	5.753E+08
Energy Content of BWST Water	N/A (See Energy Content of Recirculation Intake Water (IRWST))				
Energy Removed by LHSI Heat Exchangers	N/A (For prior to long term transition see ΔQ of ECCS source)				3.382E+09 ²

Table 6.2.1-23—Containment Energy Distribution for Hot Leg Break
Sheet 2 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	End of Blowdown t = 20 seconds	Peak Pressure t = 26 seconds	End of Reflood t = 3957 seconds	1 day into recirculation
Energy Removed by Reactor Containment Building Fan Coolers	N/A to U.S. EPR				
SIS Pump Energy	0.000E+00	0.000E+00	0.000E+00	5.592E+06	1.237E+08
RCP Energy	N/A (LOOP)				
Decay Heat (after transition)	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.996E+09 ³
ΔQ of ECCS Source	0.000E+00	0.000E+00	0.000E+00	1.969E+08	3.036E+08 ⁴
Accumulator Nitrogen	0.000E+00	1.914E+06	1.919E+06	1.919E+06	9.186E+05
Main Feedwater	0.000E+00	3.696E+07	4.324E+07	4.927E+07	4.927E+07
Energy Balance					
Initial Energy	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09
Sum of Energy Added	0.0000E+00	5.0270E+07	5.8053E+07	4.6970E+08	3.6907E+09
Total 1	5.5488E+09	5.5990E+09	5.6068E+09	6.0185E+09	9.2394E+09
Final Energy	5.5488E+09	5.6260E+09	5.6368E+09	5.8733E+09	5.6328E+09
Sum of Energy Removed	0.0000E+00	0.0000E+00	0.0000E+00	1.9690E+08	3.6853E+09
Total 2	5.5488E+09	5.6260E+09	5.6368E+09	6.0702E+09	9.3181E+09
Difference	0.0%	-0.5%	-0.5%	-0.9%	-0.9%

Notes:

1. This is decay heat prior to long term transition. It should be added to decay heat after transition (see Note 3) for total decay heat in 24 hours.
2. RHR heat removal after long term transition.
3. Decay heat after long term transition.
4. This is heat removed by RHR system prior to long term transition. It should be added to heat removed after transition (see Note 2) for total RHR heat removal in 24 hours.

Table 6.2.1-24—Containment Energy Distribution for Cold Leg Pump Suction Break
Sheet 1 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	Peak Pressure t = 40 seconds	End of Blowdown t=50.5 seconds	End of Reflood t =4000 seconds	1 day into recirculation
Reactor Coolant Accumulator Internal Energy	4.004E+08	4.132E+07	3.510E+07	2.935E+07	3.660E+07
Accumulator Coolant Internal Energy	3.5577E+07	1.6547E+07	8.5671E+06	1.3155E+05	1.3155E+05
Energy Stored in RV Internals	N/A (included in Pressurizer, Primary Piping, Valves and Pumps)				
Energy Stored in Core	3.545E+07	8.626E+06	8.601E+06	5.782E+06	(Included in Energy stored in Pressurizer, Primary Piping, Valves, and Pumps)
Energy Generated During Shutdown from Decay Heat	0.000E+00	1.774E+07	2.000E+07	4.170E+08	7.997E+08 ¹
Energy Stored in Pressurizer, Primary Piping, Valves, and Pumps	2.140E+08	1.974E+08	1.945E+08	1.328E+08	3.659E+07
Energy Stored in SG Metals	2.075E+08	2.076E+08	2.072E+08	1.614E+08	2.777E+08
Secondary Coolant Internal Energy in SG	4.801E+08	5.698E+08	5.898E+08	5.717E+08	(Included in SG Metals)
Energy Content in RCB Atmosphere	2.996E+07	4.609E+08	4.710E+08	2.588E+08	7.611E+07
Energy Content in RCB and Internals	3.863E+09	3.898E+09	3.908E+09	4.262E+09	4.874E+09
Energy Content of Recirculation Intake Water (IRWST)	2.831E+08	2.986E+08	3.036E+08	6.359E+08	6.225E+08
Energy Content of BWST Water	N/A (See Energy Content of Recirculation Intake Water (IRWST))				

Table 6.2.1-24—Containment Energy Distribution for Cold Leg Pump Suction Break
Sheet 2 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	Peak Pressure t = 40 seconds	End of Blowdown t=50.5 seconds	End of Reflood t =4000 seconds	1 day into recirculation
Energy Removed by LHSI Heat Exchangers	N/A (For prior to long term transition see ΔQ of ECCS source)				2.988E+09 ²
Energy Removed by Reactor Containment Building Fan Coolers	N/A to U.S. EPR				
SIS Pump Energy	0.000E+00	1.718E+04	3.222E+04	5.688E+06	1.237E+08
RCP Energy	0.000E+00	7.479E+04	7.479E+04	7.479E+04	7.479E+04
Decay Heat (after transition)	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.737E+09 ³
ΔQ of ECCS Source	0.000E+00	1.783E+04	4.674E+04	1.987E+08	6.008E+08 ⁴
Accumulator Nitrogen	0.000E+00	1.919E+06	1.919E+06	1.919E+06	1.919E+06
Main Feedwater	0.000E+00	9.855E+07	1.244E+08	2.489E+08	2.489E+08
Energy Balance					
Initial Energy	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09
Sum of Energy Added	0.0000E+00	1.1830E+08	1.4644E+08	6.7363E+08	3.9117E+09
Total 1	5.5488E+09	5.6671E+09	5.6952E+09	6.2224E+09	9.4605E+09
Final Energy	5.5488E+09	5.6987E+09	5.7264E+09	6.0579E+09	5.9232E+09
Sum of Energy Removed	0.0000E+00	1.7834E+04	4.6739E+04	1.9871E+08	3.6971E+09
Total 2	5.5488E+09	5.6987E+09	5.7265E+09	6.2566E+09	9.5121E+09
Difference	0.0%	-0.6%	-0.5%	-0.5%	-0.5%

Notes:

1. This is decay heat prior to long term transition. It should be added to decay heat after transition (see Note 3) for total decay heat in 24 hours.
2. RHR heat removal after long term transition.
3. Decay heat after long term transition.
4. This is heat removed by RHR system prior to long term transition. It should be added to heat removed after transition (see Note 2) for total RHR heat removal in 24 hours.

Table 6.2.1-25—Containment Energy Distribution for Cold Leg Pump Discharge Break
Sheet 1 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	Peak Pressure t = 24 seconds	End of Blowdown t=30.5 seconds	Peak P after End of Blowdown t=1300 s	End of Reflood t=4000 s	1 day into recirculation
Reactor Coolant Internal Energy	4.004E+08	2.725E+07	2.442E+07	4.019E+07	4.302E+07	4.702E+07
Accumulator Coolant Internal Energy	3.5577E+07	1.9557E+07	1.3053E+07	1.3096E+05	1.3096E+05	1.3096E+05
Energy Stored in RV Internals	N/A (included in Reactor Coolant Internal Energy)					
Energy Stored in Core	3.545E+07	1.248E+07	1.185E+07	7.864E+06	7.650E+06	(Included in Energy stored in Pressurizer, Primary Piping, Valves, and Pumps)
Energy Generated During Shutdown from Decay Heat	0.000E+00	8.136E+06	9.667E+06	1.760E+08	4.110E+08	7.356E+08 ¹
Energy Stored in Pressurizer, Primary Piping, Valves, and Pumps	2.140E+08	2.031E+08	2.017E+08	1.829E+08	1.384E+08	4.168E+07
Energy Stored in SG Metals	2.075E+08	2.077E+08	2.075E+08	1.866E+08	1.654E+08	1.822E+08
Secondary Coolant Internal Energy in SG	4.801E+08	5.348E+08	5.492E+08	6.499E+08	6.045E+08	(Included in SG Metals)
Energy Content in RCB Atmosphere	2.996E+07	4.648E+08	4.606E+08	3.289E+08	2.887E+08	9.634E+07
Energy Content in RCB and Internals	3.863E+09	3.888E+09	3.897E+09	4.114E+09	4.278E+09	5.086E+09
Energy Content of Recirculation Intake Water (IRWST)	2.831E+08	3.010E+08	3.078E+08	5.083E+08	5.853E+08	6.754E+08

Table 6.2.1-25—Containment Energy Distribution for Cold Leg Pump Discharge Break
Sheet 2 of 2
 Energy (BTU)

	Prior to LOCA t = 0 seconds	Peak Pressure t = 24 seconds	End of Blowdown t=30.5 seconds	Peak P after End of Blowdown t=1300 s	End of Reflood t=4000 s	1 day into recirculation
Energy Content of BWST Water	N/A (See Energy Content of Recirculation Intake Water (IRWST))					
Energy Removed by LHSI Heat Exchangers	N/A (For prior to long term transition see ΔQ of ECCS source)					3.008E+09 ²
Energy Removed by Reactor Containment Building Fan Coolers	N/A to U.S. EPR					
SIS Pump Energy	0.000E+00	0.000E+00	5.112E+03	1.823E+06	5.689E+06	1.237E+08
RCP Energy	0.000E+00	6.908E+04	6.908E+04	6.908E+04	6.908E+04	6.908E+04
Decay Heat (after transition)	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.791E+09 ³
ΔQ of ECCS Source	0.000E+00	0.000E+00	7.314E+03	3.147E+07	1.522E+08	4.366E+08 ⁴
Accumulator Nitrogen	0.000E+00	1.923E+06	1.923E+06	1.923E+06	1.923E+06	1.923E+06
Main Feedwater	0.000E+00	5.913E+07	7.514E+07	2.517E+08	2.517E+08	2.517E+08
Energy Balance						
Initial Energy	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09	5.5488E+09
Sum of Energy Added	0.0000E+00	6.9257E+07	8.6808E+07	4.3149E+08	6.7036E+08	3.9042E+09
Total 1	5.5488E+09	5.6180E+09	5.6356E+09	5.9803E+09	6.2191E+09	9.4529E+09
Final Energy	5.5488E+09	5.6591E+09	5.6725E+09	6.0190E+09	6.1113E+09	6.1288E+09
Sum of Energy Removed	0.0000E+00	0.0000E+00	7.3135E+03	3.1467E+07	1.5221E+08	3.4447E+09
Total 2	5.5488E+09	5.6591E+09	5.6725E+09	6.0505E+09	6.2635E+09	9.5736E+09
Difference	0.0%	-0.7%	-0.7%	-1.2%	-0.7%	-1.3%

Notes:

1. This is decay heat prior to long term transition. It should be added to decay heat after transition (see Note 3) for total decay heat in 24 hours.
2. RHR heat removal after long term transition.
3. Decay heat after long term transition.
4. This is heat removed by RHR system prior to long term transition. It should be added to heat removed after transition (see Note 2) for total RHR heat removal in 24 hours.