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AUTH.NAME AUTHOR AFFILIATION
CUTTER,A.B. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards results of Westinghouse rept re boron injection tank (BIT) concentration/elimination study, in support of request to reduce BIT boron concentration to 0 ppm. Change would eliminate heat tracing, reducing maint costs.

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	NRR/DE/GB	28	2	2	NRR/DE/MEB	18	1	1
	NRR/DE/MTEB	17	1	1	NRR/DE/SAB	24	1	1
	NRR/DE/SGEB	25	1	1	NRR/DHFS/HFEB	40	1	1
	NRR/DHFS/LQB	32	1	1	NRR/DHFS/PSRB		1	1
	NRR/DL/SSPB		1	0	NRR/DSI/AEB	26	1	1
	NRR/DSI/ASB		1	1	NRR/DSI/CPB	10	1	1
	NRR/DSI/CSB	09	1	1	NRR/DSI/ICSB	16	1	1
	NRR/DSI/METB	12	1	1	NRR/DSI/PSB	19	1	1
	NRR/DSI/RAB	22	1	1	NRR/DSI/RSB	23	1	1
	REG FILE	04	1	1	RGN2		3	3
	RM/DDAMI/MIB		1	0				
EXTERNAL:	ACRS	41	6	6	BNL(AMDTS ONLY)		1	1
	DMB/DSS (AMDTS)		1	1	FEMA-REP DIV	39	1	1
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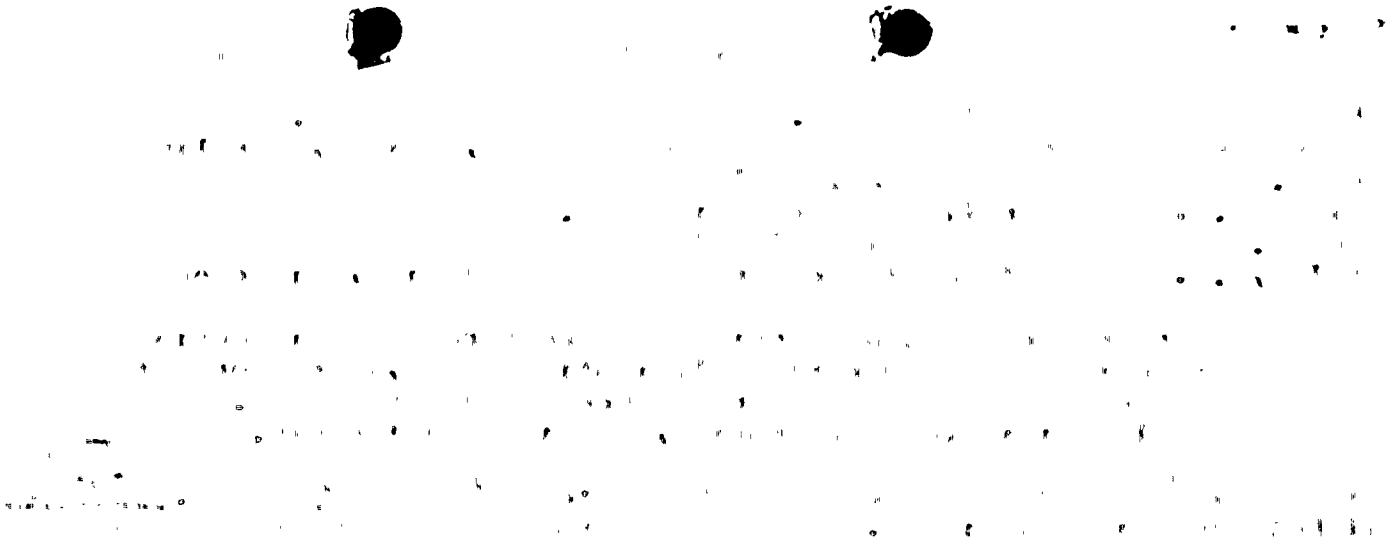

CP&L

Carolina Power & Light Company

SERIAL: NLS-84-322

SEP 21 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400
BORON INJECTION TANK CONCENTRATION REDUCTION

Dear Mr. Denton:

Carolina Power & Light Company hereby submits information to justify reducing the boron concentration in the Boron Injection Tank (BIT) to zero ppm (Attachment 1). Reducing the boron concentration in the BIT eliminates the need for heat tracing of the system. This will translate into considerable maintenance savings and a slight decrease in plant electrical load. Additionally, all technical specifications concerning BIT boron concentrations, temperatures, and associated surveillance/maintenance, exclusive of the Refueling Water Storage Tank, will be eliminated.

Carolina Power & Light Company is proceeding to implement the subject design modifications. Therefore, your prompt review and approval of this submittal is appreciated. Changes to the Final Safety Analysis Report will be submitted in a future amendment. If you have any questions, please contact Mr. S. R. Zimmerman at (919) 836-6242.

Yours very truly,

A. B. Cutter - Vice President
Nuclear Engineering & Licensing

GAS/ccc (356GAS)

cc: Mr. B. C. Buckley (NRC)
Mr. L. B. Marsh (NRC)
Mr. G. F. Maxwell (NRC-SHNPP)
Mr. J. P. O'Reilly (NRC-RII)
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ATTACHMENT 1

RESULTS OF THE REPORT FOR THE BIT CONCENTRATION REDUCTION/BIT ELIMINATION STUDY FOR THE SHEARON HARRIS NUCLEAR POWER PLANT

BY

WESTINGHOUSE ELECTRICAL CORPORATION

FOR

CAROLINA POWER & LIGHT COMPANY

(356GAS/ccc)

Introduction

Westinghouse has developed improved analytical techniques which allow a reduction in the Boron Injection Tank (BIT) concentration or bypassing/elimination of the BIT, which removes it from the Safety Injection System. This report provides information to substantiate a reduction in the BIT boron concentration for the Shearon Harris Nuclear Power Plant (SHNPP).

Background on Existing Design and Analysis

The BIT is a component of the Safety Injection System whose sole function is to provide concentrated boric acid to the Reactor Coolant System (RCS) to mitigate the consequences of postulated steamline break accidents. Although the BIT acts to mitigate steamline breaks of various sizes occurring from any power level, the cases which serve as the Westinghouse steamline break licensing basis and which define the existing requirements on the minimum BIT boron concentration are as follows:

- For the "hypothetical" steamline break; i.e., double-ended rupture of a main steamline, the radiation releases must remain within the requirements of 10 CFR 100. This is the ANSI N18.2 criterion for Condition IV events. The SHNPP conservatively meets this criterion by demonstrating that the DNB design basis, the criterion typically used for Condition II events, is met.

- For the "credible" steamline break; i.e., the failure open of a single steam generator relief, safety, or turbine bypass valve, the radiation releases must remain within the requirements of 10 CFR 20. This is the ANSI N18.2 criterion for Condition II events. Westinghouse has conservatively demonstrated compliance with this criterion for the SHNPP by demonstrating that no return to criticality is achieved.

Description of the Analyses

The only accident analyses which are significantly affected by BIT boron concentration reduction are the steamline break transients. These transients are affected with respect to both core integrity and mass and energy release to containment. For the SHNPP, the system was analyzed assuming that the BIT remains installed, without heat tracing, and with the boric acid concentration reduced to zero ppm. This combination provides the most limiting case for the analyses.

This case is considered because it allows elimination of the presently specified heat tracing associated with the BIT. Additionally, all technical specifications concerning BIT concentrations, temperatures, and associated surveillance, exclusive of the Refueling Water Storage Tank (RWST), can be eliminated.

Core Integrity Analysis

The following cases were reanalyzed for the reduction in the BIT boron concentration with respect to the core integrity:

- "Hypothetical" steamline break, with and without off-site power available, for the largest double-ended rupture of a steam pipe (1.4 ft^2).

- "Credible" steamline break, with off-site power available, for the largest single failed open steam generator relief, safety or steam dump valve.

For the hypothetical breaks, the same criteria is applied as that applied in the FSAR. That is, for the most severe Condition IV break, Westinghouse concluded that the radiation releases were within the requirements of 10 CFR 100 by demonstrating that the DNB design basis is met. The steamline break dose calculations performed for the FSAR use a conservative fuel failure level of one (1) percent. The core analyses however show that no consequential fuel failures are anticipated.

The credible steamline break analysis is performed using a new criterion whereby the plant may return to criticality, but no damage may occur to the fuel. This constitutes a relaxation of the conservative internal Westinghouse criterion for Condition II events. This new criterion is in compliance with the criteria used by the NRC and ANS which require that releases during steamline break accidents remain within the limits set forth in 10 CFR 20. If it is assured that there is no consequential fuel damage, the limits stipulated in 10 CFR 20 are met with a return to criticality.

Analysis Method

In this analysis, the system transient parameters; i.e., Reactor Coolant System (RCS) pressure, temperature, steam flow, core boron concentration and core power were calculated by using the LOFTRAN System Transient Analysis computer code (Reference 1). This computer code includes models of the reactor core, protection systems, and engineered safeguards system. The change in Safety Injection System initial concentration and temperatures were introduced into the analysis in the LOFTRAN code.

For the "hypothetical" breaks, the plant is initially assumed to be at hot zero power at the minimum required shutdown margin. Following the break, the RCS temperatures and pressures decrease rapidly, and in the presence of a large End of Life (EOL) moderator coefficient of reactivity, the reactor returns critical with the rods inserted, assuming the most reactive RCCA in the fully withdrawn position. The reactor power increases at a decreasing rate until boron from the Safety Injection System reaches the core and begins to offset the positive reactivity insertion caused by the cool-down.

The core is subsequently brought subcritical with boron injection, aided by the abatement and eventual termination of steam flow from the faulted steam generator.

The attached Figures 1 through 6 show the transient behavior for the hypothetical breaks. A comparison of these figures with the current FSAR figures reveals only small changes in RCS parameters, with the single exception of core power, which is understandably higher for the cases without the BIT. The effect of the boron on the total reactivity is both delayed and damped in the attached figures because the Safety Injection System must purge more water before injecting boron in the cold leg and the fact that the boron source (RWST) is both colder and of a lower boron concentration. This causes the power to initially rise to a higher peak due to the delay and to subsequent decay at a slower rate after the boron reaches the core. Additionally, with the BIT assumed to be at zero ppm concentration, the BIT acts as a dilution volume for the borated water being injected from the RWST, thereby further delaying the effectiveness of the RWST.

After verifying that the case assuming full reactor coolant flow will remain limiting relative to the case without off-site power, DNB analyses were performed using the same design verification procedure that is used for the FSAR cases. The DNB analyses show that the DNB design basis is met, and that no consequential fuel failures are anticipated.

The dose evaluation, which is performed assuming one (1) percent failed fuel, continues to demonstrate that the Condition IV accident criteria are satisfied.

Attached Figures 7 and 8 depict system transient parameters for the Condition II steamline break in the FSAR. This Westinghouse criterion assures that the DNB design basis is met in a very conservative manner. In order to substantiate reduction of the boron concentration in the BIT, the Westinghouse criterion was relaxed to allow a subsequent return to power for the Condition II transients, but in order to meet the 10 CFR 20 dose requirements, the DNB design basis had to be met. Figure 7 shows that criticality is attained for the assumed BIT elimination. DNB analyses for this case show that the DNB design basis is met and no fuel failures are predicted. This conclusion is also consistent with the conclusion drawn on the Condition IV breaks, since no violation of the DNB design basis was calculated for the more extreme Condition IV, double-ended ruptures.

Thus, calculations have been performed for the SHNPP which show that for the present NRC criterion for Condition II events, Carolina Power & Light Company (CP&L) may reduce the boron concentration in the BIT to zero ppm. The same criteria for the Condition IV steamline breaks that was used in the FSAR can be met for this elimination.

Mass and Energy Releases

A spectrum of break sizes at various power levels were reanalyzed for the reduction in the BIT boron concentration to zero ppm. The breaks analyzed are listed in Table 1.

(356GAS/ccc)

Analysis Method

The mass and energy release was analyzed by Westinghouse using the MARVEL Code (Reference 2). The analysis assumptions are essentially identical to the analysis described in the FSAR with the exception of the temperature and boron concentration of the BIT. The mass and energy releases for the break cases indicated in Table 1 are provided as Appendix A.

Based upon the Westinghouse analysis, a new containment pressure and temperature analysis was completed. The results of this analysis are in Appendix B to this report. The new maximum peak containment temperature is 379°F which is 3° higher than the present FSAR value, but still within the 380°F values used for equipment qualification. For the pressure, the worst case was found to be the zero power, full double-ended break with a single failure of a feedwater isolation valve. This is different from the present FSAR worst case which is at 30 percent power. The new maximum peak containment pressure is 39.1 psig which is higher than the present FSAR value of 35.4 psig, but well within the containment design limit of 45 psig. CP&L has reviewed and concluded that the new containment peak temperature and pressure, as they related to balance-of-plant design, are acceptable.

Conclusion

As a result of these analyses, CP&L proposes to reduce the boron injection tank boron concentration to zero ppm. FSAR changes resulting from these analyses will be incorporated in a future amendment to the FSAR.

(356GAS/ccc)

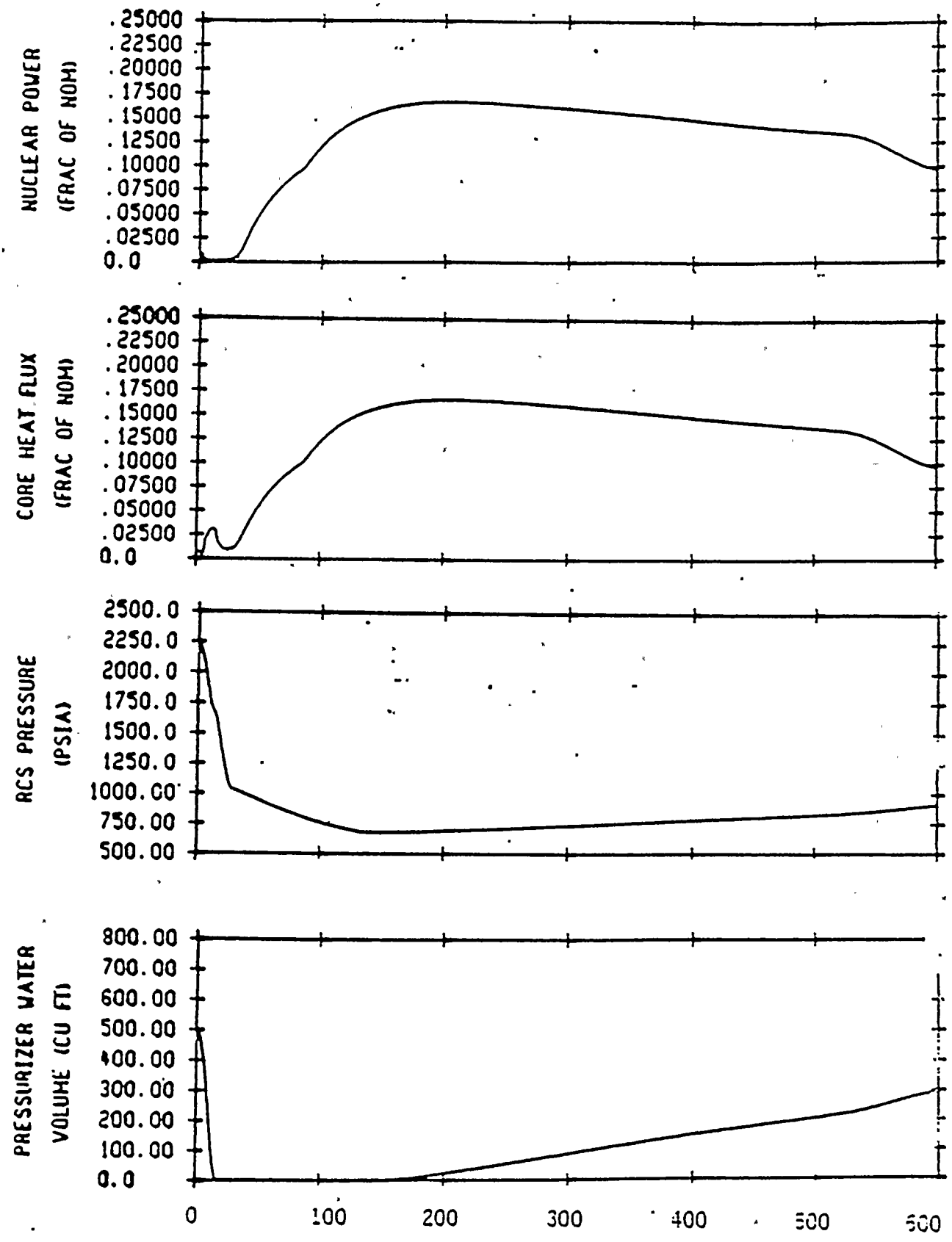
REFERENCES

1. WCAP-7907, T. W. T. Burnett, et. al., "LOFTRAN Code Description," October 1972.

2. WCAP-9235, R. Krise and S. Miranda, "MARVEL Code Description," August 1978.

(356GAS/ccc)

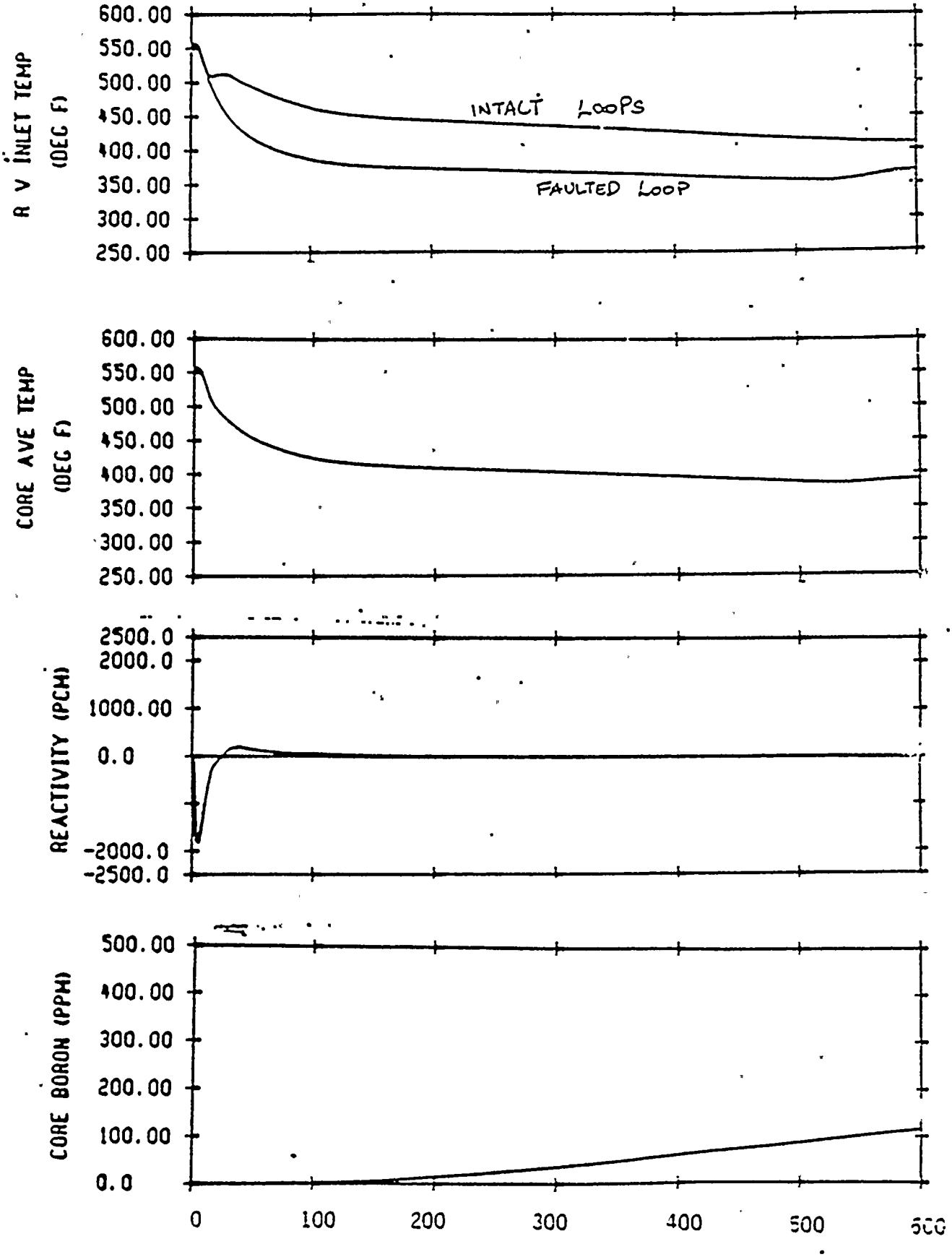
FIGURE 1



1.4 ft^2 Steamline Rupture

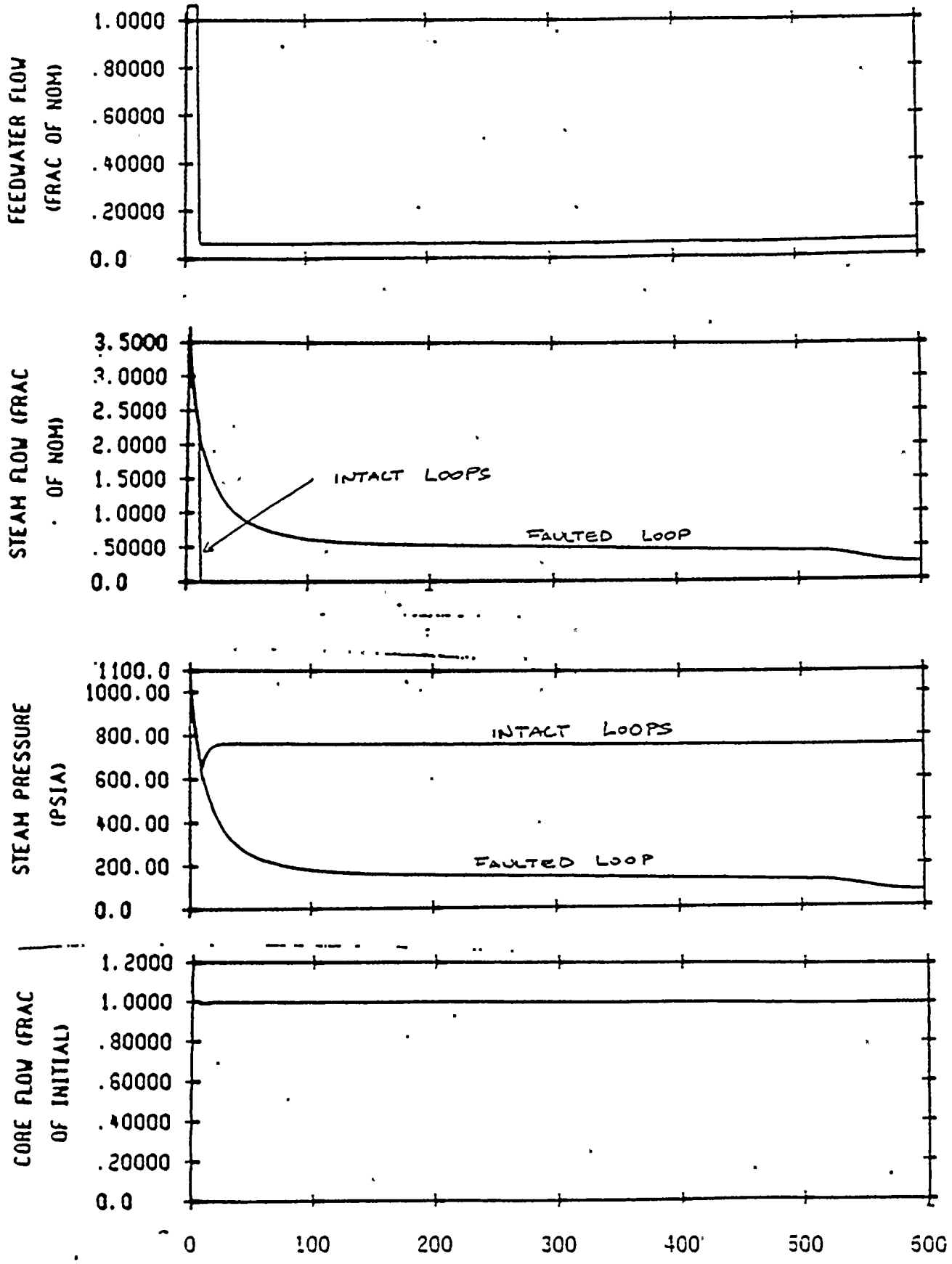
Offsite Power Available

FIGURE 2



1.4 ft^2 Steamline Rupture
Offsite Power Available

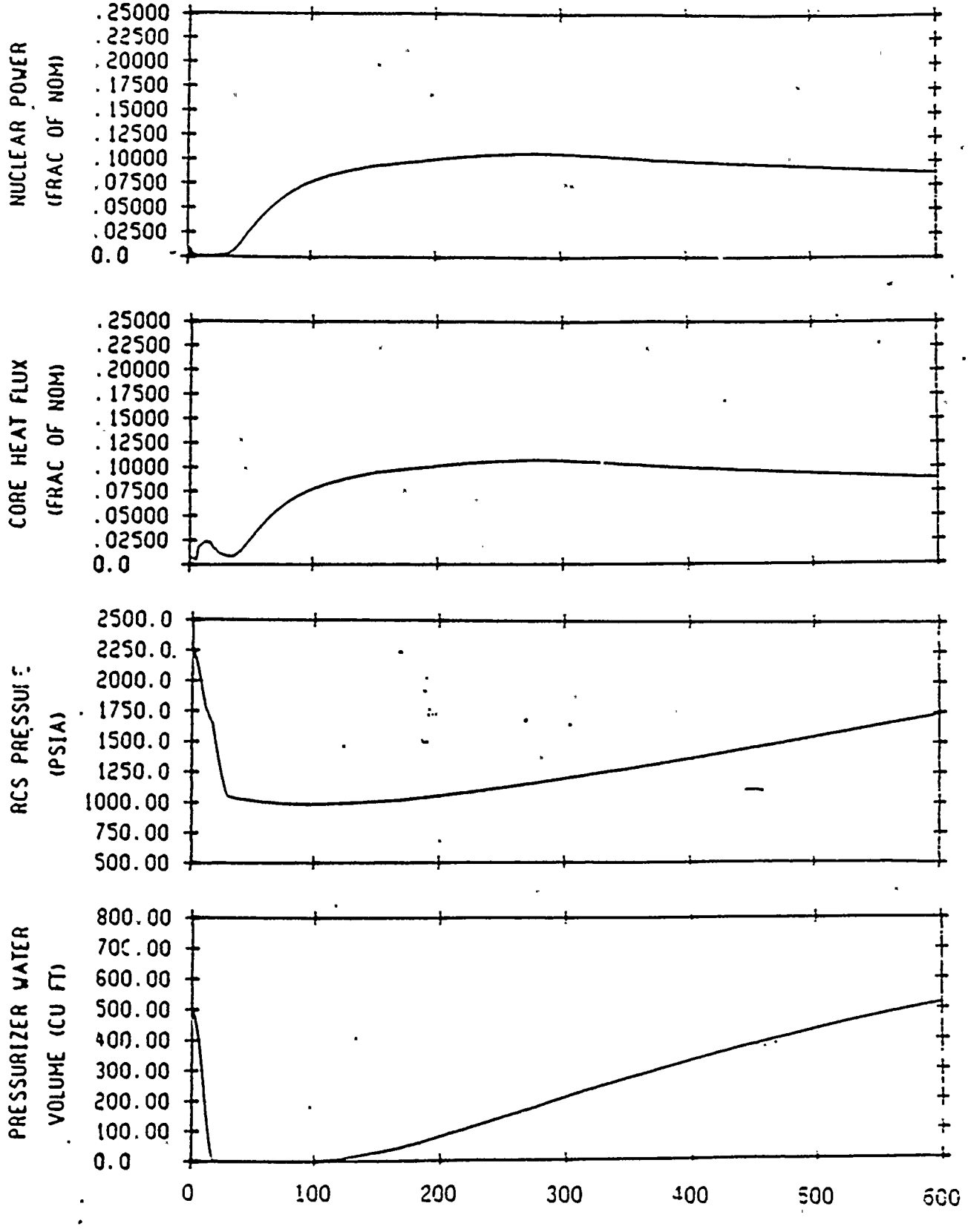
FIGURE 3



1.4 ft^2 Steamline Rupture

Offsite Power Available

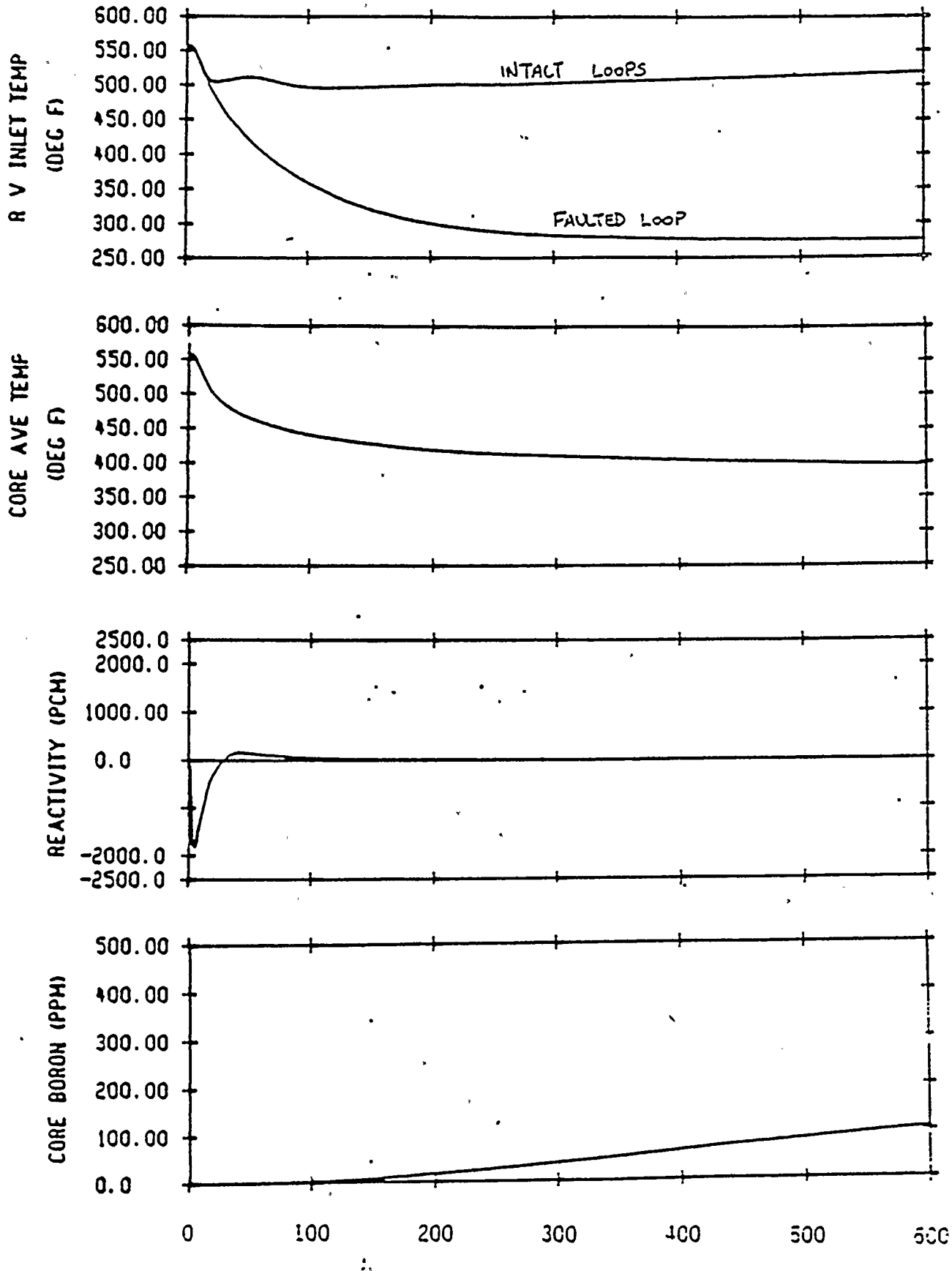
FIGURE 4



1.4 ft^2 Steamline Rupture

Offsite Power Not Available

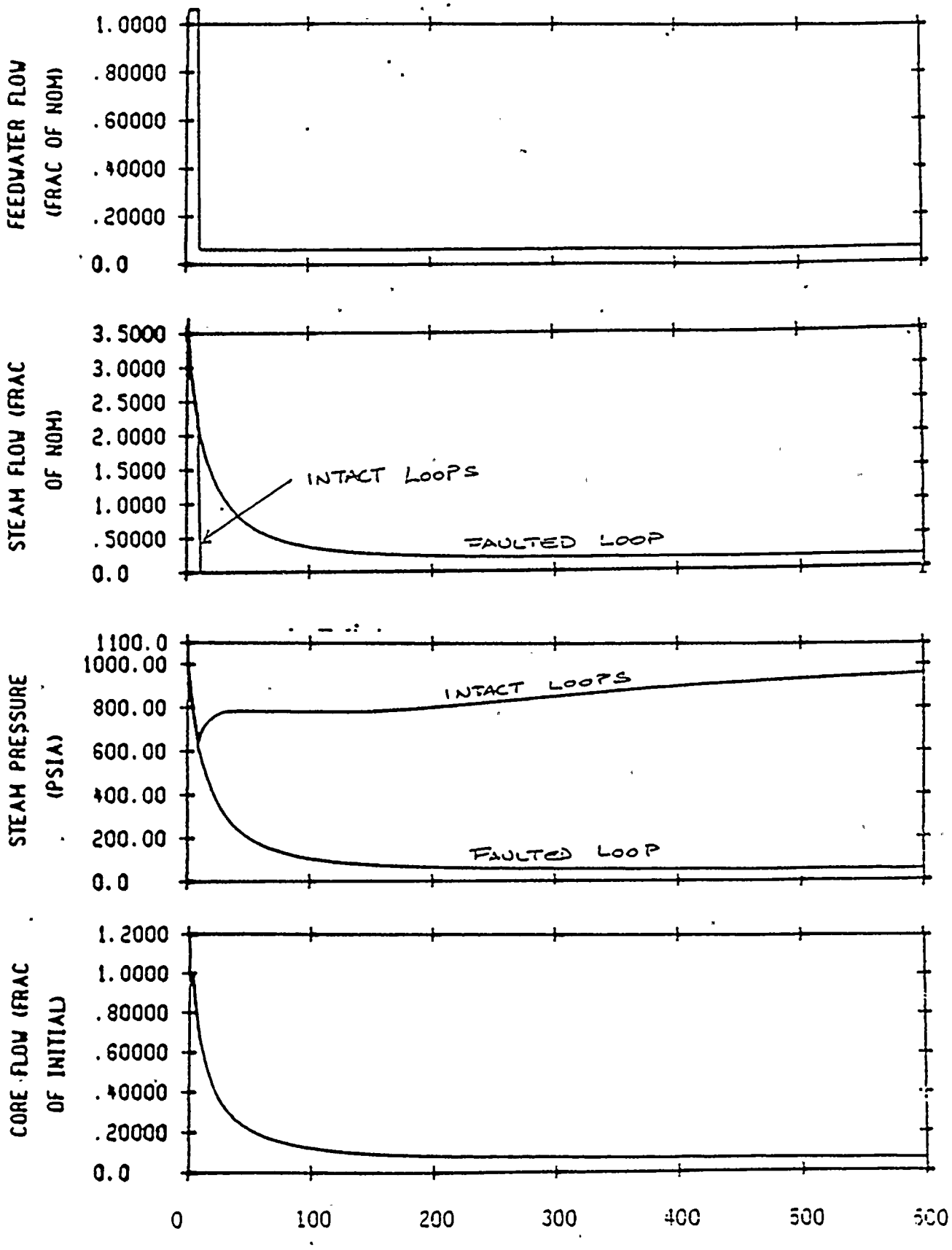
FIGURE 5



1.4 ft^2 Steamline Rupture

Offsite Power Not Available

FIGURE 6



1.4 ft^2 Steamline Ruoture

Offsite Power Not Available

FIGURE 7

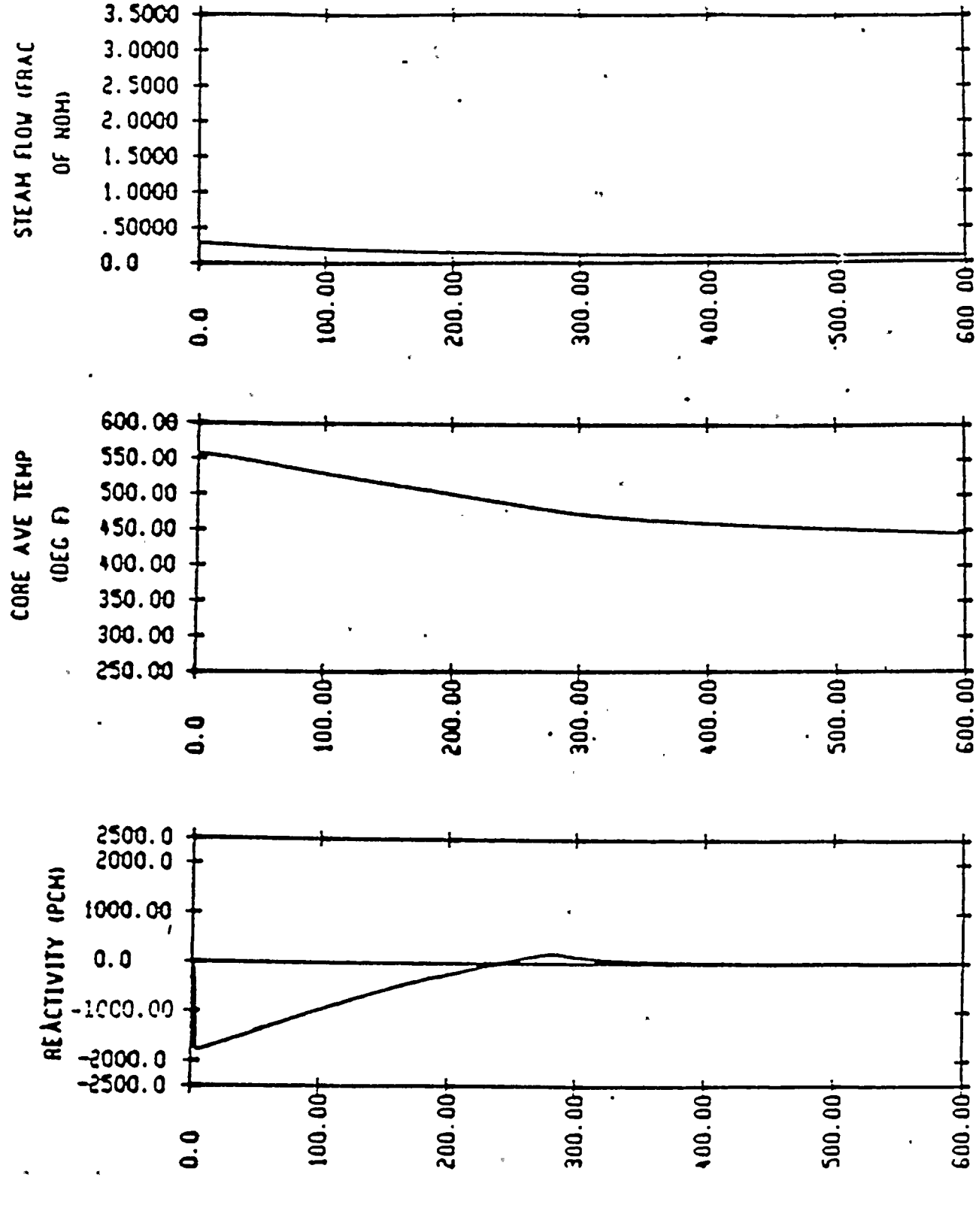


FIGURE 15.1.4-2 FAILURE OF A STEAM GENERATOR SAFETY OR DUMP VALVE

FIGURE 8

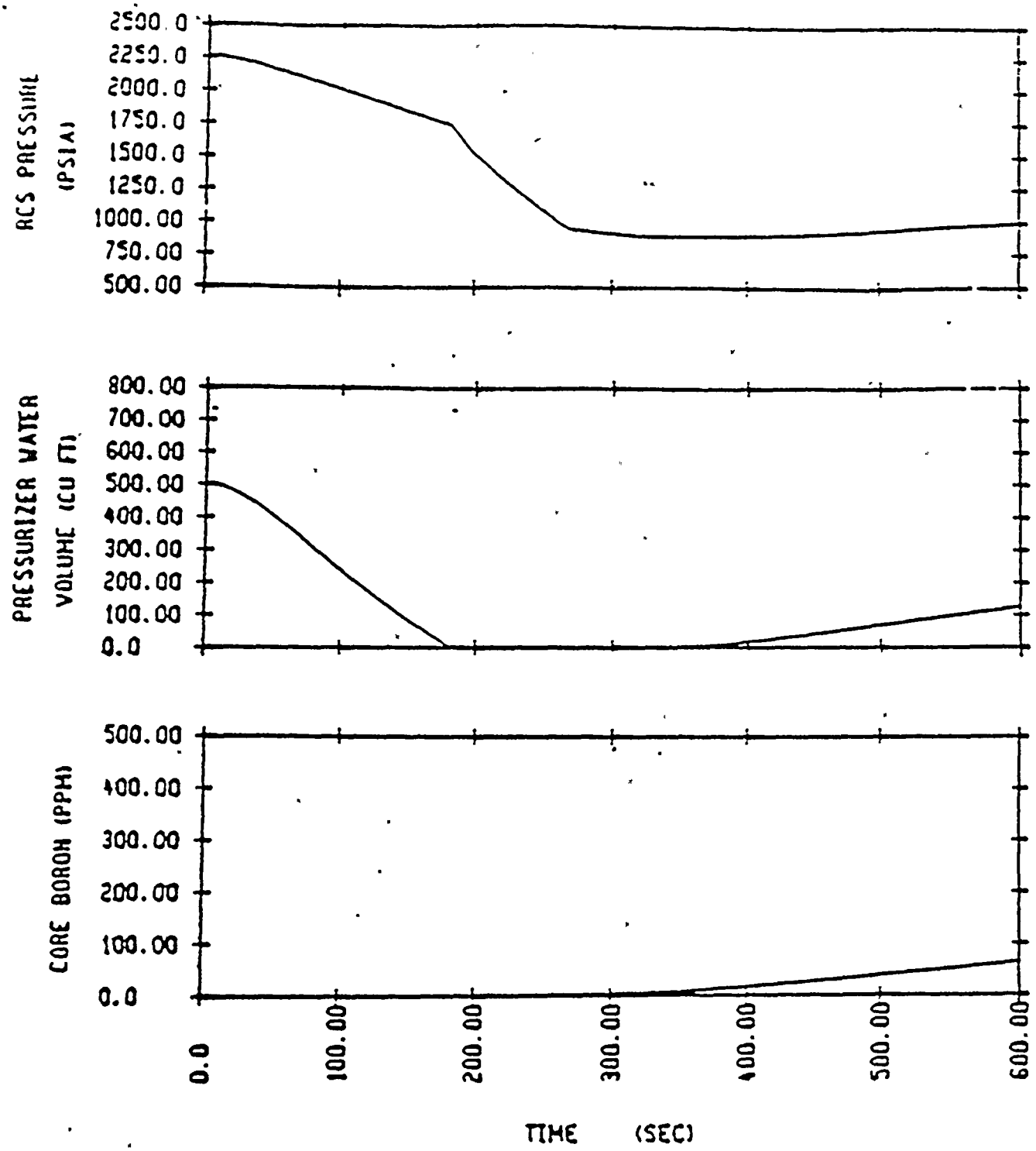


FIGURE 15.1.4-3

FAILURE OF A STEAM GENERATOR SAFETY OR DUMP VALVE

TABLE 1

BREAK DESCRIPTIONS FOR MASS AND ENERGY

Break Size	Power Level
1.4 ft^2 Double-Ended Rupture (DER)	102% Power
.6 ft^2 DER	102% Power
.645 ft^2 Split Break	102% Power
1.4 ft^2 DER	70% Power
.5 ft^2 DER	70% Power
.681 ft^2 Split Break	70% Power
1.4 ft^2 DER	30% Power
.4 ft^2 DER	30% Power
.7065 ft^2 Split Break	30% Power
1.4 ft^2 DER	0% Power
.1 ft^2 DER	0% Power
.3 ft^2 Split Break	0% Power

APPENDIX A

MASS/ENERGY RELEASE DATA

1.4 FT2 DE RUPTURE AT 102 PC POWER - XXX FROM IG2401B

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	2915.60 ~~0.00~~	1181.8 ~~642.44~~	1005.81	T1 +	0.00	5831.20 ~~0.00~~	1192.72
1.00	2771.26	1195.89	915.47	T1 +	1.00	5542.52	1195.89
2.00	2531.41	1198.14	843.83	T1 +	2.00	5062.81	1198.14
3.00	2339.49	1199.80	784.83	T1 +	3.00	4679.03	1199.80
4.00	2181.36	1201.01	736.50	T1 +	4.00	4363.10	1201.01
5.00	2090.33	1201.39	720.30	T1 +	5.00	4182.30	1201.38
6.00	2043.88	1201.74	704.72	T1 +	6.00	4092.18	1201.72
7.00	1998.83	1202.07	689.29	T1 +	7.00	4006.59	1202.03
8.00	1953.33	1202.39	673.40	T1 +	8.00	3922.06	1202.33
9.00	1906.04	1202.71	656.83	T1 +	9.00	3835.42	1202.62
10.00	1857.08	1203.02	639.80	T1 +	10.00	3745.96	1202.91
11.00	1807.30	1203.31	622.61	T1 +	11.00	0.00	1202.77
12.00	1759.11	1203.56	606.45	T1 +	12.00	0.00	1202.21
13.00	1711.87	1203.80	590.05	T1 +	13.00	0.00	1201.68
14.00	1664.06	1204.01	573.74	T1 +	14.00	0.00	1201.19
15.00	1617.39	1204.20	557.74	T1 +	15.00	0.00	1200.75
17.50	1508.59	1204.53	521.17	T1 +	17.50	0.00	1199.85
20.00	1418.17	1204.71	490.60	T1 +	20.00	0.00	1199.21
22.50	1338.84	1204.79	463.64	T1 +	22.50	0.00	1198.76
25.00	1270.30	1204.78	440.23	T1 +	25.00	0.00	1198.38
27.50	1209.84	1204.71	419.56	T1 +	27.50	0.00	1198.10
30.00	1156.72	1204.60	401.41	T1 +	30.00	0.00	1197.92
35.00	1070.77	1204.31	372.11	T1 +	35.00	0.00	1197.69
40.00	1009.68	1204.01	351.31	T1 +	40.00	0.00	1197.56
45.00	965.24	1203.74	336.10	T1 +	45.00	0.00	1197.50
50.00	931.78	1203.50	324.60	T1 +	50.00	0.00	1197.47
60.00	884.88	1203.11	308.39	T1 +	60.00	0.00	1197.45
70.00	852.72	1202.80	297.20	T1 +	70.00	0.00	1197.47
80.00	828.40	1202.55	288.71	T1 +	80.00	0.00	1197.54
90.00	809.43	1202.33	282.09	T1 +	90.00	0.00	1197.65
100.00	795.53	1202.17	277.25	T1 +	100.00	0.00	1197.78
120.00	778.28	1201.95	271.12	T1 +	120.00	0.00	1198.08
140.00	766.58	1201.79	267.03	T1 +	140.00	0.00	1198.39
160.00	757.56	1201.67	263.88	T1 +	160.00	0.00	1198.66
180.00	750.20	1201.57	261.29	T1 +	180.00	0.00	1198.91

1.4 FT2 DE RUPTURE AT 102 PC POWER - XXX FROM IG2401B

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	743.13	1201.47	258.78	T1 + 200.00	0.00	1199.12
220.00	735.76	1201.36	256.17	T1 + 220.00	0.00	1199.31
240.00	670.58	1200.21	231.49	T1 + 240.00	0.00	1199.49
260.00	571.99	1198.15	197.17	T1 + 260.00	0.00	1199.67
280.00	506.38	1196.36	173.90	T1 + 280.00	0.00	1199.84
300.00	436.97	1194.02	149.41	T1 + 300.00	0.00	1199.99

.60 FT2 DE RUPTURE AT 102 PC POWER - DRY STEAM

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	1253.1 ~~0.00~~	1192.7 ~~540.44~~	1005.81	T1 +	0.00	1253.1 ~~0.00~~	1192.72
1.00	1227.98	1194.04	969.27	T1 +	1.00	1238.71	1193.53
2.00	1185.98	1195.06	939.96	T1 +	2.00	1209.86	1194.32
3.00	1151.12	1195.92	914.60	T1 +	3.00	1181.62	1195.07
4.00	1120.39	1196.64	892.21	T1 +	4.00	1154.15	1195.76
5.00	1108.69	1196.56	894.99	T1 +	5.00	1153.17	1195.17
6.00	1110.80	1196.54	895.57	T1 +	6.00	1173.46	1194.69
7.00	1110.13	1196.59	893.81	T1 +	7.00	1189.54	1194.31
8.00	1106.13	1196.74	889.25	T1 +	8.00	1201.23	1194.06
9.00	1098.42	1196.97	881.85	T1 +	9.00	1208.17	1193.93
10.00	1087.35	1197.28	872.11	T1 +	10.00	1210.55	1193.92
11.00	1073.70	1197.63	860.66	T1 +	11.00	1209.00	1194.01
12.00	1058.27	1198.01	848.08	T1 +	12.00	1204.25	1194.18
13.00	1041.77	1198.40	834.89	T1 +	13.00	0.00	1194.10
14.00	1024.78	1198.79	821.48	T1 +	14.00	0.00	1193.82
15.00	1007.77	1199.16	808.19	T1 +	15.00	0.00	1193.61
17.50	974.63	1199.82	783.73	T1 +	17.50	0.00	1192.78
20.00	943.38	1200.46	759.09	T1 +	20.00	0.00	1192.20
22.50	912.91	1201.05	735.12	T1 +	22.50	0.00	1191.81
25.00	884.13	1201.57	712.60	T1 +	25.00	0.00	1191.55
27.50	857.76	1202.01	692.00	T1 +	27.50	0.00	1191.37
30.00	833.88	1202.39	673.35	T1 +	30.00	0.00	1191.23
35.00	794.16	1202.98	642.31	T1 +	35.00	0.00	1191.06
40.00	761.21	1203.41	616.29	T1 +	40.00	0.00	1190.97
45.00	733.10	1203.74	594.05	T1 +	45.00	0.00	1190.94
50.00	709.14	1203.99	575.24	T1 +	50.00	0.00	1190.92
60.00	671.16	1204.33	544.97	T1 +	60.00	0.00	1190.94
70.00	641.62	1204.53	521.35	T1 +	70.00	0.00	1191.06
80.00	618.10	1204.65	502.48	T1 +	80.00	0.00	1191.29
90.00	598.82	1204.73	486.96	T1 +	90.00	0.00	1191.60
100.00	582.41	1204.77	473.74	T1 +	100.00	0.00	1191.96
120.00	557.94	1204.79	453.57	T1 +	120.00	0.00	1192.81
140.00	539.63	1204.78	438.88	T1 +	140.00	0.00	1193.71
160.00	526.40	1204.75	428.25	T1 +	160.00	0.00	1194.59
180.00	516.14	1204.71	419.99	T1 +	180.00	0.00	1195.40

1.4 FT2 DE RUPTURE AT 70 PC POWER - XXX FROM IG340IE

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	711.26	1200.92	246.12	T1 +	200.00	0.00	1200.02
220.00	680.99	1200.47	236.65	T1 +	220.00	0.00	1200.13
240.00	660.60	1200.09	229.30	T1 +	240.00	0.00	1200.25
260.00	634.66	1199.58	219.96	T1 +	260.00	0.00	1200.38
280.00	599.96	1198.83	207.51	T1 +	280.00	0.00	1200.51
300.00	560.07	1197.90	193.58	T1 +	300.00	0.00	1200.65

.5 FT2 DE RUPTURE AT 70 PC POWER - DRY STEAM

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	1118.1 0.00	1190.53	1073.63	T1 +	0.00	1118.1 -0.00	1190.12
1.00	1100.73	1191.32	1043.01	T1 +	1.00	1107.58	1190.92
2.00	1070.10	1192.32	1016.71	T1 +	2.00	1084.13	1191.77
3.00	1042.52	1193.24	991.52	T1 +	3.00	1059.31	1192.66
4.00	1015.40	1194.12	966.98	T1 +	4.00	1033.17	1193.53
5.00	990.01	1194.90	944.69	T1 +	5.00	1008.06	1194.32
6.00	967.39	1195.57	924.87	T1 +	6.00	985.40	1195.01
7.00	947.37	1196.16	907.27	T1 +	7.00	965.23	1195.61
8.00	934.72	1196.37	900.71	T1 +	8.00	959.22	1195.42
9.00	927.62	1196.59	893.93	T1 +	9.00	964.45	1195.28
10.00	920.09	1196.83	886.47	T1 +	10.00	968.11	1195.19
11.00	911.54	1197.10	877.78	T1 +	11.00	969.93	1195.17
12.00	901.49	1197.42	867.60	T1 +	12.00	969.57	1195.21
13.00	889.86	1197.77	856.01	T1 +	13.00	966.92	1195.33
14.00	876.92	1198.15	843.36	T1 +	14.00	0.00	1195.10
15.00	863.07	1198.54	830.03	T1 +	15.00	0.00	1194.95
17.50	840.03	1199.09	810.82	T1 +	17.50	0.00	1194.13
20.00	817.06	1199.69	788.84	T1 +	20.00	0.00	1193.63
22.50	793.68	1200.27	766.79	T1 +	22.50	0.00	1193.32
25.00	771.38	1200.79	745.88	T1 +	25.00	0.00	1193.12
27.50	750.69	1201.25	726.47	T1 +	27.50	0.00	1192.97
30.00	731.57	1201.66	708.51	T1 +	30.00	0.00	1192.88
35.00	697.61	1202.33	676.53	T1 +	35.00	0.00	1192.77
40.00	668.91	1202.85	649.54	T1 +	40.00	0.00	1192.73
45.00	645.19	1203.24	627.05	T1 +	45.00	0.00	1192.72
50.00	624.68	1203.55	607.56	T1 +	50.00	0.00	1192.72
60.00	591.09	1203.99	575.71	T1 +	60.00	0.00	1192.75
70.00	565.00	1204.27	550.71	T1 +	70.00	0.00	1192.87
80.00	543.84	1204.46	530.37	T1 +	80.00	0.00	1193.06
90.00	526.12	1204.59	513.29	T1 +	90.00	0.00	1193.32
100.00	511.50	1204.67	499.20	T1 +	100.00	0.00	1193.62
120.00	489.73	1204.76	477.71	T1 +	120.00	0.00	1194.33
140.00	473.68	1204.79	462.31	T1 +	140.00	0.00	1195.09
160.00	461.95	1204.79	451.01	T1 +	160.00	0.00	1195.81
180.00	453.08	1204.78	442.46	T1 +	180.00	0.00	1196.48

.5 FT2 DE RUPTURE AT 70 PC POWER - DRY STEAM

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	446.30	1204.77	435.91	T1 + 200.00	0.00	1197.08
220.00	441.14	1204.76	430.93	T1 + 220.00	0.00	1197.60
240.00	437.03	1204.74	426.94	T1 + 240.00	0.00	1198.04
260.00	433.54	1204.73	423.54	T1 + 260.00	0.00	1198.43
280.00	430.33	1204.72	420.41	T1 + 280.00	0.00	1198.77
300.00	427.25	1204.70	417.39	T1 + 300.00	0.00	1199.06

70 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
1.00	503.67	1190.74	1058.02	1.000	1.000	1.000	1.000	1.000	1.000
2.00	496.38	1191.28	1044.11	1.000	1.000	1.000	1.000	1.000	1.000
3.00	489.84	1191.76	1031.52	1.000	1.000	1.000	1.000	1.000	1.000
4.00	483.91	1192.19	1020.05	1.000	1.000	1.000	1.000	1.000	1.000
5.00	478.51	1192.58	1009.57	1.000	1.000	1.000	1.000	1.000	1.000
6.00	473.57	1192.93	999.99	1.000	1.000	1.000	1.000	1.000	1.000
7.00	469.06	1193.25	991.19	1.000	1.000	1.000	1.000	1.000	1.000
8.00	464.92	1193.55	983.12	1.000	1.000	1.000	1.000	1.000	1.000
9.00	461.13	1193.81	975.72	1.000	1.000	1.000	1.000	1.000	1.000
10.00	457.65	1194.05	968.93	1.000	1.000	1.000	1.000	1.000	1.000
11.00	454.46	1194.27	962.69	1.000	1.000	1.000	1.000	1.000	1.000
12.00	451.55	1194.47	956.99	1.000	1.000	1.000	1.000	1.000	1.000
13.00	448.88	1194.66	951.79	1.000	1.000	1.000	1.000	1.000	1.000
14.00	446.46	1194.82	947.08	1.000	1.000	1.000	1.000	1.000	1.000
15.00	444.27	1194.97	942.82	1.000	1.000	1.000	1.000	1.000	1.000
16.00	442.30	1195.10	939.00	1.000	1.000	1.000	1.000	1.000	1.000
17.00	440.54	1195.21	935.60	1.000	1.000	1.000	1.000	1.000	1.000
18.00	438.98	1195.32	932.57	1.000	1.000	1.000	1.000	1.000	1.000
19.00	437.59	1195.41	929.89	1.000	1.000	1.000	1.000	1.000	1.000
20.00	436.36	1195.48	927.53	1.000	1.000	1.000	1.000	1.000	1.000
21.00	435.29	1195.55	925.47	1.000	1.000	1.000	1.000	1.000	1.000
22.00	434.35	1195.61	923.67	1.000	1.000	1.000	1.000	1.000	1.000
23.00	433.53	1195.67	922.11	1.000	1.000	1.000	1.000	1.000	1.000
24.00	432.83	1195.71	920.77	1.000	1.000	1.000	1.000	1.000	1.000
25.00	432.22	1195.75	919.62	1.000	1.000	1.000	1.000	1.000	1.000
26.00	431.70	1195.78	918.64	1.000	1.000	1.000	1.000	1.000	1.000
27.00	431.27	1195.81	917.81	1.000	1.000	1.000	1.000	1.000	1.000
28.00	430.90	1195.83	917.11	1.000	1.000	1.000	1.000	1.000	1.000
29.00	430.59	1195.85	916.53	1.000	1.000	1.000	1.000	1.000	1.000
30.00	430.33	1195.87	916.06	1.000	1.000	1.000	1.000	1.000	1.000
31.00	430.12	1195.88	915.67	.992	1.000	1.000	1.000	1.000	1.000
32.00	429.95	1195.89	915.36	.981	1.000	1.000	1.000	1.000	1.000
33.00	429.82	1195.90	915.11	.976	1.000	1.000	1.000	1.000	1.000
34.00	429.71	1195.91	914.92	.971	1.000	1.000	1.000	1.000	1.000
35.00	429.63	1195.91	914.78	.965	1.000	1.000	1.000	1.000	1.000

70 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
36.00	429.57	1195.91	914.68	.959	1.000	1.000	1.000	1.000	1.000
37.00	429.53	1195.92	914.62	.950	1.000	1.000	1.000	1.000	1.000
38.00	429 51	1195.92	914.58	.940	1.000	1.000	1.000	1.000	1.000
39 00	429.50	1195.92	914.57	.926	1.000	1.000	1.000	1.000	1.000
40.00	429.50	1195.92	914.58	.912	1.000	1.000	1.000	1.000	1.000
41.00	429.51	1195.92	914.60	.896	.992	1.000	1.000	1.000	1.000
42.00	429.52	1195.91	914.65	.880	.982	1.000	1.000	1.000	1.000
43.00	429.55	1195.91	914.70	.864	.977	1.000	1.000	1.000	1.000
44.00	429.57	1195.91	914.76	.849	.972	1.000	1.000	1.000	1.000
45.00	429.60	1195.91	914.83	.836	.967	1.000	1.000	1.000	1.000
46.00	429.64	1195.91	914.90	.823	.960	1.000	1.000	1.000	1.000
47.00	429.68	1195.90	914.98	.811	.952	1.000	1.000	1.000	1.000
48.00	429.71	1195.90	915.06	.800	.941	1.000	1.000	1.000	1.000
49.00	429.75	1195.90	915.14	.789	.928	1.000	1.000	1.000	1.000
50.00	429.80	1195.90	915.23	.780	.913	1.000	1.000	1.000	1.000
51.00	429.84	1195.89	915.31	.771	.897	.992	1.000	1.000	1.000
52.00	429.88	1195.89	915.40	.763	.881	.982	1.000	1.000	1.000
53.00	429.92	1195.89	915.49	.755	.865	.977	1.000	1.000	1.000
54 00	429.96	1195.88	915.57	.747	.850	.972	1.000	1.000	1.000
55.00	430.00	1195.88	915.66	.740	.836	.967	1.000	1.000	1.000
56 00	430.05	1195.88	915.74	.733	.823	.960	1.000	1.000	1.000
57.00	430.09	1195.88	915.82	.726	.811	.952	1.000	1.000	1.000
58.00	430.13	1195.87	915.90	.720	.800	.941	1.000	1.000	1.000
59.00	430.17	1195.87	915.98	.714	.790	.927	1.000	1.000	1.000
60.00	430.20	1195.87	916.06	.708	.781	.912	1.000	1.000	1.000
61.00	430.24	1195.87	916.14	.703	.772	.896	.992	1.000	1.000
62.00	430.28	1195.86	916 21	.698	.763	.880	.982	1.000	1.000
63.00	430.31	1195.86	916.28	.693	.755	.864	.976	1.000	1.000
64.00	430.35	1195.86	916.36	.688	.748	.849	.971	1.000	1.000
65.00	430.38	1195.86	916 42	.684	.741	.835	.966	1.000	1.000
66.00	430.42	1195.85	916.49	.679	.734	.822	.960	1.000	1.000
67.00	430.45	1195.85	916.56	675	.727	.810	.951	1.000	1.000
68 00	430.48	1195.85	916.62	.671	.721	.799	.940	1.000	1.000
69 00	430.51	1195.85	916.69	.667	.715	.788	.926	1 000	1.000
70.00	430.54	1195 85	916.75	.663	.709	.779	.911	1.000	1.000

70 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
71.00	430.57	1195.84	916.81	.659	.704	.770	.895	.991	1.000
72.00	430.60	1195.84	916.87	.655	.699	.762	.878	.982	1.000
73.00	430.63	1195.84	916.92	.652	.694	.754	.862	.976	1.000
74.00	430.66	1195.84	916.98	.648	.689	.747	.847	.971	1.000
75.00	430.68	1195.84	917.03	.645	.685	.739	.833	.966	1.000
76.00	430.71	1195.83	917.09	.642	.680	.733	.820	.959	1.000
77.00	430.74	1195.83	917.14	.638	.676	.726	.808	.950	1.000
78.00	430.76	1195.83	917.20	.635	.672	.720	.797	.939	1.000
79.00	430.79	1195.83	917.25	.632	.668	.714	.787	.925	1.000
80.00	430.81	1195.83	917.30	.629	.664	.708	.777	.910	1.000
81.00	430.84	1195.83	917.35	.626	.660	.703	.769	.893	.991
82.00	430.86	1195.82	917.40	.623	.657	.698	.760	.877	.981
83.00	430.89	1195.82	917.45	.620	.653	.693	.752	.860	.976
84.00	430.91	1195.82	917.50	.617	.650	.688	.745	.845	.971
85.00	430.94	1195 82	917.55	.614	.646	.684	.738	.831	.965
86.00	430.96	1195.82	917.60	.612	.643	.680	.731	.818	.959
87.00	430.98	1195.82	917.65	.609	.639	.676	.725	.806	.950
88.00	431.01	1195.81	917.70	.606	.636	.671	.718	.795	.938
89.00	431.03	1195.81	917.75	.604	.633	.667	.713	.785	.924
90.00	431.05	1195.81	917.79	.601	.630	.664	.707	.775	.908
91.00	431.08	1195.81	917.84	.599	.627	.660	.702	.767	.892
92.00	431.10	1195.81	917.88	.596	.624	.656	.697	.759	.875
93.00	431.12	1195.81	917.93	.594	.621	.652	.692	.751	.858
94 00	431.14	1195.80	917.97	.591	.618	.649	.687	.743	.843
95.00	431.16	1195.80	918.02	.589	.615	.646	.683	.736	.829
96.00	431.19	1195.80	918.06	.586	.613	.642	.679	.730	.816
97.00	431.21	1195.80	918.11	.584	.610	.639	.675	.723	.804
98.00	431.23	1195.80	918.15	.582	.607	.635	.670	.717	.793
99 00	431.25	1195.80	918.19	.580	.605	.632	.666	.711	.783
100.00	431.27	1195 80	918.23	.577	.602	.629	.663	.706	.774
102.00	431.30	1195.79	918.31	.574	.598	.625	.657	.698	.761
104.00	431.34	1195.79	918.39	.570	.593	.619	.650	.688	.745
106 00	431.37	1195.79	918.47	.566	.588	.613	.643	.680	.731
108.00	431.41	1195.79	918.54	.562	.584	.608	.636	.671	.719
110.00	431.45	1195.78	918.62	.558	.579	.603	.630	.663	.707

.60 FT2 DE RUPTURE AT 102 PC POWER - DRY STEAM

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	507.46	1204.68	412.94	T1 +	200.00	0.00	1196.12
220.00	500.20	1204.64	407.05	T1 +	220.00	0.00	1196.74
240.00	493.91	1204.61	401.95	T1 +	240.00	0.00	1197.27
260.00	488.33	1204.57	397.40	T1 +	260.00	0.00	1197.72
280.00	482.99	1204.53	393.04	T1 +	280.00	0.00	1198.12
300.00	477.76	1204.49	388.77	T1 +	300.00	0.00	1198.47

102 PC POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
1.00	445.57	1193.25	991.37	1.000	1.000	1.000	1.000	1.000	1.000
2.00	439.33	1193.70	978.80	1.000	1.000	1.000	1.000	1.000	1.000
3.00	433.84	1194.10	967.66	1.000	1.000	1.000	1.000	1.000	1.000
4.00	428.96	1194.45	957.70	1.000	1.000	1.000	1.000	1.000	1.000
5.00	433.11	1193.50	984.41	1.000	1.000	1.000	1.000	1.000	1.000
6.00	444.69	1192.66	1007.55	1.000	1.000	1.000	1.000	1.000	1.000
7.00	454.65	1191.93	1027.00	1.000	1.000	1.000	1.000	1.000	1.000
8.00	462.77	1191.35	1042.13	1.000	1.000	1.000	1.000	1.000	1.000
9.00	468.76	1190.95	1052.56	1.000	1.000	1.000	1.000	1.000	1.000
10.00	472.58	1190.71	1058.60	1.000	1.000	1.000	1.000	1.000	1.000
11.00	474.51	1190.62	1060.98	1.000	1.000	1.000	1.000	1.000	1.000
12.00	474.92	1190.64	1060.53	1.000	1.000	1.000	1.000	1.000	1.000
13.00	474.18	1190.74	1057.99	1.000	1.000	1.000	1.000	1.000	1.000
14.00	472.61	1190.89	1054.01	1.000	1.000	1.000	1.000	1.000	1.000
15.00	470.50	1191.08	1049.11	1.000	1.000	1.000	1.000	1.000	1.000
16.00	468.06	1191.29	1043.69	1.000	1.000	1.000	1.000	1.000	1.000
17.00	465.45	1191.51	1038.00	1.000	1.000	1.000	1.000	1.000	1.000
18.00	462.75	1191.73	1032.20	1.000	1.000	1.000	1.000	1.000	1.000
19.00	460.02	1191.95	1026.35	1.000	1.000	1.000	1.000	1.000	1.000
20.00	457.28	1192.18	1020.47	1.000	1.000	1.000	1.000	1.000	1.000
21.00	454.53	1192.40	1014.54	1.000	1.000	1.000	1.000	1.000	1.000
22.00	451.74	1192.62	1008.54	1.000	1.000	1.000	1.000	1.000	1.000
23.00	448.92	1192.85	1002.45	1.000	1.000	1.000	1.000	1.000	1.000
24.00	446.07	1193.07	996.27	1.000	1.000	1.000	1.000	1.000	1.000
25.00	443.17	1193.30	990.02	1.000	1.000	1.000	1.000	1.000	1.000
26.00	440.25	1193.52	983.72	1.000	1.000	1.000	1.000	1.000	1.000
27.00	437.31	1193.75	977.39	1.000	1.000	1.000	1.000	1.000	1.000
28.00	434.38	1193.98	971.07	1.000	1.000	1.000	1.000	1.000	1.000
29.00	431.45	1194.20	964.78	1.000	1.000	1.000	1.000	1.000	1.000
30.00	428.55	1194.42	958.54	1.000	1.000	1.000	1.000	1.000	1.000
31.00	425.67	1194.64	952.37	.971	1.000	1.000	1.000	1.000	1.000
32.00	422.83	1194.85	946.27	.941	1.000	1.000	1.000	1.000	1.000
33.00	420.03	1195.05	940.24	.913	1.000	1.000	1.000	1.000	1.000
34.00	417.26	1195.26	934.29	.888	1.000	1.000	1.000	1.000	1.000
35.00	414.53	1195.46	928.42	.865	1.000	1.000	1.000	1.000	1.000

102 PC POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
36.00	411.83	1195.65	922.62	.843	1.000	1.000	1.000	1.000	1.000
37.00	409.18	1195.84	916.89	.824	1.000	1.000	1.000	1.000	1.000
38.00	406.55	1196.03	911.22	.806	1.000	1.000	1.000	1.000	1.000
39 00	403.96	1196.21	905.62	.789	1.000	1.000	1.000	1.000	1.000
40 00	401.40	1196.39	900.09	.774	1.000	1.000	1.000	1.000	1.000
41.00	398.87	1196.57	894.63	.760	.973	1.000	1.000	1.000	1.000
42 00	396.38	1196.74	889.24	.747	.944	1.000	1.000	1.000	1.000
43 00	393.92	1196.91	883.91	.736	.918	1.000	1.000	1.000	1.000
44 00	391.49	1197.07	878 66	.725	.894	1.000	1 000	1.000	1.000
45.00	389.09	1197.24	873.47	.715	.872	1.000	1.000	1.000	1.000
46.00	386.73	1197.39	868.35	.706	.852	1.000	1.000	1.000	1.000
47.00	384.40	1197.55	863.30	.698	.833	1.000	1.000	1.000	1.000
48 00	382.11	1197.70	858.31	.690	.816	1.000	1.000	1.000	1.000
49 00	379.84	1197.85	853.39	.683	.800	1.000	1.000	1.000	1.000
50.00	377.61	1198.00	848.54	.676	.785	1.000	1.000	1.000	1.000
51 00	375.40	1198.14	843.75	.669	.771	.974	1.000	1.000	1.000
52.00	373.23	1198.28	839.02	.663	.759	.948	1.000	1.000	1.000
53.00	371.08	1198.42	834.35	.657	.748	.923	1.000	1.000	1.000
54.00	368.97	1198.55	829.74	.652	.738	.900	1.000	1.000	1.000
55.00	366.88	1198.68	825.19	.646	.728	.880	1.000	1.000	1.000
56.00	364.82	1198.81	820.71	.641	.720	.860	1.000	1.000	1.000
57.00	362.79	1198 93	816 27	.637	.711	.842	1.000	1.000	1.000
58 00	360.78	1199.06	811.86	.632	704	.826	1.000	1.000	1.000
59.00	358.78	1199.18	807.48	.628	.696	.810	1.000	1.000	1.000
60.00	356.79	1199.30	803.13	.624	.689	.796	1.000	1.000	1.000
61.00	354.82	1199.42	798.82	.621	.683	.783	.976	1.000	1.000
62.00	352.87	1199.54	794.53	.617	.677	.771	.950	1.000	1.000
63.00	350.93	1199.65	790.27	.613	.671	.760	.927	1.000	1.000
64.00	349.00	1199.76	786.02	.610	.665	.750	.906	1.000	1.000
65.00	347.08	1199.88	781.80	.607	.660	.741	.886	1.000	1.000
66.00	345.17	1199 99	777.62	.604	.655	.732	.867	1.000	1.000
67.00	343.28	1200.09	773.47	.600	.651	.724	.850	1.000	1.000
68.00	341.41	1200 20	769.36	.597	.646	.716	.833	1.000	1.000
69 00	339.56	1200.30	765.29	.595	.642	.709	.819	1.000	1.000
70.00	337.73	1200 41	761 28	.592	.638	.702	.805	1 000	1.000

102 PC POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
71.00	335.92	1200.51	757.32	.589	.634	.696	.792	.973	1.000
72.00	334.14	1200.60	753.42	.586	.631	.689	.781	.949	1.000
73.00	332 40	1200.70	749.59	.584	.627	.683	.770	.927	1.000
74.00	330.68	1200.79	745.83	.581	.624	.678	.760	.907	1.000
75.00	329.00	1200.88	742.14	.579	.620	.673	.751	.888	1.000
76.00	327.35	1200.97	738.53	.576	.617	.668	.742	870	1.000
77.00	325.74	1201.05	734.99	.574	.614	.663	.734	.854	1.000
78.00	324.16	1201.13	731.54	.572	.611	.659	.727	.838	1.000
79.00	322.62	1201.21	728.15	.569	.608	.654	.719	.824	1.000
80.00	321.11	1201.29	724.84	.567	.605	.650	.712	.811	1.000
81.00	319.63	1201.36	721.60	.565	.602	.646	.706	.799	.974
82.00	318.18	1201.43	718.41	.562	.599	.643	.700	.788	.952
83.00	316.76	1201.51	715.27	.560	.596	.639	.694	.778	.932
84 00	315.35	1201.57	712.17	.558	.594	.636	.689	.769	.913
85.00	313.97	1201.64	709.12	.556	.591	.632	.684	.760	.895
86.00	312.60	1201.71	706.09	.554	.589	.629	.679	.752	.878
87.00	311.25	1201.77	703.10	.552	.586	.626	.675	.744	.863
88.00	309.91	1201.84	700.14	.550	.584	.623	.670	.737	.848
89.00	308.58	1201.90	697.20	.548	.582	.620	.666	.730	.835
90.00	307.27	1201.96	694.29	.546	.580	.617	.662	.723	.822
91 00	305.96	1202.03	691.41	.544	.577	.615	.659	.717	.811
92.00	304.67	1202.08	688.55	.542	.575	.612	.655	.711	.800
93.00	303.40	1202.14	685.73	.540	.573	.610	.652	.706	.790
94.00	302.14	1202.20	682.93	.539	.571	.607	.648	.701	.781
95.00	300.89	1202.26	680.16	.537	.569	.605	.645	.696	.772
96.00	299.65	1202.31	677.42	.535	.567	.602	.642	.691	.764
97.00	298.43	1202.37	674.71	.534	.565	.600	.639	.686	.756
98 00	297.22	1202.42	672.02	.532	.563	.598	.636	.682	.749
99.00	296.02	1202.47	669.37	.530	.561	.596	.634	.678	.742
100.00	294 84	1202.52	666.75	.529	.560	.594	.631	674	.736
102.00	293.09	1202.62	661.60	.526	.557	.591	.627	.668	.727
104.00	290.81	1202.72	656.57	.523	.554	.587	.622	.661	.716
106.00	288.58	1202.81	651.65	.520	.551	.583	.617	.655	.706
108.00	286.40	1202.90	646.83	.518	.547	.579	.612	.649	.697
110.00	284.27	1202.98	642.11	.515	.544	.576	.608	.643	.688

102 PC POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
112.00	282.18	1203.06	637.49	.512	.542	.572	.604	.638	.681
114.00	280.14	1203.14	632.97	.509	.539	.569	.600	.633	.674
116.00	278.14	1203.21	628 55	507	.536	.566	.596	.628	.667
118.00	276.19	1203.28	624.23	.504	.533	.562	.592	.624	.661
120.00	274.28	1203.35	620.01	.502	.530	.559	.589	.619	.656
122.00	272.42	1203.42	615.88	.500	.528	.556	585	.615	.650
124.00	270.60	1203.48	611.86	.497	.525	.553	.582	.611	.645
126.00	268.83	1203.54	607.94	.495	.523	.550	.578	.607	.641
128.00	267.10	1203.60	604.11	.493	.520	.548	.575	.604	.636
130.00	265.42	1203.65	600.37	.490	.518	.545	.572	.600	.632
132.00	263.78	1203.70	596.74	.488	.515	.542	.569	.597	.628
134.00	262.18	1203 75	593.19	.486	.513	.540	.566	.593	.624
136.00	260.62	1203.80	589.74	.483	.510	.537	.564	.590	.620
138.00	259.03	1203.85	586.37	.481	.508	.535	.561	.587	.617
140.00	257.56	1203.89	583.10	.479	.506	.532	.558	.584	.613
142.00	256.12	1203.93	579.91	.476	.504	.530	.556	.581	.610
144.00	254.72	1203.97	576.81	.474	.501	.528	.553	.579	.607
146.00	253.36	1204.01	573.79	.472	.499	.525	.551	.576	.604
148.00	252.04	1204.04	570.85	.470	.497	.523	.549	.574	.601
150.00	250.75	1204.08	567.98	.468	.495	.521	.547	.571	.598
160.00	244.81	1204.23	554.79	.457	.486	.511	.537	.561	.587
170.00	239.67	1204.34	543.38	.448	.477	.503	.528	552	.577
180.00	235.27	1204.43	533.59	.440	.469	.496	.521	.544	.569
190.00	231.49	1204.50	525.18	.432	.462	.489	.514	.537	.562
200.00	228.24	1204.56	517.93	.425	.455	.484	.508	.532	.556

1.4 FT2 DE RUPTURE AT 70 PC POWER - XXX FROM IG340IE

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	3121.8 ~~0.00~~	1190.12 ~~662.67~~	1073.63	T1 +	0.00	6243.7 ~~0.00~~	1190.12
1.00	2973.38	1193.65	980.31	T1 +	1.00	5946.77	1193.65
2.00	2717.32	1196.30	902.84	T1 +	2.00	5434.66	1196.30
3.00	2503.35	1198.37	835.78	T1 +	3.00	5006.70	1198.37
4.00	2318.11	1199.96	778.52	T1 +	4.00	4636.67	1199.96
5.00	2165.08	1200.97	738.54	T1 +	5.00	4331.86	1200.95
6.00	2078.36	1201.61	710.82	T1 +	6.00	4162.03	1201.58
7.00	2002.17	1202.13	686.18	T1 +	7.00	4014.49	1202.09
8.00	1933.78	1202.58	663.68	T1 +	8.00	3883.71	1202.52
9.00	1870.49	1202.97	642.52	T1 +	9.00	3764.17	1202.89
10.00	1810.43	1203.32	622.24	T1 +	10.00	3651.73	1203.22
11.00	1752.70	1203.62	602.66	T1 +	11.00	0.00	1203.17
12.00	1703.38	1203.83	587.84	T1 +	12.00	0.00	1202.72
13.00	1659.41	1204.02	572.61	T1 +	13.00	0.00	1202.30
14.00	1615.20	1204.20	557.25	T1 +	14.00	0.00	1201.91
15.00	1571.06	1204.36	542.01	T1 +	15.00	0.00	1201.56
17.50	1464.60	1204.64	505.51	T1 +	17.50	0.00	1200.87
20.00	1368.20	1204.77	472.78	T1 +	20.00	0.00	1200.41
22.50	1287.19	1204.79	445.67	T1 +	22.50	0.00	1200.10
25.00	1220.31	1204.73	422.88	T1 +	25.00	0.00	1199.87
27.50	1163.36	1204.62	403.49	T1 +	27.50	0.00	1199.69
30.00	1113.47	1204.47	386.39	T1 +	30.00	0.00	1199.56
35.00	1030.96	1204.12	358.09	T1 +	35.00	0.00	1199.40
40.00	967.79	1203.75	336.42	T1 +	40.00	0.00	1199.31
45.00	919.75	1203.40	319.91	T1 +	45.00	0.00	1199.26
50.00	883.89	1203.09	307.61	T1 +	50.00	0.00	1199.24
60.00	834.55	1202.61	290.59	T1 +	60.00	0.00	1199.22
70.00	803.95	1202.26	280.01	T1 +	70.00	0.00	1199.22
80.00	784.24	1202.02	273.18	T1 +	80.00	0.00	1199.25
90.00	770.99	1201.85	268.58	T1 +	90.00	0.00	1199.30
100.00	761.86	1201.73	265.40	T1 +	100.00	0.00	1199.36
120.00	749.16	1201.55	260.87	T1 +	120.00	0.00	1199.51
140.00	740.97	1201.44	258.03	T1 +	140.00	0.00	1199.65
160.00	734.48	1201.34	255.74	T1 +	160.00	0.00	1199.79
180.00	728.21	1201.25	253.52	T1 +	180.00	0.00	1199.91

70 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
112.00	431.48	1195.78	918.69	.554	.575	.597	.624	.656	.697
114.00	431.52	1195.78	918.76	.550	.571	.592	.618	.648	.687
116.00	431.55	1195.78	918.83	.546	.567	.588	.612	.641	.678
118.00	431.59	1195.77	918.90	.542	.562	.583	.607	.635	.670
120.00	431.62	1195.77	918.97	.538	.558	.579	.601	.628	.662
122.00	431.65	1195.77	919.03	.534	.554	.574	.596	.622	.654
124.00	431.68	1195.77	919.10	.531	.550	.570	.591	.616	.647
126.00	431.72	1195.76	919.16	.528	.546	.566	.587	.611	.640
128.00	431.75	1195 76	919.23	.524	.542	.562	.582	.605	.633
130.00	431.78	1195.76	919.29	.521	.539	.557	.577	.600	.627
132.00	431.81	1195 76	919.35	.518	.535	.553	.573	.595	.621
134.00	431.84	1195.76	919.41	.515	.531	.549	.569	.590	.615
136.00	431.87	1195.75	919.47	.512	.528	.545	.565	.585	.610
138.00	431.89	1195.75	919.53	.509	.525	.541	.560	.581	.604
140.00	431.92	1195.75	919.58	.506	.522	.538	.556	.576	.599
142.00	431.95	1195.75	919.64	.503	.518	.534	.552	.572	.594
144.00	431.98	1195.75	919.69	.500	.515	.531	.548	.568	.589
146.00	432.00	1195.75	919.75	.497	.512	.527	.544	.563	.584
148.00	432.03	1195.74	919.80	.494	.509	.524	.540	.559	.580
150.00	432.06	1195.74	919.85	.491	.506	.521	.536	.555	.575
160.00	432.15	1195.74	920.02	.479	.492	.505	.519	.535	.554
170.00	432.16	1195.74	920.04	.467	.479	.490	.504	.518	.534
180 00	432.13	1195.74	919.98	.456	.467	.478	.489	.502	.517
190.00	432.09	1195.74	919.89	.440	.452	.464	.476	.488	.501
200.00	432.04	1195.74	919.79	.413	.424	.436	.450	.464	.480

1.4 FT2 DE RUPTURE AT 30 PC POWER - XXX FROM IG640GC

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	3314.80 ~~0.00~~	~~562.84~~	1136.48	T1 +	0.00	6629.60 ~~0.00~~	1187.55
1.00	3165.97	1191.28	1043.97	T1 +	1.00	6331.94	1191.28
2.00	2908.14	1194.20	964.92	T1 +	2.00	5816.30	1194.20
3.00	2680.93	1196.69	890.82	T1 +	3.00	5361.92	1196.69
4.00	2464.55	1198.77	822.10	T1 +	4.00	4929.56	1198.76
5.00	2276.46	1200.34	763.88	T1 +	5.00	4554.53	1200.33
6.00	2126.48	1201.42	719.22	T1 +	6.00	4258.42	1201.38
7.00	2005.64	1202.24	680.91	T1 +	7.00	4023.65	1202.19
8.00	1901.75	1202.88	647.60	T1 +	8.00	3823.25	1202.81
9.00	1810.89	1203.38	618.10	T1 +	9.00	3649.10	1203.30
10.00	1729.84	1203.78	591.47	T1 +	10.00	3494.53	1203.68
11.00	1655.83	1204.09	567.06	T1 +	11.00	3353.66	1203.99
12.00	1588.16	1204.29	548.85	T1 +	12.00	0.00	1203.79
13.00	1549.26	1204.42	535.14	T1 +	13.00	0.00	1203.53
14.00	1509.50	1204.53	521.25	T1 +	14.00	0.00	1203.30
15.00	1469.59	1204.63	507.40	T1 +	15.00	0.00	1203.08
17.50	1373.18	1204.77	474.25	T1 +	17.50	0.00	1202.61
20.00	1285.05	1204.78	444.14	T1 +	20.00	0.00	1202.30
22.50	1208.27	1204.70	418.04	T1 +	22.50	0.00	1202.11
25.00	1142.70	1204.56	395.73	T1 +	25.00	0.00	1201.98
27.50	1086.56	1204.37	376.67	T1 +	27.50	0.00	1201.88
30.00	1038.40	1204.15	360.20	T1 +	30.00	0.00	1201.81
35.00	963.10	1203.71	334.44	T1 +	35.00	0.00	1201.70
40.00	907.01	1203.28	315.17	T1 +	40.00	0.00	1201.64
45.00	864.12	1202.90	300.41	T1 +	45.00	0.00	1201.59
50.00	831.26	1202.56	289.10	T1 +	50.00	0.00	1201.56
60.00	786.56	1202.04	273.69	T1 +	60.00	0.00	1201.51
70.00	759.78	1201.70	264.45	T1 +	70.00	0.00	1201.49
80.00	744.19	1201.48	259.08	T1 +	80.00	0.00	1201.47
90.00	735.22	1201.35	256.00	T1 +	90.00	0.00	1201.46
100.00	730.24	1201.28	254.28	T1 +	100.00	0.00	1201.44
120.00	725.87	1201.21	252.76	T1 +	120.00	0.00	1201.42
140.00	724.07	1201.19	252.14	T1 +	140.00	0.00	1201.39
160.00	720.93	1201.14	250.97	T1 +	160.00	0.00	1201.37
180.00	716.15	1201.06	249.27	T1 +	180.00	0.00	1201.35

1.4 FT2 DE RUPTURE AT 30 PC POWER - XXX FROM IG640GC

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	710.67	1200.97	247.32	T1 + 200.00	0.00	1201.34
220.00	704.38	1200.87	245.08	T1 + 220.00	0.00	1201.34
240.00	697.27	1200.75	242.54	T1 + 240.00	0.00	1201.35
260.00	657.77	1199.96	226.76	T1 + 260.00	0.00	1201.37
280.00	537.57	1197.22	184.57	T1 + 280.00	0.00	1201.41
300.00	477.02	1195.43	163.54	T1 + 300.00	0.00	1201.47

.4 FT2 DE RUPTURE AT 30 PC POWER - DRY STEAM

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	949.8 ~~0.00~~	1187.55 ~~562.84~~	1136.48	T1 +	0.00	949.8 ~~0.00~~	1187.55
1.00	939.66	1188.44	1115.14	T1 +	1.00	942.53	1188.26
2.00	922.60	1189.25	1095.46	T1 +	2.00	926.88	1189.04
3.00	903.88	1190.21	1071.39	T1 +	3.00	908.49	1189.99
4.00	880.30	1191.33	1042.75	T1 +	4.00	885.31	1191.10
5.00	854.87	1192.42	1014.01	T1 +	5.00	860.47	1192.17
6.00	830.80	1193.39	987.40	T1 +	6.00	836.83	1193.12
7.00	808.78	1194.26	963.07	T1 +	7.00	815.51	1193.97
8.00	788.71	1195.04	940.79	T1 +	8.00	796.19	1194.72
9.00	770.33	1195.73	920.21	T1 +	9.00	782.61	1195.08
10.00	753.29	1196.36	900.95	T1 +	10.00	773.62	1195.44
11.00	737.24	1196.95	882.58	T1 +	11.00	764.75	1195.78
12.00	721.79	1197.51	864.68	T1 +	12.00	755.78	1196.13
13.00	706.65	1198.04	846.98	T1 +	13.00	746.52	1196.49
14.00	691.67	1198.56	829.43	T1 +	14.00	736.86	1196.86
15.00	676.85	1199.05	812.08	T1 +	15.00	0.00	1196.98
17.50	645.62	1199.90	780.74	T1 +	17.50	0.00	1197.04
20.00	631.69	1200.34	763.70	T1 +	20.00	0.00	1196.73
22.50	616.41	1200.80	745.44	T1 +	22.50	0.00	1196.58
25.00	601.10	1201.23	727.34	T1 +	25.00	0.00	1196.53
27.50	586.68	1201.61	710.43	T1 +	27.50	0.00	1196.51
30.00	573.47	1201.95	694.91	T1 +	30.00	0.00	1196.51
35.00	550.00	1202.51	667.22	T1 +	35.00	0.00	1196.52
40.00	529.71	1202.96	643.22	T1 +	40.00	0.00	1196.54
45.00	512.22	1203.31	622.49	T1 +	45.00	0.00	1196.56
50.00	497.09	1203.59	604.51	T1 +	50.00	0.00	1196.58
60.00	472.05	1204.00	574.79	T1 +	60.00	0.00	1196.63
70.00	452.39	1204.26	551.24	T1 +	70.00	0.00	1196.72
80.00	436.51	1204.44	532.18	T1 +	80.00	0.00	1196.86
90 00	423.54	1204.57	516.59	T1 +	90.00	0.00	1197.04
100.00	412.89	1204.65	503.76	T1 +	100.00	0.00	1197.25
120.00	397.25	1204.74	484.48	T1 +	120.00	0.00	1197.70
140.00	385.88	1204.78	470.85	T1 +	140.00	0.00	1198.16
160 00	377.65	1204.79	460.96	T1 +	160.00	0.00	1198.60
180.00	371.60	1204.79	453.69	T1 +	180.00	0.00	1198.99

.4 FT2 DE RUPTURE AT 30 PC POWER - DRY STEAM

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	367.13	1204.79	448.30	T1 + 200.00	0.00	1199.34
220.00	363.66	1204.78	444.10	T1 + 220.00	0.00	1199.64
240.00	360.71	1204.78	440.52	T1 + 240.00	0.00	1199.91
260.00	358.03	1204.77	437.25	T1 + 260.00	0.00	1200.15
280.00	355.46	1204.76	434.11	T1 + 280.00	0.00	1200.37
300.00	352.92	1204.76	431.00	T1 + 300.00	0.00	1200.57

30 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
1.00	554.92	1188.23	1120.27	1.000	1.000	1.000	1.000	1.000	1.000
2.00	546.89	1188.84	1105.48	1.000	1.000	1.000	1.000	1.000	1.000
3.00	539.53	1189.39	1091.82	1.000	1.000	1.000	1.000	1.000	1.000
4.00	532.73	1189.90	1079.12	1.000	1.000	1.000	1.000	1.000	1.000
5.00	526.41	1190.37	1067.30	1.000	1.000	1.000	1.000	1.000	1.000
6.00	520.53	1190.80	1056.30	1.000	1.000	1.000	1.000	1.000	1.000
7.00	515.07	1191.20	1046.05	1.000	1.000	1.000	1.000	1.000	1.000
8.00	509.99	1191.57	1036.48	1.000	1.000	1.000	1.000	1.000	1.000
9.00	505.24	1191.91	1027.53	1.000	1.000	1.000	1.000	1.000	1.000
10.00	500.81	1192.23	1019.13	1.000	1.000	1.000	1.000	1.000	1.000
11.00	496.64	1192.52	1011.22	1.000	1.000	1.000	1.000	1.000	1.000
12.00	492.71	1192.80	1003.74	1.000	1.000	1.000	1.000	1.000	1.000
13.00	488.99	1193.05	996.64	1.000	1.000	1.000	1.000	1.000	1.000
14.00	485.46	1193.30	989.86	1.000	1.000	1.000	1.000	1.000	1.000
15.00	482.08	1193.54	983.39	1.000	1.000	1.000	1.000	1.000	1.000
16.00	478.86	1193.76	977.20	1.000	1.000	1.000	1.000	1.000	1.000
17.00	475.78	1193.97	971.27	1.000	1.000	1.000	1.000	1.000	1.000
18.00	472.83	1194.17	965.58	1.000	1.000	1.000	1.000	1.000	1.000
19.00	470.00	1194.36	960.13	1.000	1.000	1.000	1.000	1.000	1.000
20.00	467.29	1194.55	954.89	1.000	1.000	1.000	1.000	1.000	1.000
21.00	464.69	1194.72	949.87	1.000	1.000	1.000	1.000	1.000	1.000
22.00	462.20	1194.89	945.05	1.000	1.000	1.000	1.000	1.000	1.000
23.00	459.80	1195.05	940.42	1.000	1.000	1.000	1.000	1.000	1.000
24.00	457.50	1195.20	935.97	1.000	1.000	1.000	1.000	1.000	1.000
25.00	455.30	1195.34	931.69	1.000	1.000	1.000	1.000	1.000	1.000
26.00	453.18	1195.48	927.57	1.000	1.000	1.000	1.000	1.000	1.000
27.00	451.14	1195.62	923.62	1.000	1.000	1.000	1.000	1.000	1.000
28.00	449.18	1195.74	919.81	1.000	1.000	1.000	1.000	1.000	1.000
29.00	447.29	1195.86	916.16	1.000	1.000	1.000	1.000	1.000	1.000
30.00	445.50	1195.98	912.69	1.000	1.000	1.000	1.000	1.000	1.000
31.00	443.79	1196.09	909.40	.985	1.000	1.000	1.000	1.000	1.000
32.00	442.18	1196.19	906.33	.962	1.000	1.000	1.000	1.000	1.000
33.00	440.69	1196.28	903.47	.941	1.000	1.000	1.000	1.000	1.000
34.00	439.31	1196.37	900.83	.922	1.000	1.000	1.000	1.000	1.000
35.00	438.03	1196.44	898.42	.905	1.000	1.000	1.000	1.000	1.000

30 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
36.00	436.87	1196.52	896.21	.889	1.000	1.000	1.000	1.000	1.000
37.00	435.81	1196.58	894.20	.873	1.000	1.000	1.000	1.000	1.000
38.00	434 84	1196.64	892.37	.857	1.000	1.000	1.000	1.000	1.000
39 00	433.97	1196.69	890.72	.842	1.000	1.000	1.000	1.000	1.000
40.00	433.18	1196.74	889.24	.826	1.000	1.000	1.000	1.000	1.000
41.00	432.48	1196.78	887 91	.811	.987	1.000	1.000	1.000	1.000
42.00	431.84	1196.82	886.73	.796	.966	1.000	1.000	1.000	1.000
43.00	431.28	1196.85	885.68	.782	.947	1.000	1.000	1.000	1.000
44.00	430.79	1196.88	884.76	.769	.930	1.000	1.000	1.000	1.000
45.00	430.36	1196.91	883.95	.756	.914	1.000	1.000	1.000	1.000
46.00	429.98	1196.93	883.24	.744	.900	1.000	1.000	1.000	1.000
47 00	429 65	1196.95	882.63	.733	.885	1.000	1.000	1.000	1.000
48.00	429.36	1196.97	882.11	.723	.870	1.000	1.000	1.000	1.000
49.00	429 12	1196.98	881.66	.713	.855	1.000	1.000	1.000	1.000
50.00	428.91	1196.99	881.29	.704	.839	1.000	1.000	1.000	1.000
51 00	428.74	1197.00	880.97	.696	.824	.988	1.000	1.000	1.000
52.00	428.59	1197.01	880.71	.688	.809	.968	1.000	1.000	1.000
53.00	428.48	1197.02	880.50	.680	.795	.950	1.000	1.000	1.000
54.00	428.39	1197.02	880.34	.673	.781	.933	1.000	1.000	1.000
55 00	428.31	1197.02	880.22	.666	.769	.918	1.000	1.000	1.000
56.00	428.26	1197.03	880.13	.659	.757	.904	1.000	1.000	1.000
57.00	428.23	1197.03	880.08	.653	.746	.890	1.000	1.000	1.000
58.00	428.21	1197.03	880.05	.647	.735	.875	1.000	1.000	1.000
59 00	428.20	1197.03	880.05	.642	.726	.860	1.000	1.000	1.000
60.00	428.20	1197.03	880.07	.636	.717	.844	1.000	1.000	1.000
61.00	428.22	1197.03	880.10	.631	.708	.829	.989	1.000	1.000
62.00	428 24	1197.03	880.16	.626	.700	.814	.968	1.000	1.000
63 00	428.27	1197.02	880.23	.622	693	.800	.950	1.000	1.000
64.00	428.31	1197.02	880.30	.617	.685	.786	.934	1.000	1.000
65.00	428.35	1197 02	880.39	.613	679	.773	.919	1.000	1.000
66.00	428.40	1197.02	880.49	.609	.672	.761	.904	1.000	1.000
67 00	428 45	1197.01	880.59	.604	.666	.750	.890	1.000	1.000
68 00	428 50	1197.01	880.71	.601	.660	.740	.875	1.000	1.000
69.00	428.56	1197.01	880.82	.597	.654	.730	.860	1.000	1.000
70.00	428.62	1197.00	880.94	.593	.649	.721	.844	1.000	1.000

30 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
71.00	428 68	1197.00	881.06	.589	.644	.713	.829	.989	1.000
72.00	428.74	1196.99	881.18	.586	.639	.705	.814	.968	1.000
73.00	428 80	1196.99	881.31	.582	.634	.697	.800	.949	1.000
74.00	428.86	1196.99	881.44	.579	.630	.690	.786	.933	1.000
75.00	428.93	1196.98	881.56	.576	.625	.683	.773	.918	1.000
76 00	428.99	1196.98	881.69	.572	.621	.677	.761	.903	1.000
77.00	429.06	1196.97	881.81	.569	.617	.670	.750	.889	1.000
78.00	429 12	1196.97	881.94	.566	.613	.664	.740	.874	1.000
79.00	429.18	1196.97	882.06	.563	.609	.659	.730	.858	1.000
80.00	429.24	1196.96	882.19	.560	.605	.653	.721	.843	1.000
81.00	429.31	1196.96	882.31	.557	.602	.648	.713	.827	.988
82.00	429.37	1196.96	882.43	.554	.598	.643	.705	.812	.967
83.00	429 43	1196.95	882.55	.551	.595	.639	.697	.798	.948
84 00	429.49	1196.95	882.67	.549	.591	.634	.690	.784	.932
85.00	429.54	1196.94	882.78	.546	.588	.630	.683	.771	.916
86.00	429.60	1196.94	882.89	.544	.585	.626	.677	.759	.901
87.00	429.66	1196.94	883.01	.541	.581	.622	.670	.748	.887
88.00	429.71	1196.93	883 12	.539	.578	.618	.664	.738	.872
89.00	429.77	1196.93	883.22	.536	.575	.614	.659	.728	.856
90.00	429 82	1196.93	883 33	.534	.572	.610	.654	.719	.840
91 00	429.87	1196.92	883.43	.532	.569	.607	.649	.711	.825
92.00	429.93	1196.92	883.53	.530	.566	.603	.644	.703	.810
93.00	429.98	1196.92	883.63	.527	.563	.599	.639	.695	.795
94.00	430.03	1196.91	883.73	.525	.561	.596	.635	.688	.781
95.00	430.08	1196.91	883.83	.523	.558	.593	.630	.681	.768
96.00	430.12	1196.91	883.92	.521	.556	.589	.626	.675	.756
97.00	430.17	1196.91	884.02	.519	.553	.586	.622	.669	.745
98.00	430.22	1196.90	884.11	.517	.551	.583	.618	.663	.735
99.00	430.26	1196.90	884.19	.515	.548	.580	.614	.657	.725
100.00	430 31	1196.90	884.28	.513	.546	.577	.611	.652	.717
102.00	430.37	1196.89	884.45	.511	.543	.572	.605	.645	.704
104 00	430 45	1196.89	884.62	.507	538	.567	.598	.636	.689
106 00	430 54	1196.88	884 78	.504	.534	.562	.592	.627	.676
108.00	430.62	1196.88	884.94	.500	.530	.557	.586	.619	.664
110 00	430 70	1196.87	885 09	.497	526	.552	579	.612	.653

30 PERCENT POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
112.00	430.77	1196.87	885.24	.494	.523	.548	.574	.605	.643
114.00	430.84	1196.86	885.38	.491	.519	.543	.568	.598	.634
116.00	430.91	1196.86	885.52	.489	.515	.539	.563	.591	.625
118.00	430.98	1196.85	885.66	.486	.512	.535	.558	.585	.618
120.00	431.05	1196.85	885.79	.483	.509	.531	.553	.579	.610
122.00	431.12	1196.84	885.93	.480	.506	.527	.549	.573	.603
124.00	431.19	1196.84	886.05	.478	.503	.524	.544	.567	.596
126.00	431.25	1196.84	886.18	.475	.500	.520	.540	.562	.590
128.00	431.31	1196.83	886.30	.472	.497	.517	.536	.557	.584
130.00	431.37	1196.83	886.42	.470	.494	.513	.532	.552	.578
132.00	431.43	1196.83	886.54	.467	.491	.510	.528	.548	.572
134.00	431.49	1196.82	886.65	.465	.489	.507	.524	.543	.566
136.00	431.55	1196.82	886.76	.462	.486	.504	.520	.539	.561
138.00	431.60	1196.81	886.87	.460	.483	.501	.517	.535	.556
140.00	431.66	1196.81	886.98	.458	.480	.498	514	.531	.551
142.00	431.71	1196.81	887.08	.456	.478	.495	.510	.527	.546
144.00	431 76	1196.80	887.18	.453	.475	.492	.507	.523	.542
146 00	431.81	1196.80	887.28	.451	.473	.490	.504	.519	.537
148 00	431.86	1196.80	887.38	.449	.471	.487	.501	.516	.533
150 00	431.91	1196.80	887.47	.447	.468	.484	.498	.512	.529
160.00	432 13	1196.78	887.92	.438	.458	.472	.484	.497	.511
170.00	432.34	1196.77	888.33	.430	.448	.461	.472	.483	.495
180.00	432.52	1196.76	888.64	.423	.440	.452	.461	.470	.481
190 00	432.27	1196.78	888.07	.416	.433	.443	.451	.459	.469
200.00	431.73	1196.81	886.93	.410	.426	.436	.443	.450	.457

1.4 F12 DE RUPTURE AT ZERO POWER - XXX FROM IG4401A

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	3221.3 ~~0.00~~	1188.668 ~~1188.44~~	1106.08	T1 +	0.00	6442.50 ~~0.00~~	1188.81
1.00	3087.34	1192.00	1025.03	T1 +	1.00	6174.67	1192.00
2.00	2885.37	1194.24	963.62	T1 +	2.00	5770.48	1194.16
3.00	2712.88	1196.54	895.54	T1 +	3.00	5435.19	1196.47
4.00	2457.53	1199.08	810.97	T1 +	4.00	4928.48	1199.02
5.00	2215.56	1201.08	733.66	T1 +	5.00	4445.68	1201.01
6.00	2005.14	1202.51	667.50	T1 +	6.00	4029.26	1202.43
7.00	1828.22	1203.48	611.69	T1 +	7.00	3682.43	1203.40
8.00	1679.09	1204.12	564.33	T1 +	8.00	3392.85	1204.04
9.00	1552.74	1204.51	523.60	T1 +	9.00	3146.73	1204.45
10.00	1443.54	1204.72	488.01	T1 +	10.00	2934.87	1204.68
11.00	1347.81	1204.79	456.50	T1 +	11.00	0.00	1204.76
12.00	1262.61	1204.78	438.41	T1 +	12.00	0.00	1204.74
13.00	1241.39	1204.75	430.46	T1 +	13.00	0.00	1204.68
14.00	1217.46	1204.72	421.72	T1 +	14.00	0.00	1204.62
15.00	1191.78	1204.67	412.50	T1 +	15.00	0.00	1204.55
17.50	1124.73	1204.50	388.94	T1 +	17.50	0.00	1204.44
20.00	1060.97	1204.25	367.01	T1 +	20.00	0.00	1204.37
22.50	1005.50	1203.96	348.08	T1 +	22.50	0.00	1204.33
25.00	958.25	1203.66	331.92	T1 +	25.00	0.00	1204.29
27.50	917.49	1203.35	317.92	T1 +	27.50	0.00	1204.25
30.00	882.01	1203.04	305.73	T1 +	30.00	0.00	1204.23
35.00	824.83	1202.47	286.13	T1 +	35.00	0.00	1204.19
40.00	783.42	1201.98	271.96	T1 +	40.00	0.00	1204.15
45.00	753.66	1201.59	261.76	T1 +	45.00	0.00	1204.10
50.00	732.07	1201.28	254.36	T1 +	50.00	0.00	1204.04
60.00	705.37	1200.88	245.22	T1 +	60.00	0.00	1203.93
70.00	691.63	1200.66	240.51	T1 +	70.00	0.00	1203.80
80.00	684.78	1200.54	238.17	T1 +	80.00	0.00	1203.67
90.00	681.66	1200.49	237.11	T1 +	90.00	0.00	1203.55
100.00	680.54	1200.47	236.74	T1 +	100.00	0.00	1203.44
120.00	680.98	1200.48	236.93	T1 +	120.00	0.00	1203.24
140.00	682.32	1200.50	237.40	T1 +	140.00	0.00	1203.08
160.00	683.35	1200.52	237.76	T1 +	160.00	0.00	1202.95
180.00	683.72	1200.53	237.88	T1 +	180.00	0.00	1202.85

1.4 FT2 DE RUPTURE AT ZERO POWER - XXX FROM IG4401A

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	683.27	1200.52	237.70	T1 + 200.00	0.00	1202.78
220.00	679.85	1200.46	236.42	T1 + 220.00	0.00	1202.74
240 00	674.31	1200.36	234.44	T1 + 240.00	0.00	1202 72
260.00	667.83	1200.24	232.13	T1 + 260.00	0.00	1202.73
280.00	660.49	1200.10	229.52	T1 + 280.00	0.00	1202.75
300.00	652.35	1199.95	226.62	T1 + 300.00	0.00	1202.79

.1 FT2 DE RUPTURE AT ZERO POWER - DRY STEAM

FORWARD FLOW					REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA		TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
0.00	230.7 ~~0.00~~	1188.81 ~~658.44~~	1106.08	T1 +	0.00	230.7 ~~0.00~~	1188.81
1.00	230.06	1188.92	1103.44	T1 +	1.00	230.41	1188.79
2.00	231.31	1188.90	1104.08	T1 +	2.00	232.34	1188.64
3.00	231.23	1189.18	1097.17	T1 +	3.00	232.96	1188.80
4.00	225.72	1190.42	1066.00	T1 +	4.00	228.07	1189.95
5.00	217.77	1191.95	1026.57	T1 +	5.00	220.66	1191.40
6.00	209.00	1193.41	986.78	T1 +	6.00	212.38	1192.80
7.00	200.63	1194.74	949.25	T1 +	7.00	204.56	1194.06
8.00	192.82	1195.93	914.25	T1 +	8.00	197.30	1195.18
9.00	185.59	1196.98	881.64	T1 +	9.00	190.61	1196.19
10.00	178.85	1197.92	851.00	T1 +	10.00	184.38	1197.09
11.00	172.52	1198.77	821.94	T1 +	11.00	178.52	1197.92
12.00	166.50	1199.55	794.18	T1 +	12.00	172.92	1198.67
13.00	160.76	1200.25	767.56	T1 +	13.00	167.54	1199.37
14.00	155.27	1200.88	741.99	T1 +	14.00	162.36	1200.02
15.00	149.99	1201.46	717.35	T1 +	15.00	157.33	1200.62
17.50	137.73	1202.65	659.98	T1 +	17.50	145.39	1201.91
20.00	135.24	1202.68	658.29	T1 +	20.00	143.26	1201.91
22.50	134.29	1202.78	653.21	T1 +	22.50	142.53	1201.99
25.00	132.92	1202.90	646.44	T1 +	25.00	141.34	1202.12
27.50	131.52	1203.02	639.86	T1 +	27.50	140.11	1202.24
30.00	130.29	1203.12	634.08	T1 +	30.00	139.01	1202.34
35.00	128.13	1203.29	623.83	T1 +	35.00	137.09	1202.52
40.00	126.25	1203.43	614.89	T1 +	40.00	135.37	1202.67
45.00	124.69	1203.55	607.54	T1 +	45.00	133.92	1202.80
50.00	123.40	1203.64	601.41	T1 +	50.00	132.69	1202.91
60.00	121.36	1203.77	591.71	T1 +	60.00	130.73	1203.07
70.00	119.74	1203.88	584.10	T1 +	70.00	129.18	1203.20
80.00	118.39	1203.96	577.65	T1 +	80.00	127.88	1203.30
90.00	117.22	1204.03	572.02	T1 +	90.00	126.72	1203.39
100.00	116.19	1204.09	567.04	T1 +	100.00	125.67	1203.47
120.00	114.48	1204.19	558.61	T1 +	120.00	123.84	1203.60
140.00	113.05	1204.26	551.74	T1 +	140.00	122.24	1203.71
160.00	111.87	1204.32	546.10	T1 +	160.00	120.87	1203.80
180.00	110.89	1204.36	541.40	T1 +	180.00	119.73	1203.88

.1 FT2 DE RUPTURE AT ZERO POWER - DRY STEAM

FORWARD FLOW				REVERSE FLOW		
TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB
200.00	110.05	1204.40	537.31	T1 + 200.00	118.73	1203.94
220.00	109.28	1204.43	533.60	T1 + 220.00	117.83	1203.99
240.00	108.56	1204.46	530.12	T1 + 240.00	116.99	1204.04
260.00	107.86	1204.49	526.74	T1 + 260.00	116.18	1204.09
280.00	107.17	1204.52	523.39	T1 + 280.00	115.38	1204.13
300.00	106.48	1204.54	519.99	T1 + 300.00	114.58	1204.18

ZERO POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AI (SEC) 30	40	50	60	70	80
1.00	242.07	1186.81	1153.99	1.000	1.000	1.000	1.000	1.000	1.000
2.00	240.63	1187.08	1147.60	1.000	1.000	1.000	1.000	1.000	1.000
3.00	239.24	1187.35	1141.42	1.000	1.000	1.000	1.000	1.000	1.000
4.00	237.89	1187.60	1135.50	1.000	1.000	1.000	1.000	1.000	1.000
5.00	236.62	1187.83	1129.89	1.000	1.000	1.000	1.000	1.000	1.000
6.00	235.42	1188.05	1124.56	1.000	1.000	1.000	1.000	1.000	1.000
7.00	234.26	1188.27	1119.41	1.000	1.000	1.000	1.000	1.000	1.000
8.00	233.15	1188.47	1114.54	1.000	1.000	1.000	1.000	1.000	1.000
9.00	232.11	1188.66	1109.89	1.000	1.000	1.000	1.000	1.000	1.000
10.00	231.10	1188.84	1105.38	1.000	1.000	1.000	1.000	1.000	1.000
11.00	230.12	1189.02	1100.99	1.000	1.000	1.000	1.000	1.000	1.000
12.00	229.17	1189.20	1096 67	1.000	1.000	1.000	1.000	1.000	1.000
13.00	228.22	1189.37	1092.39	1.000	1.000	1.000	1.000	1.000	1.000
14.00	227.29	1189.54	1088.13	1.000	1.000	1.000	1.000	1.000	1.000
15.00	226.35	1189.71	1083.88	1.000	1.000	1.000	1.000	1.000	1.000
16.00	225.42	1189.88	1079.61	1.000	1.000	1.000	1.000	1.000	1.000
17.00	224.48	1190.05	1075.33	1.000	1.000	1.000	1.000	1.000	1.000
18.00	223 56	1190.22	1071.16	1.000	1.000	1.000	1.000	1.000	1.000
19.00	222.64	1190.39	1066.97	1.000	1.000	1.000	1.000	1.000	1.000
20 00	221.73	1190.55	1062.76	1.000	1.000	1.000	1.000	1.000	1.000
21.00	220.80	1190.72	1058.54	1.000	1.000	1.000	1.000	1.000	1.000
22.00	219.88	1190.88	1054.30	1.000	1.000	1.000	1.000	1.000	1.000
23 00	218 95	1191.05	1050.05	1.000	1.000	1.000	1.000	1 000	1.000
24.00	218.02	1191.21	1045.78	1.000	1.000	1.000	1.000	1.000	1.000
25.00	217.09	1191.38	1041.51	1.000	1.000	1.000	1.000	1.000	1.000
26.00	216.16	1191.54	1037.23	1.000	1.000	1.000	1.000	1.000	1.000
27.00	215.23	1191.70	1032.95	1.000	1.000	1.000	1.000	1.000	1.000
28 00	214.30	1191.87	1028.65	1.000	1.000	1.000	1.000	1.000	1.000
29.00	213.36	1192.03	1024.35	1.000	1.000	1.000	1.000	1.000	1.000
30.00	212.42	1192.19	1020.04	1.000	1.000	1.000	1.000	1.000	1.000
31.00	211 49	1192 35	1015.72	.985	1.000	1.000	1.000	1.000	1.000
32.00	210.55	1192.51	1011.40	.970	1.000	1.000	1.000	1.000	1.000
33.00	209 61	1192.67	1007.08	.956	1.000	1.000	1.000	1.000	1.000
34.00	208.68	1192.83	1002.76	.942	1.000	1.000	1.000	1 000	1.000
35 00	207 74	1192 99	998 45	.929	1.000	1.000	1.000	1.000	1.000

ZERO POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
36.00	206.81	1193.15	994.13	.916	1.000	1.000	1.000	1.000	1.000
37.00	205.87	1193.30	989.83	.905	1.000	1.000	1.000	1.000	1.000
38.00	204.94	1193.46	985.53	.893	1.000	1.000	1.000	1.000	1.000
39.00	204 01	1193.61	981.24	.883	1.000	1.000	1.000	1.000	1.000
40.00	203.09	1193.77	976.96	.872	1.000	1.000	1.000	1.000	1.000
41.00	202.16	1193.92	972.70	.862	.984	1.000	1.000	1.000	1.000
42.00	201.24	1194.07	968.44	.853	.969	1.000	1.000	1.000	1.000
43.00	200.33	1194.22	964.20	.844	.955	1.000	1.000	1.000	1.000
44.00	199 42	1194.37	959.97	.835	.941	1.000	1.000	1.000	1.000
45.00	198.51	1194.52	955.77	.827	.928	1.000	1.000	1.000	1.000
46.00	197.60	1194.66	951.57	.819	.916	1.000	1.000	1.000	1.000
47.00	196.70	1194.81	947.40	.811	.904	1.000	1.000	1.000	1.000
48.00	195.81	1194.95	943.25	.804	.893	1.000	1.000	1.000	1.000
49.00	194.91	1195.09	939.11	.797	.882	1.000	1.000	1.000	1.000
50.00	194.03	1195.23	934.99	.790	.872	1.000	1.000	1.000	1.000
51.00	193.15	1195.37	930.90	.783	.862	.984	1.000	1.000	1.000
52.00	192.27	1195.51	926.83	.776	.853	.969	1.000	1.000	1.000
53.00	191.40	1195.64	922.77	.770	.844	.955	1.000	1.000	1.000
54 00	190.53	1195.78	918.75	.764	.836	.941	1.000	1.000	1.000
55.00	189.67	1195.91	914.74	.758	.828	.929	1.000	1.000	1.000
56.00	188.81	1196.04	910.75	.752	.820	.917	1.000	1.000	1.000
57.00	187.96	1196.17	906.79	.746	.812	.905	1.000	1.000	1.000
58 00	187 12	1196.30	902.85	.741	.805	.894	1.000	1.000	1.000
59.00	186.28	1196.43	898.94	.736	.798	.884	1.000	1.000	1.000
60 00	185.44	1196.55	895.05	.730	.791	.874	1.000	1.000	1.000
61.00	184.61	1196.68	891.18	.725	.784	.864	.984	1.000	1.000
62 00	183.79	1196.80	887.33	.720	.778	.855	.969	1.000	1.000
63 00	182 97	1196.92	883.51	.715	.772	.846	.955	1.000	1.000
64.00	182.16	1197.04	879.71	.710	.766	.838	.942	1.000	1.000
65.00	181 35	1197.16	875.94	.706	.760	.830	.930	1.000	1.000
66.00	180.55	1197.28	872.19	.701	.754	.822	.918	1.000	1.000
67.00	179.75	1197.39	868.46	.697	.748	.814	.906	1.000	1.000
68.00	178.96	1197.51	864.74	.692	.743	.807	.896	1 000	1.000
69 00	178 17	1197.62	861.02	.688	.737	.800	.885	1.000	1.000
70.00	177 38	1197.73	857.32	.684	.732	.793	.876	1.000	1.000

ZERO POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
71.00	176.59	1197.84	853.62	.679	.727	.787	.866	.984	1.000
72.00	175.81	1197.95	849.94	.675	.722	.780	.857	.969	1.000
73.00	175.02	1198.06	846.26	.671	.717	.774	.848	.955	1.000
74.00	174.24	1198.17	842.57	.667	.712	.768	.840	.942	1.000
75.00	173.46	1198.28	838.89	.663	.707	.762	.832	.930	1.000
76.00	172.68	1198.39	835.22	.659	.703	.756	.824	.918	1.000
77.00	171.90	1198.50	831.56	.655	.698	.751	.817	.907	1.000
78.00	171.12	1198.60	827.91	.652	.694	.745	.809	.896	1.000
79.00	170.35	1198.71	824.28	.648	.689	.740	.802	.886	1.000
80.00	69.59	1198.81	820.68	.644	.685	.735	.796	.876	1.000
81.00	168.82	1198.91	817.09	.641	.681	.729	.789	.867	.981
82.00	168.07	1199.01	813.54	.637	.677	.724	.783	.858	.967
83.00	167.32	1199.11	810.00	.634	.673	.720	.776	.849	.953
84.00	166.57	1199.21	806.50	.631	.669	.715	.771	.841	.940
85.00	165.83	1199.30	803.02	.627	.665	.710	.765	.833	.928
86.00	165.10	1199.40	799.57	.624	.661	.706	.759	.826	.917
87.00	164.38	1199.49	796.14	.621	.658	.701	.754	.818	.906
88.00	163.65	1199.58	792.73	.618	.654	.697	.748	.811	.895
89.00	162.94	1199.68	789.35	.615	.651	.693	.743	.804	.885
90.00	162.22	1199.77	785.98	.612	.647	.689	.738	.798	.876
91.00	161.51	1199.85	782.64	.609	.644	.685	.733	.791	.867
92.00	160.81	1199.94	779.31	.606	.641	.681	.728	.785	.858
93.00	160.11	1200.03	776.01	.603	.637	.677	.724	.779	.850
94.00	159.42	1200.11	772.74	.601	.634	.673	.719	.773	.842
95.00	158.73	1200.20	769.48	.598	.631	.670	.715	.768	.834
96.00	158.05	1200.28	766.25	.595	.628	.666	.710	.762	.826
97.00	157.37	1200.36	763.04	.592	.625	.662	.706	.757	.819
98.00	156.70	1200.44	759.85	.590	.622	.659	.702	.752	.812
99.00	156.03	1200.52	756.68	.587	.619	.655	.698	.746	.806
100.00	155.36	1200.60	753.53	.585	.616	.652	.694	.741	.799
102.00	154.37	1200.75	747.31	.581	.612	.647	.688	.734	.790
104.00	153.08	1200.90	741.19	.576	.606	.641	.680	.725	.778
106.00	151.80	1201.05	735.17	.571	.601	.635	.673	.717	.767
108.00	150.55	1201.18	729.27	.567	.596	.629	.667	.708	.757
110.00	149.33	1201.32	723.53	.562	.591	.624	.660	.701	.747

ZERO POWER

TIME SEC.	FLOW LB/SEC	ENTHALPY BTU/LB	PRESSURE PSIA	ISOLATION AT (SEC) 30	40	50	60	70	80
112.00	148.14	1201.45	717.89	.558	.586	.618	.654	.693	.738
114.00	146.97	1201.57	712.37	.554	.581	.613	.648	.686	.729
116.00	145.82	1201.69	706.94	.550	.577	.608	.642	.679	.721
118.00	144 69	1201.81	701.58	.546	.572	.602	.636	.672	.713
120.00	143.58	1201.92	696.27	.542	.568	.597	.630	.666	.705
122.00	142.47	1202.03	690.99	.538	.563	.592	.624	.659	.697
124.00	141.37	1202.14	685.75	.534	.559	.588	.619	.653	.690
126.00	140.28	1202.25	680.55	.530	.555	.583	.614	.647	.683
128.00	139.20	1202.35	675.38	.526	.551	.578	.608	.641	.676
130.00	138.13	1202.45	670.27	.522	.547	.574	.603	.635	.669
132.00	137.06	1202.55	665.19	.518	.543	.569	.598	.630	.663
134.00	136.01	1202.65	660.16	.515	.539	.565	.594	.624	.657
136.00	134.97	1202.74	655.17	.511	.535	.561	.589	.619	.651
138.00	133.93	1202.83	650.22	.508	.531	.557	.584	.614	.645
140.00	132.91	1202.92	645.32	.505	.528	.553	.580	.609	.640
142.00	131.89	1203.01	640.46	.502	.525	.550	.577	.606	.635
144.00	130.89	1203.09	635.71	.500	.523	.548	.574	.602	.632
146.00	129.92	1203.17	631.26	.498	.521	.545	.572	.599	.628
148 00	129.06	1203.23	627.38	.496	.519	.543	.569	.597	.625
150.00	128.31	1203.29	624.00	.494	.517	.541	.567	.594	.622
160.00	125.18	1203.52	609.19	.487	.508	.532	.557	.582	.608
170.00	122 50	1203.71	596.46	.480	.502	.524	.548	.573	.598
180.00	120.11	1203.86	585.16	.474	.495	.518	.541	.565	.589
190.00	117.99	1203.99	575.02	.469	.490	.511	.534	.558	.469
200.00	116.10	1204.10	566.00	.464	.484	.506	.528	.552	.457

APPENDIX B

RESULTS OF CONTAINMENT PRESSURE AND TEMPERATURE ANALYSIS

SUMMARY OF CALCULATED CONTAINMENT PRESSURE AND TEMPERATURE

A. MSLB - COOLING TRAIN FAILURE

Percent Power	102			70			30			0		
MSLB Break Size, $ft.^2$	Full DE	.6 DE	.645 Split	Full DE	.5 DE	.681 Split	Full DE	.4 DE	.7065 Split	Full DE	.1 DE	.3 Split
Peak Pressure, psig	31.7	26.3	27.3	33.5	27.0	28.3	30.9	27.2	30.5	29.6	17.3	25.3
Peak Temperature, F	378	330	343	377	313	340	376	306	351	367	289	312
Time of Peak Pressure, sec.	154	258	212	178	336	222	207	480	250	240	1810	702
Time of End of Blowdown, sec.	154	258	212	178	336	222	207	480	250	240	1810	702

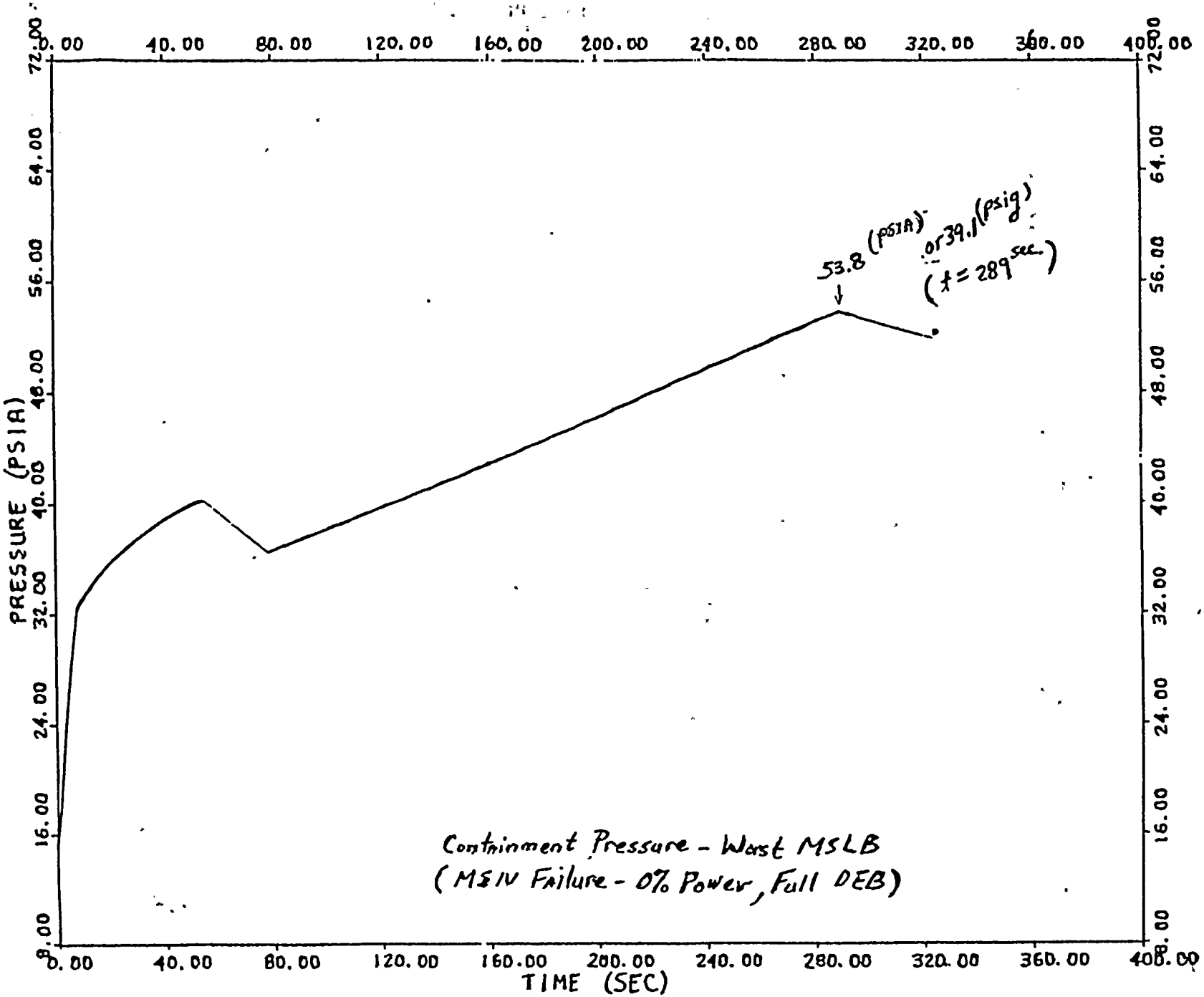
SUMMARY OF CALCULATED CONTAINMENT PRESSURE AND TEMPERATURE

B. MSLB - MAIN FEEDWATER ISOLATION VALVE FAILURE

Percent Power	102			70			30			0		
MSLB Break Size, ft^2	Full DE	.6 DE	645 Split	Full DE	.5 DE	681 Split	Full DE	.4 DE	.7065 Split	Full DE	.1 DE	.3 Split
Peak Pressure, psig	34.4	28.3	29.5	36.1	28.5	30.6	38.7	29.3	33.2	39.1	13.8	24.7
Peak Temperature, F	378	319	343	377	313	349	378	307	351	366	291	311
Time of Peak Pressure, sec.	190	314	256	217	402	274	249	563	301	289	2114	845
Time of End of Blowdown, sec.	190	314	256	217	402	274	249	563	301	289	2114	845

SUMMARY OF CALCULATED CONTAINMENT PRESSURE AND TEMPERATURE

	DESLG (Max.SI)	DESLG (Min.SI)		0.6x DESLG (Min. SI)			3 ft.^{2} Pump Suction Split (Min.SI)			DEHLG (Min. SI)		DECLG (Min.SI)
C. MSLB- MAIN STEAM ISOLATION VALVE FAILURE												
Percent Power	102			70			30			0		
MSLB Break Size, ft^2	Full DE	.6 DE	.645 Split	Full DE	.5 DE	.681 Split	Full DE	.4 DE	.7065 Split	Full DE	.1 DE	.3 Split
Peak Pressure, psig	31.3	26.2	27.4	33.3	27.3	28.5	35.8	27.3	30.9	35.4	13.3	23.1
Peak Temperature, F	379	332	343	379	314	350	379	305	350	368	291	310
Time of Peak Pressure, sec.	154	258	223	178	336	236	207	480	264	240	1810	737
Time to End of Blowdown, sec.	154	258	223	178	336	236	207	480	264	240	1810	737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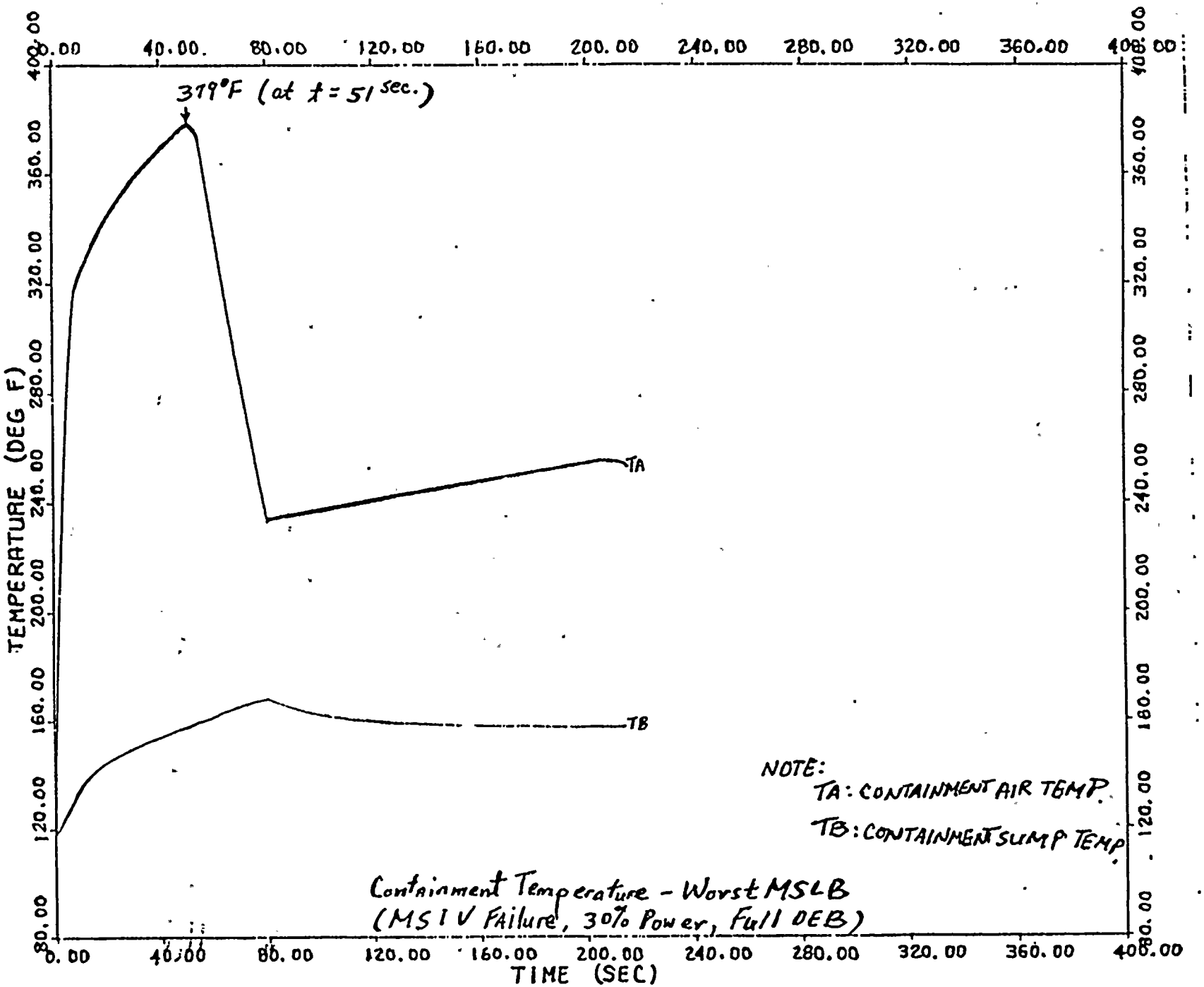
280.00
320.00
360.00
400.00
8.00
16.00
24.00
32.00
40.00
48.00
56.00
64.00
72.00
PRESSURE (PSIA)
TIME (SEC)
53.8 (psia)
or 39.1 (psig)
(t = 289 sec.)
Containment Pressure - Worst MSLB
(MSIV Failure - 0% Power, Full DEB)



Containment Temperature - Worst MSLB
(MSIV Failure, 30% Power, Full DEB)