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U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Serial No. 11-616
NSS&L/MLC R0
Docket No. 50-423
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DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
CORE OPERATING LIMITS REPORT, CYCLE 15

In accordance with the Millstone Power Station Unit 3 (MPS3) Technical Specifications (TSs), Section 6.9.1.6.d, Dominion Nuclear Connecticut, Inc., hereby submits, as Enclosure 1, the Cycle 15 Core Operating Limits Report (COLR).

The MPS3 COLR has been revised to incorporate the following:

- Editorial changes to increment the cycle number from 14 to 15.
- Revision of the MODE 5 (with RCS loops filled) shutdown margin requirements in Figure 4 to support Cycle 15 conditions.
- Cycle 15-specific changes to the W(Z) values in Tables 1 through 3.
- Revision of the burnup penalties for incore measurements in Table 4 to support Cycle 15 conditions.
- Editorial change to Reference 3.6 to correct a typographical error.
- Editorial change to the title name of Table 4 on Pages 8.1-3 and 8.1-24.

The COLR has been incorporated into the MPS3 Technical Requirements Manual.

If you have any questions or require additional information, please contact William D. Bartron at (860) 444-4301.

Sincerely,

R. K. MacManus
Director, Nuclear Station Safety and Licensing - Millstone

Enclosures: (1)

Commitments made in this letter: None.

A001
NRR

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Serial No. 11-616
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ENCLOSURE 1

CORE OPERATING LIMITS REPORT, CYCLE 15

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

TECHNICAL REQUIREMENTS MANUAL

APPENDIX 8.1

CORE OPERATING LIMITS REPORT

MILLSTONE UNIT 3

CYCLE 15

CORE OPERATING LIMITS REPORT

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Millstone Unit 3
Cycle 15
CORE OPERATING LIMITS REPORT

1.0 CORE OPERATING LIMITS REPORT

This CORE OPERATING LIMITS REPORT (COLR) for Millstone Unit 3 Cycle 15 has been prepared in accordance with the requirements of Technical Specification 6.9.1.6.a. The Technical Specifications affected by this report are listed below.

2.1.1	Safety Limits
2.2.1	Limiting Safety System Settings
3/4.1.1.1.1	SHUTDOWN MARGIN - MODE 1 and 2
3/4.1.1.1.2	SHUTDOWN MARGIN - MODES 3, 4 and 5 Loops Filled
3/4.1.1.2	SHUTDOWN MARGIN - MODE 5 Loops Not Filled
3/4.1.1.3	Moderator Temperature Coefficient
3/4.1.3.5	Shutdown Rod Insertion Limit
3/4.1.3.6	Control Rod Insertion Limits
3/4.2.1.1	AXIAL FLUX DIFFERENCE
3/4.2.2.1	Heat Flux Hot Channel Factor
3/4.2.3.1	RCS Total Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor
3/4.2.5	DNB Parameters
3/4.3.5	Shutdown Margin Monitor Alarm Setpoint
3/4.9.1.1	REFUELING Boron Concentration

2.0 Operating Limits

The cycle-specific parameter limits for the specifications listed in Section 1.0 are presented in the following subsections. These limits have been developed using the NRC-approved methodologies specified in Technical Specification 6.9.1.6.b.

2.1 Safety Limits (Specification 2.1.1)

2.1.1 Reactor Core

The combination of THERMAL POWER, Reactor Coolant System highest loop average temperature, and pressurizer pressure shall not exceed the limits shown in Figure 1.

2.2 Limiting Safety System Settings (Specification 2.2.1)

2.2.1 Overtemperature ΔT

2.2.1.1 $K_1 \leq 1.20$

2.2.1.2 $K_2 \geq 0.025$ / °F

2.2.1.3 $K_3 \geq 0.00113$ / psi

2.2.1.4 $\tau_1 \geq 8$ seconds

2.2.1.5 $\tau_2 \leq 3$ seconds

2.2.1.6 $\tau_4 \geq 20$ seconds

2.2.1.7 $\tau_5 \leq 4$ seconds

2.2.1.8 T' is loop specific indicated T_{avg} at RATED THERMAL POWER, ≤587.1°F

2.2.1.9 P' is nominal pressurizer pressure, ≥ 2250 psia

2.2.1.10 $f_1(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power range neutron ion chambers; with nominal gains to be selected based on measured instrument response during plant startup tests calibrations such that:

(1) For $q_t - q_b$ between -18% and +10%, $f_1(\Delta I) \geq 0$, where q_t and q_b are percent RATED THERMAL POWER in the upper and lower halves of the core, respectively, and $q_t + q_b$ is the total THERMAL POWER in percent RATED THERMAL POWER;

(2) For each percent that the magnitude of $q_t - q_b$ exceeds -18%, the ΔT Trip Setpoint shall be automatically reduced by ≥ 3.75% of its value at RATED THERMAL POWER.

(3) For each percent that the magnitude of $q_t - q_b$ exceeds +10%, the ΔT Trip Setpoint shall be automatically reduced by ≥ 2.14% of its value at RATED THERMAL POWER.

2.2.2 Overpower ΔT

2.2.2.1 $K_4 \leq 1.10$

2.2.2.2 Deleted

2.2.2.3 $K_6 \geq 0.0015$ / °F when T > T" and $K_6 \leq 0$ / °F when T≤T"

2.2.2.4 $\tau_1 \geq 8$ seconds

2.2.2.5 $\tau_2 \leq 3$ seconds

2.2.2.6 Deleted

2.2.2.7 T" is loop specific indicated T_{avg} at RATED THERMAL POWER, ≤587.1°F

2.3 SHUTDOWN MARGIN - MODE 1 and 2 (Specification 3/4.1.1.1.1)

2.3.1 The SHUTDOWN MARGIN shall be greater than or equal to 1.3% Δk/k.

2.4 SHUTDOWN MARGIN - MODE 3, 4 and 5 Loops Filled (Specification 3/4.1.1.1.2)

2.4.1 The SHUTDOWN MARGIN shall be greater than or equal to the limits shown in Figures 2, 3 and 4.

2.5 SHUTDOWN MARGIN - MODE 5 Loops Not Filled (Specification 3/4.1.1.2)

2.5.1 The SHUTDOWN MARGIN shall be greater than or equal to the limits shown in Figure 5 or the limits shown in Figure 4 with the chemical and volume control system (CVCS) aligned to preclude reactor coolant system boron concentration reduction.

2.6 Moderator Temperature Coefficient (Specification 3/4.1.1.3)

2.6.1 The BOL/ARO/0% - 70% RTP MTC shall be less positive than + 0.5 x 10^{-4} Δk/k/° F. Above 70% RTP, the MTC limit is a linear ramp to 0 Δk/k/° F at 100% RTP.

2.6.2 The EOL/ARO/RTP MTC shall be less negative than - 5.65 x 10^{-4} Δk/k/° F.

2.6.3 The 300 ppm/ARO/RTP MTC should be less negative than or equal to - 4.9 x 10^{-4} Δk/k/° F,

where: BOL stands for Beginning Of Cycle Life

ARO stands for All Rods Out

HZP stands for Hot Zero Power

EOL stands for End Of Cycle Life

RTP stands for RATED THERMAL POWER.

2.7 Shutdown Rod Insertion Limit (Specification 3/4.1.3.5)

2.7.1 The shutdown rods shall be at least 220 steps withdrawn (inclusive).

2.8 Control Rod Insertion Limits (Specification 3/4.1.3.6)

2.8.1 The control rod banks shall be limited in physical insertion as shown in Figure 6, and

2.8.2 Control bank A shall be at least 220 steps withdrawn.

2.9 AXIAL FLUX DIFFERENCE (Specification 3/4.2.1.1)

2.9.1 The AXIAL FLUX DIFFERENCE (AFD) limits are provided in Figure 7.

2.9.2 The AFD target band during base load operation is ± 5%.

2.9.3 The minimum allowable (nuclear design) power level for base load operation (APL^{ND}) is 80% of RATED THERMAL POWER.

2.10 Heat Flux Hot Channel Factor - $F_Q(Z)$ (Specification 3/4.2.2.1)

$$F_Q(Z) \leq \frac{F_Q^{RTP}}{P} \times K(Z) \quad \text{for P > 0.5}$$

$$F_Q(Z) \leq \frac{F_Q^{RTP}}{0.5} \times K(Z) \quad \text{for P } \leq 0.5$$

where: $$P = \frac{THERMAL\ POWER}{RATED\ THERMAL\ POWER}$$

2.10.1 $F^{RTP}_Q = 2.60$.

2.10.2 K(Z) is provided in Figure 8.

2.11 Heat Flux Hot Channel Factor Surveillance - $F_Q(Z)$ (Specification 3/4.2.2.1.2)

$$F_Q(Z) \leq \frac{F_Q^{RTP} \times K(Z)}{P \times W(Z)} \quad \text{for P > 0.5}$$

$$F_Q(Z) \leq \frac{F_Q^{RTP} \times K(Z)}{0.5 \times W(Z)} \qquad \text{for P} \leq 0.5$$

where: $P = \dfrac{THERMAL\ POWER}{RATED\ THERMAL\ POWER}$

2.11.1 $F^{RTP}_Q = 2.60$.

2.11.2 K(Z) is provided in Figure 8.

2.11.3 W(Z) values for RAOC operation are provided in Table 1. Note that the W(Z) values at Axial Mesh 1 are at the top of the core. The Cycle 15 burnup dependent RAOC W(Z) values are valid over the range of burnup from 0 to 21,900 MWD/MTU.

2.11.4 W(Z) values for Base Load (BL) operation are provided in Table 2. Note that the W(Z) values at Axial Mesh 1 are at the top of the core. The Cycle 15 burnup dependent BL W(Z) values are valid over the range of burnup from 0 to 21,900 MWD/MTU.

2.11.5 W(Z) values for Part Power operation are provided in Table 3. Note that the W(Z) values at Axial Mesh 1 are at the top of the core. The Cycle 15 burnup dependent Part Power W(Z) values are valid over the range of burnup from 0 to 150 MWD/MTU.

2.11.6 The factors in Table 4 shall be used for surveillance requirements 4.2.2.1.2 and 4.2.2.1.4. A 2% factor shall be used outside of the burnup range shown in Table 4.

2.12 RCS Total Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor - $F^N_{\Delta H}$ (Specification 3/4.2.3.1)

2.12.1 The RCS Total Flow Rate shall be greater than or equal to 379,200 gpm.

2.12.2 $F^N_{\Delta H} \leq F^{RTP}_{\Delta H} \times (1 + PF_{\Delta H} \times [1 - P])$

where: $P = \dfrac{THERMAL\ POWER}{RATED\ THERMAL\ POWER}$

2.12.2.1 $F^{RTP}_{\Delta H} = 1.586$ for Robust Fuel Assemblies (RFA) and (RFA-2)

2.12.2.2 $PF_{\Delta H} = 0.3$ for $P < 1.0$.

2.13 DNB Parameters (Specification 3/4.2.5)

2.13.1 Indicated Reactor Coolant System T_{avg} shall be maintained ≤ 593.5°F.

2.13.2 Indicated Pressurizer Pressure shall be maintained ≥ 2204 psia [1].

2.14 Shutdown Margin Monitor Alarm Setpoint (Specification 3/4.3.5)[2]

2.14.1 The Shutdown Margin Monitor (SMM) minimum count rate and Alarm Ratio Setting to meet Limiting Condition for Operation (LCO) 3.3.5 shall be as shown below.

Tech. Spec. LCO	SMM Alarm Ratio Setting	Min. Count Rate (counts/sec)
3.3.5.a	1.50	1.0
	1.25	0.6
3.3.5.b.1	1.50	0.50
	1.25	0.35
3.3.5.b.2	1.50	0.35
	1.25	0.25

The combination of the SMM Alarm Ratio setting and minimum count rate accounts for the time lag between the indicated and actual count rates, as well as other uncertainties. The specified SMM Alarm Ratio setting ensures that the assumption that an alarm is generated at flux doubling in the Boron Dilution Event analysis remains valid. The count rate is displayed on the SMM.

2.15 Refueling Boron Concentration (Specification 3/4.9.1.1)

2.15.1 The boron concentration of all filled portions of the Reactor Coolant System and the refueling cavity shall be maintained at a boron concentration of greater than or equal to 2600 ppm.[3]

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1 Limit not applicable during either a THERMAL POWER ramp in excess of 5% of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% of RATED THERMAL POWER.

2 Section 2.14 was prepared by Dominion based on boron dilution analyses performed by Westinghouse.

3 This boron concentration bounds the condition of $k_{eff} \leq 0.95$ (all rods in less the most reactive two rods) and subcriticality ($k_{eff} \leq 1.0$ with all rods out).

Figure 1 Reactor Core Safety Limit

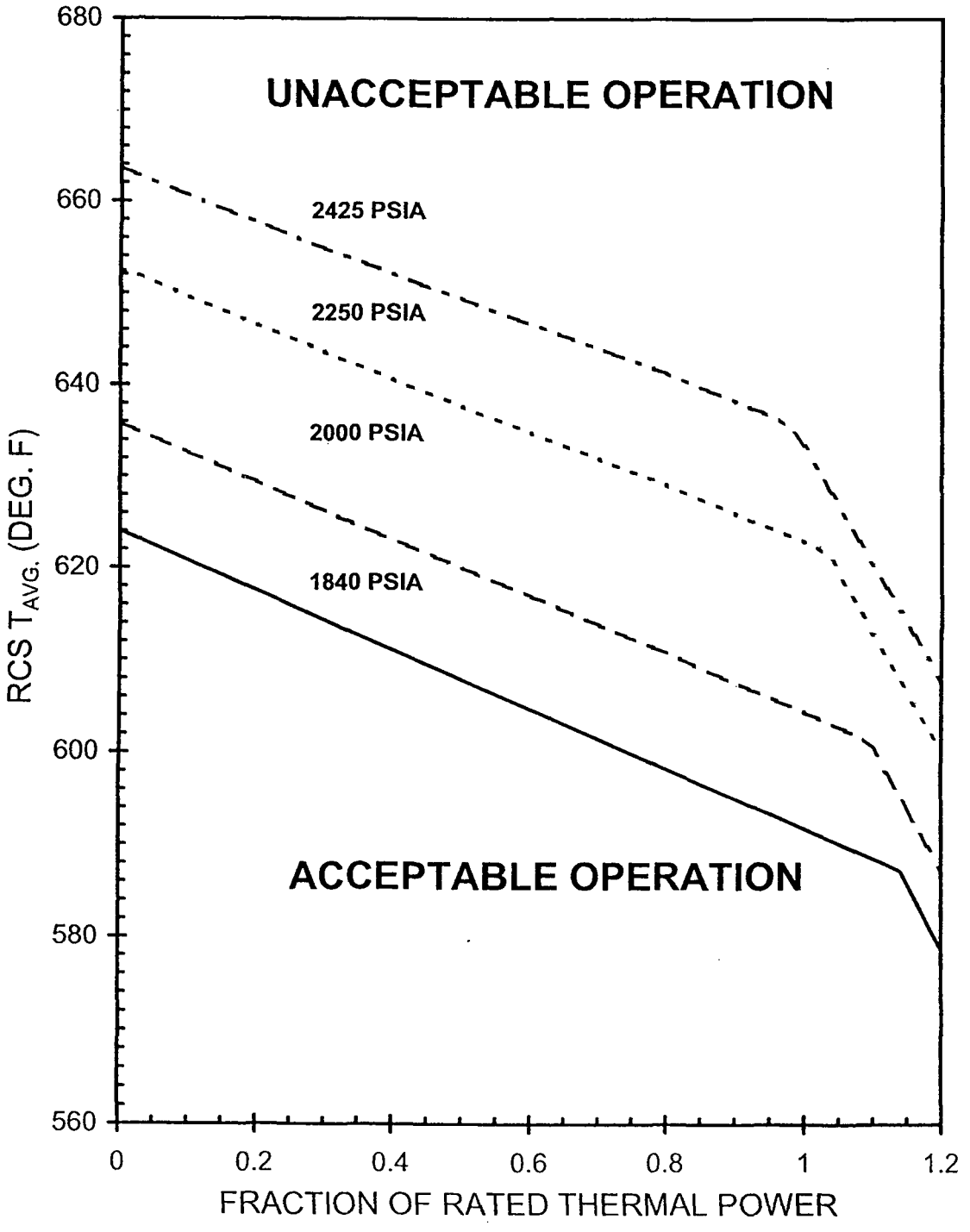

Figure 2 Required SHUTDOWN MARGIN for MODE 3

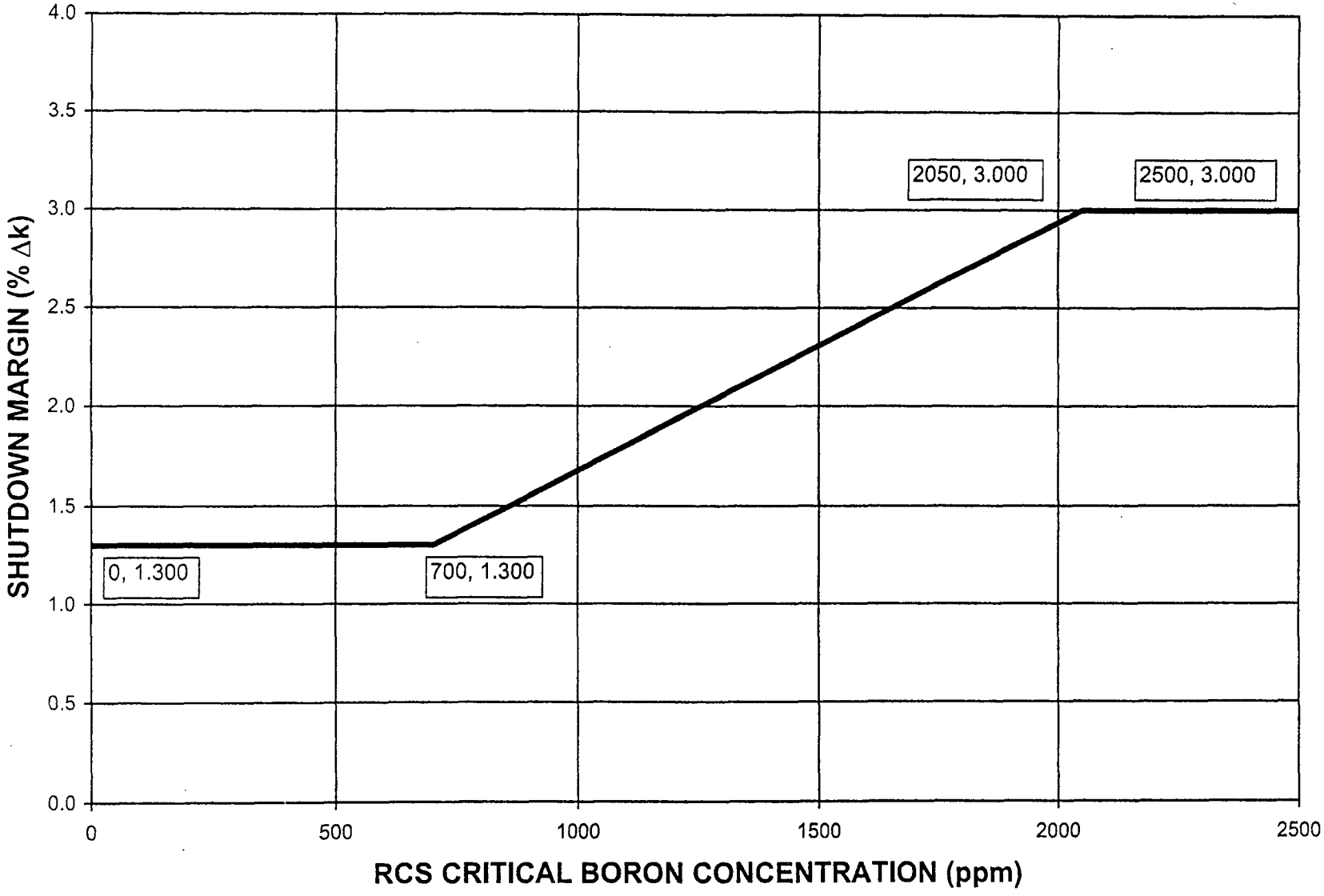

Figure 3 Required SHUTDOWN MARGIN for MODE 4

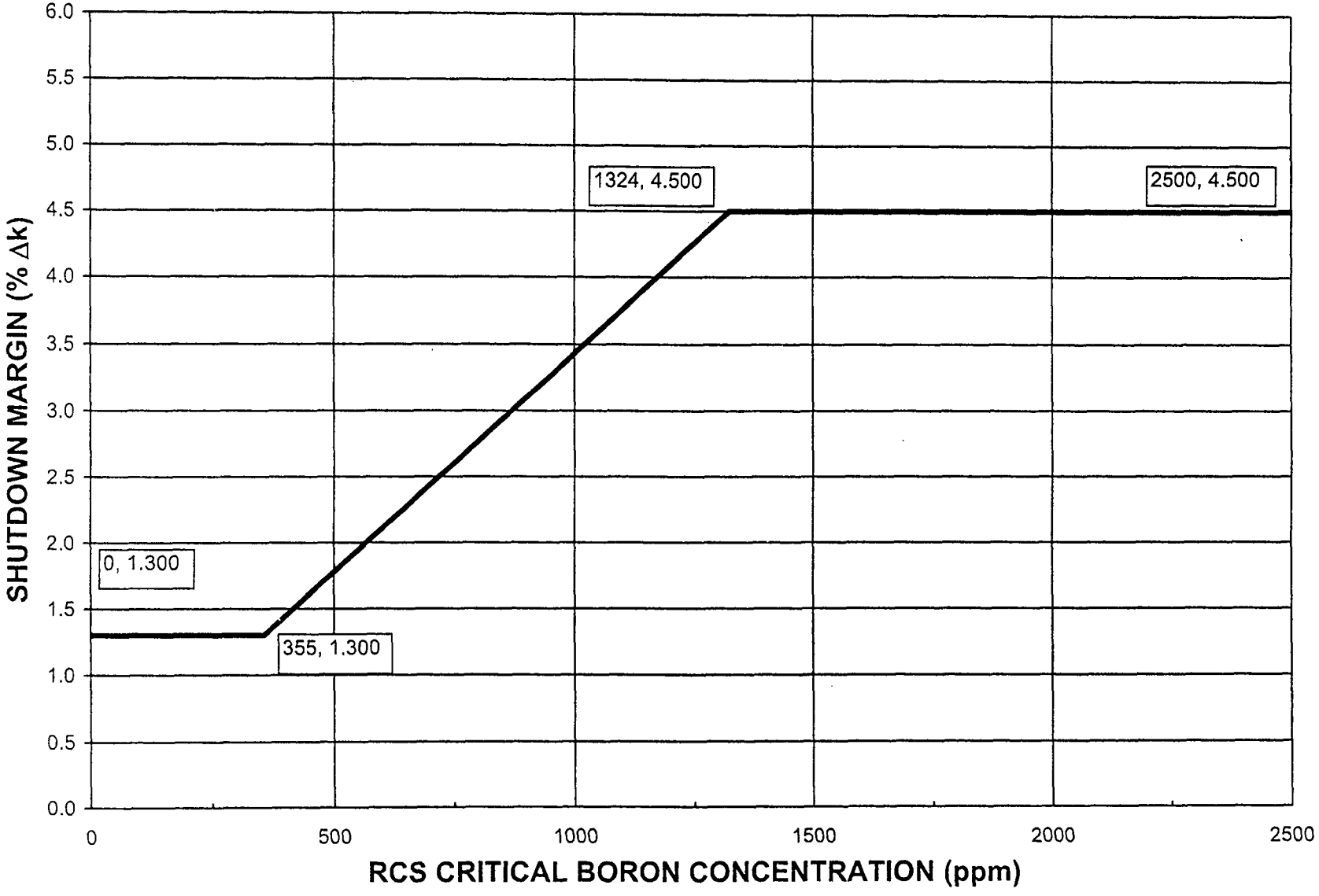

Figure 4 Required SHUTDOWN MARGIN for MODE 5 with RCS Loops Filled

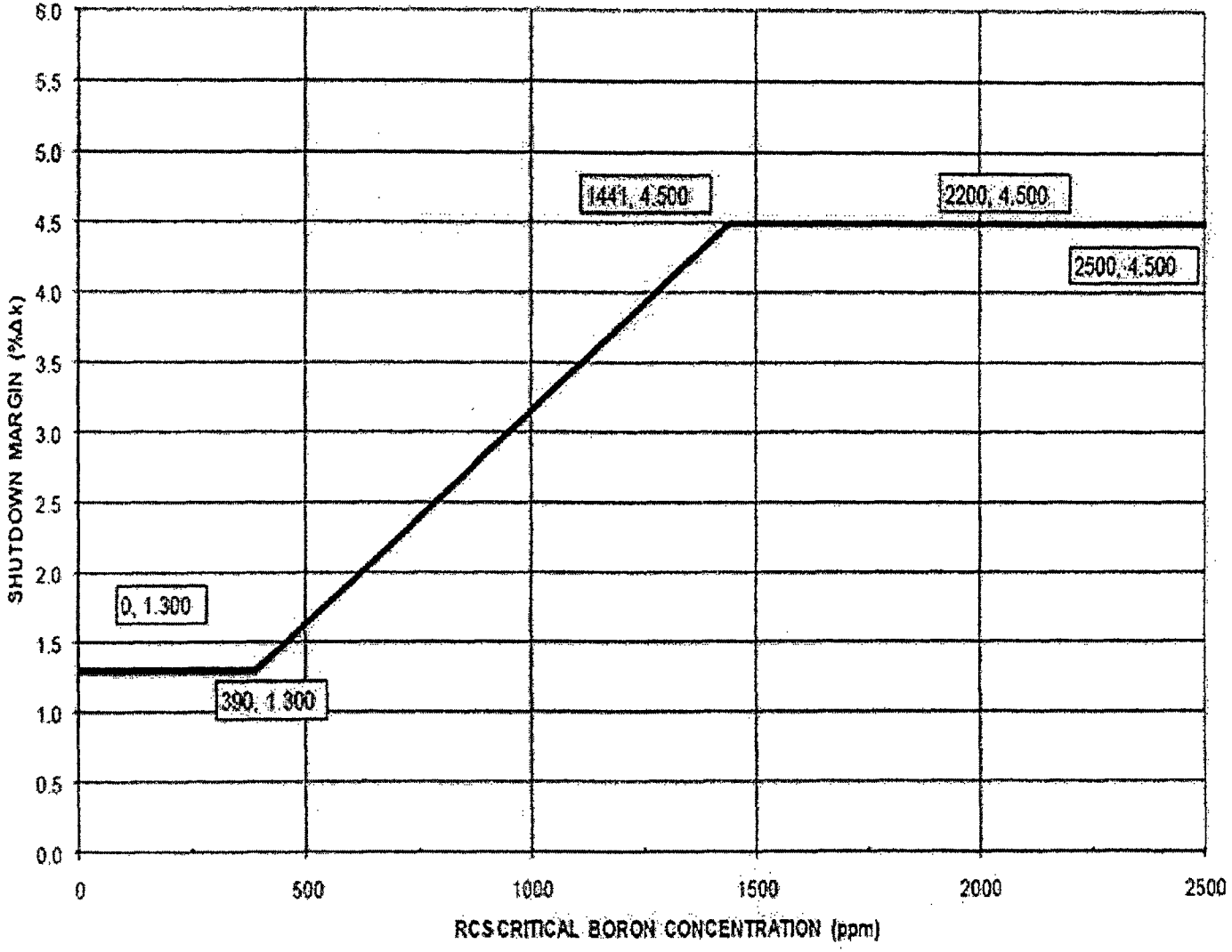

Figure 5 Required SHUTDOWN MARGIN for MODE 5 with RCS Loops Not Filled

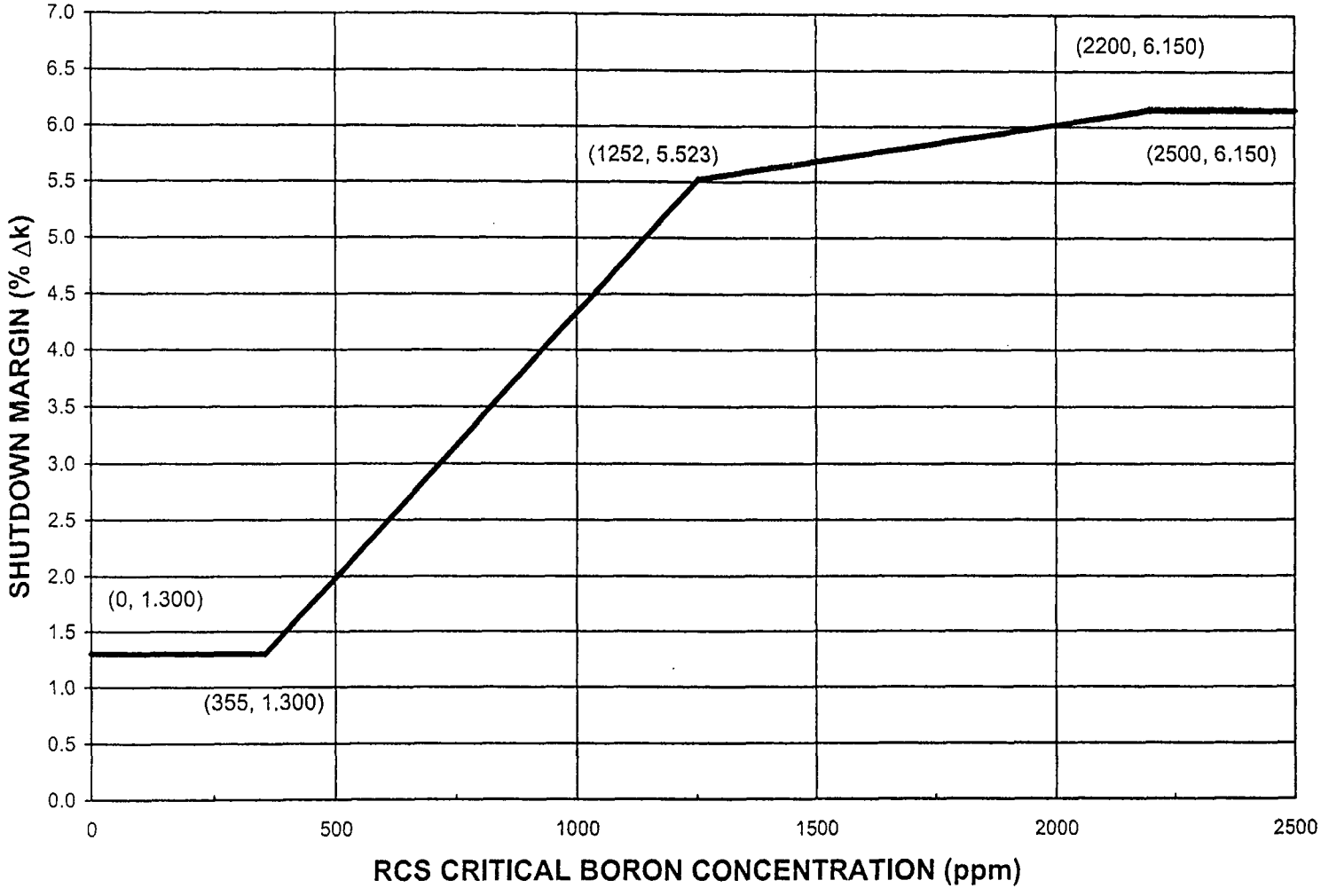

Figure 6 Control Rod Bank Insertion Limits versus THERMAL POWER

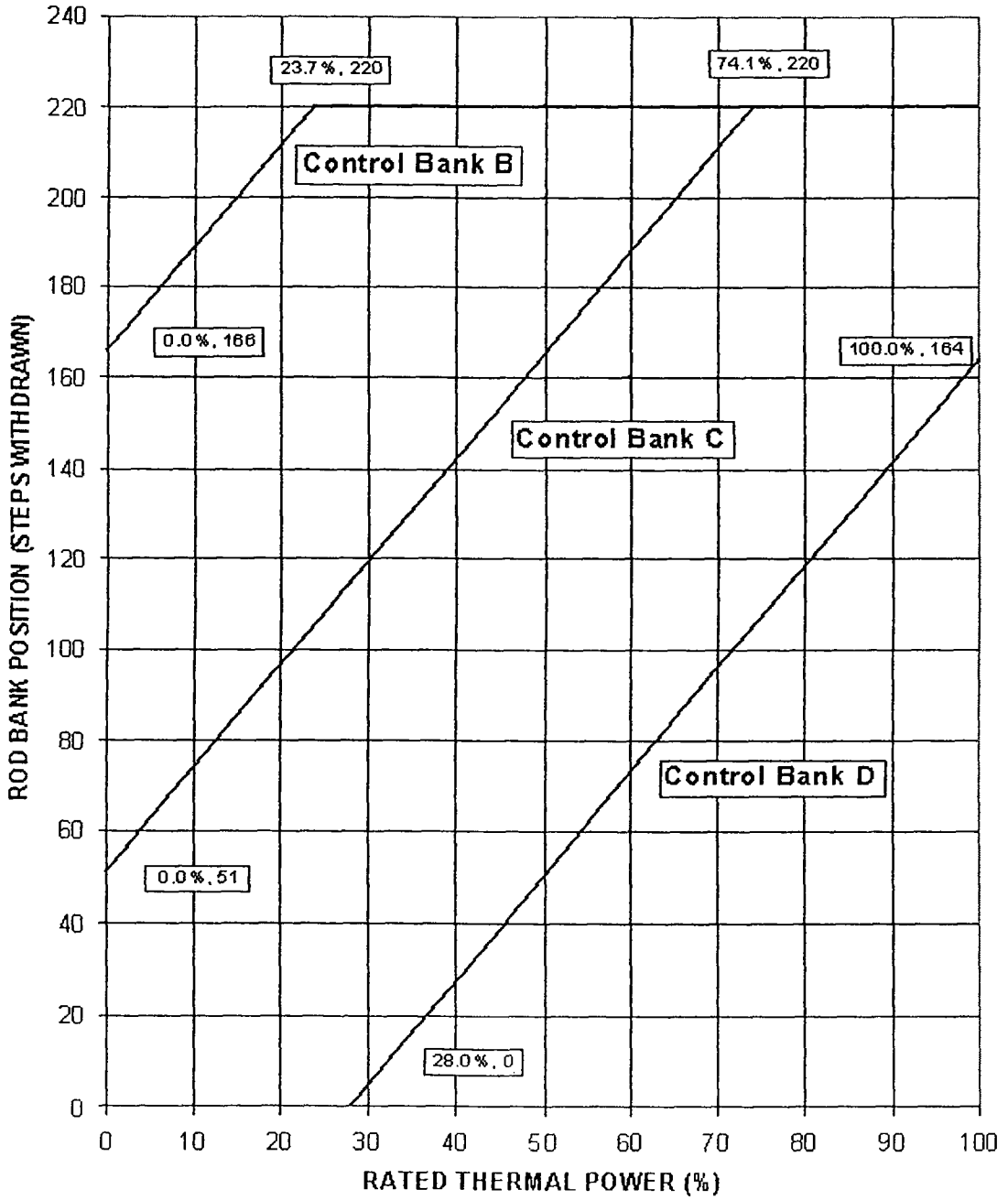

Figure 7 AXIAL FLUX DIFFERENCE Limits as a Function of RATED THERMAL POWER

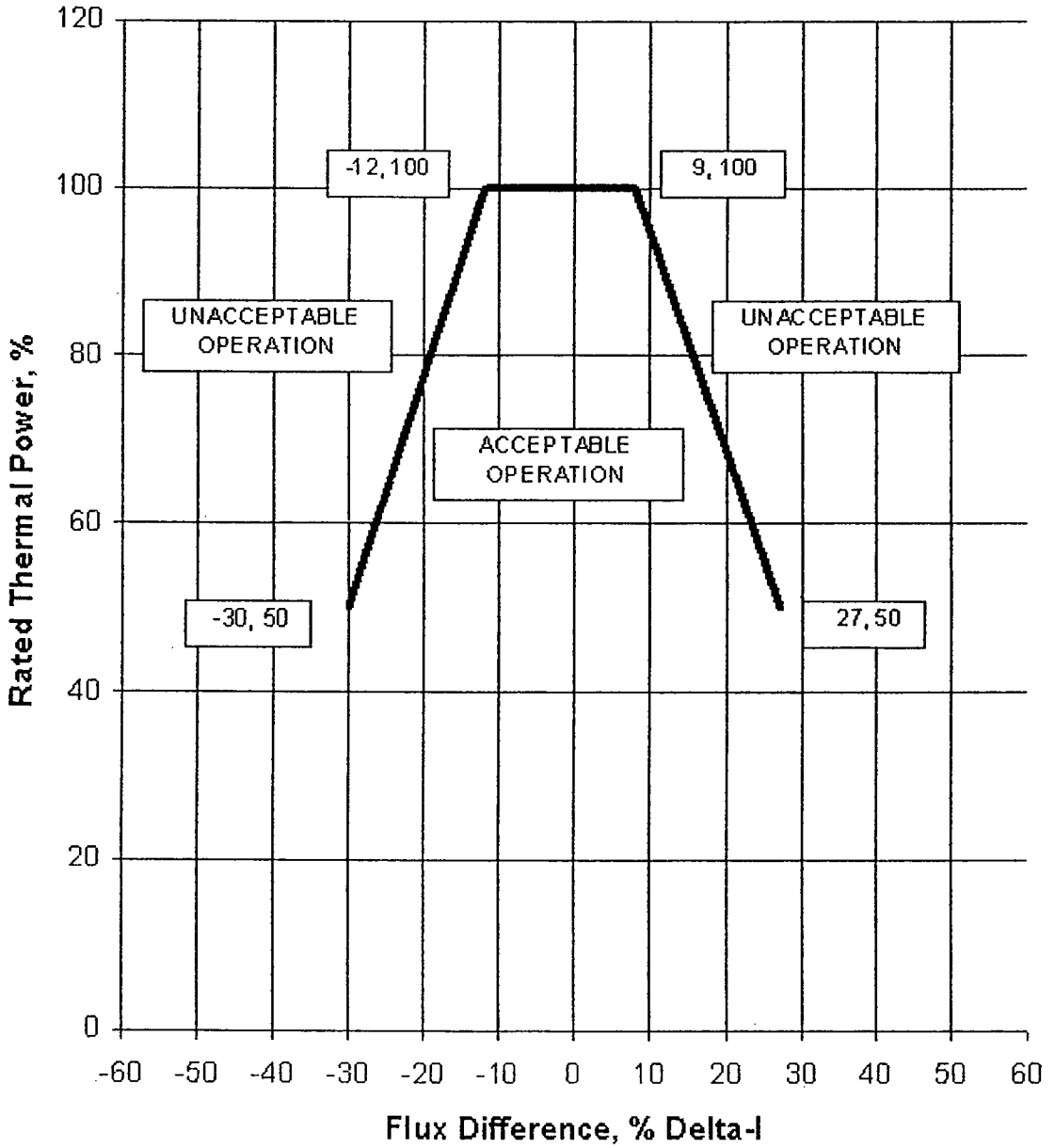

Figure 8 K(Z) - Normalized $F_Q(Z)$ as a Function of Core Height

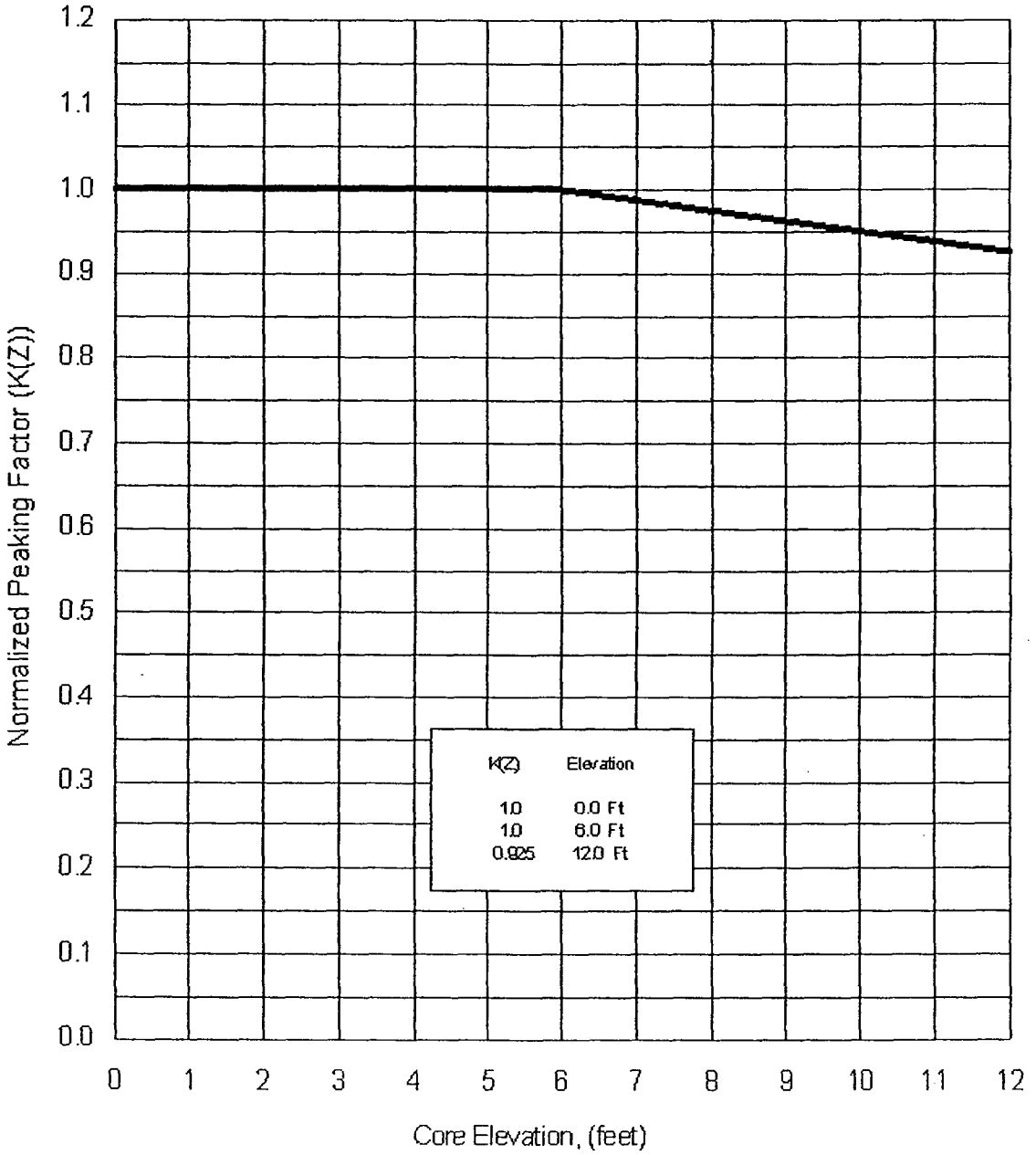

Table 1
RAOC W(Z) Function, Millstone Unit 3 - Cycle 15
-12/+9 AFD at 100% RTP

		Burnup Step (MWD/MTU)			
Mesh No.	**Height***	**150**	**2000**	**9000**	**19000**
1	12.0000	1.0000	1.0000	1.0000	1.0000
2	11.8333	1.0000	1.0000	1.0000	1.0000
3	11.6667	1.0000	1.0000	1.0000	1.0000
4	11.5000	1.0000	1.0000	1.0000	1.0000
5	11.3333	1.0000	1.0000	1.0000	1.0000
6	11.1667	1.0000	1.0000	1.0000	1.0000
7	11.0000	1.3369	1.3740	1.3501	1.3090
8	10.8333	1.3361	1.3665	1.3412	1.3003
9	10.6667	1.3353	1.3523	1.3274	1.2867
10	10.5000	1.3282	1.3410	1.3108	1.2729
11	10.3333	1.3165	1.3251	1.2936	1.2593
12	10.1667	1.3015	1.3043	1.2733	1.2435
13	10.0000	1.2827	1.2783	1.2518	1.2250
14	9.8333	1.2593	1.2485	1.2339	1.2128
15	9.6667	1.2359	1.2242	1.2224	1.2083
16	9.5000	1.2187	1.2095	1.2161	1.2077
17	9.3333	1.2035	1.1968	1.2090	1.2064
18	9.1667	1.1847	1.1834	1.2016	1.2037
19	9.0000	1.1642	1.1709	1.1972	1.2005
20	8.8333	1.1511	1.1639	1.1956	1.1959
21	8.6667	1.1459	1.1619	1.1954	1.1927
22	8.5000	1.1434	1.1608	1.1951	1.1923
23	8.3333	1.1434	1.1583	1.1940	1.1946
24	8.1667	1.1444	1.1566	1.1929	1.2012
25	8.0000	1.1448	1.1586	1.1932	1.2078
26	7.8333	1.1467	1.1604	1.1925	1.2132
27	7.6667	1.1493	1.1603	1.1901	1.2168
28	7.5000	1.1504	1.1591	1.1865	1.2189
29	7.3333	1.1502	1.1568	1.1817	1.2196
30	7.1667	1.1490	1.1535	1.1757	1.2190
31	7.0000	1.1467	1.1491	1.1686	1.2168
32	6.8333	1.1436	1.1437	1.1604	1.2131
33	6.6667	1.1394	1.1374	1.1512	1.2080
34	6.5000	1.1343	1.1309	1.1413	1.2015
35	6.3333	1.1304	1.1262	1.1303	1.1939
36	6.1667	1.1283	1.1223	1.1191	1.1851
37	6.0000	1.1259	1.1170	1.1103	1.1752
38	5.8333	1.1227	1.1150	1.1056	1.1646

* Distance from bottom of active core (feet)
Note: Surveillance exclusion zone is 8% top, 8% bottom.

Table 1 (Continued)
RAOC W(Z) Function, Millstone Unit 3 - Cycle 15
-12/+9 AFD at 100% RTP

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	9000	19000
39	5.6667	1.1198	1.1155	1.1046	1.1564
40	5.5000	1.1262	1.1223	1.1049	1.1559
41	5.3333	1.1349	1.1299	1.1072	1.1564
42	5.1667	1.1418	1.1362	1.1111	1.1592
43	5.0000	1.1483	1.1422	1.1142	1.1617
44	4.8333	1.1546	1.1477	1.1182	1.1632
45	4.6667	1.1603	1.1531	1.1234	1.1640
46	4.5000	1.1656	1.1598	1.1282	1.1640
47	4.3333	1.1705	1.1666	1.1324	1.1634
48	4.1667	1.1749	1.1727	1.1366	1.1622
49	4.0000	1.1790	1.1785	1.1407	1.1604
50	3.8333	1.1828	1.1838	1.1445	1.1582
51	3.6667	1.1862	1.1888	1.1482	1.1556
52	3.5000	1.1892	1.1943	1.1523	1.1530
53	3.3333	1.1923	1.2004	1.1567	1.1530
54	3.1667	1.1972	1.2072	1.1615	1.1545
55	3.0000	1.2077	1.2156	1.1678	1.1580
56	2.8333	1.2230	1.2297	1.1742	1.1711
57	2.6667	1.2408	1.2498	1.1820	1.1855
58	2.5000	1.2591	1.2696	1.1960	1.1998
59	2.3333	1.2774	1.2888	1.2123	1.2138
60	2.1667	1.2954	1.3081	1.2275	1.2277
61	2.0000	1.3130	1.3269	1.2423	1.2412
62	1.8333	1.3300	1.3449	1.2569	1.2542
63	1.6667	1.3462	1.3621	1.2706	1.2666
64	1.5000	1.3612	1.3788	1.2833	1.2782
65	1.3333	1.3747	1.3947	1.2948	1.2885
66	1.1667	1.3863	1.4088	1.3044	1.2970
67	1.0000	1.3950	1.4197	1.3114	1.3029
68	0.8333	1.0000	1.0000	1.0000	1.0000
69	0.6667	1.0000	1.0000	1.0000	1.0000
70	0.5000	1.0000	1.0000	1.0000	1.0000
71	0.3333	1.0000	1.0000	1.0000	1.0000
72	0.1667	1.0000	1.0000	1.0000	1.0000
73	0.0000	1.0000	1.0000	1.0000	1.0000

* Distance from bottom of active core (feet)

Note: Surveillance exclusion zone is 8% top, 8% bottom.

Table 2
Base Load W(Z) Function
Millstone Unit 3 - Cycle 15

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	9000	19000
1	12.0000	1.0000	1.0000	1.0000	1.0000
2	11.8333	1.0000	1.0000	1.0000	1.0000
3	11.6667	1.0000	1.0000	1.0000	1.0000
4	11.5000	1.0000	1.0000	1.0000	1.0000
5	11.3333	1.0000	1.0000	1.0000	1.0000
6	11.1667	1.0000	1.0000	1.0000	1.0000
7	11.0000	1.1806	1.1713	1.1613	1.1364
8	10.8333	1.1873	1.1700	1.1600	1.1363
9	10.6667	1.1980	1.1673	1.1569	1.1352
10	10.5000	1.2036	1.1613	1.1515	1.1331
11	10.3333	1.2064	1.1585	1.1452	1.1308
12	10.1667	1.2081	1.1556	1.1386	1.1280
13	10.0000	1.2080	1.1498	1.1316	1.1246
14	9.8333	1.2037	1.1413	1.1241	1.1218
15	9.6667	1.1965	1.1344	1.1175	1.1203
16	9.5000	1.1894	1.1291	1.1127	1.1187
17	9.3333	1.1808	1.1209	1.1074	1.1170
18	9.1667	1.1688	1.1124	1.1034	1.1168
19	9.0000	1.1568	1.1080	1.1036	1.1164
20	8.8333	1.1493	1.1074	1.1055	1.1135
21	8.6667	1.1452	1.1090	1.1089	1.1125
22	8.5000	1.1412	1.1114	1.1112	1.1198
23	8.3333	1.1403	1.1150	1.1130	1.1285
24	8.1667	1.1404	1.1189	1.1150	1.1366
25	8.0000	1.1405	1.1221	1.1172	1.1461
26	7.8333	1.1422	1.1261	1.1189	1.1551
27	7.6667	1.1457	1.1305	1.1198	1.1626
28	7.5000	1.1474	1.1334	1.1199	1.1688
29	7.3333	1.1477	1.1351	1.1193	1.1736
30	7.1667	1.1471	1.1359	1.1180	1.1774
31	7.0000	1.1454	1.1357	1.1161	1.1799
32	6.8333	1.1428	1.1345	1.1132	1.1811
33	6.6667	1.1391	1.1324	1.1101	1.1810
34	6.5000	1.1342	1.1298	1.1086	1.1797
35	6.3333	1.1305	1.1265	1.1084	1.1771
36	6.1667	1.1283	1.1223	1.1086	1.1735
37	6.0000	1.1256	1.1172	1.1080	1.1690
38	5.8333	1.1226	1.1128	1.1064	1.1630

* Distance from bottom of active core (feet)
Note: Surveillance exclusion zone is 8% top, 8% bottom

Table 2 (Continued)
Base Load W(Z) Function
Millstone Unit 3 - Cycle 15

		Burnup Step (MWD/MTU)			
Mesh No.	**Height***	**150**	**2000**	**9000**	**19000**
39	5.6667	1.1198	1.1094	1.1046	1.1565
40	5.5000	1.1173	1.1064	1.1039	1.1518
41	5.3333	1.1145	1.1043	1.1034	1.1480
42	5.1667	1.1110	1.1028	1.1023	1.1439
43	5.0000	1.1069	1.1010	1.1008	1.1389
44	4.8333	1.1036	1.0988	1.0990	1.1331
45	4.6667	1.1013	1.0964	1.0968	1.1266
46	4.5000	1.0986	1.0937	1.0944	1.1196
47	4.3333	1.0955	1.0908	1.0919	1.1138
48	4.1667	1.0923	1.0878	1.0892	1.1096
49	4.0000	1.0890	1.0858	1.0866	1.1048
50	3.8333	1.0856	1.0864	1.0841	1.0997
51	3.6667	1.0821	1.0872	1.0816	1.0943
52	3.5000	1.0789	1.0881	1.0789	1.0890
53	3.3333	1.0758	1.0883	1.0781	1.0851
54	3.1667	1.0733	1.0883	1.0787	1.0821
55	3.0000	1.0765	1.0934	1.0834	1.0826
56	2.8333	1.0852	1.1009	1.0925	1.0877
57	2.6667	1.0969	1.1081	1.1052	1.0964
58	2.5000	1.1087	1.1178	1.1180	1.1050
59	2.3333	1.1205	1.1320	1.1307	1.1134
60	2.1667	1.1325	1.1463	1.1437	1.1220
61	2.0000	1.1444	1.1605	1.1564	1.1305
62	1.8333	1.1560	1.1744	1.1689	1.1388
63	1.6667	1.1672	1.1878	1.1808	1.1469
64	1.5000	1.1777	1.2003	1.1919	1.1545
65	1.3333	1.1872	1.2117	1.2019	1.1611
66	1.1667	1.1952	1.2215	1.2103	1.1664
67	1.0000	1.2011	1.2289	1.2163	1.1698
68	0.8333	1.0000	1.0000	1.0000	1.0000
69	0.6667	1.0000	1.0000	1.0000	1.0000
70	0.5000	1.0000	1.0000	1.0000	1.0000
71	0.3333	1.0000	1.0000	1.0000	1.0000
72	0.1667	1.0000	1.0000	1.0000	1.0000
73	0.0000	1.0000	1.0000	1.0000	1.0000

* Distance from bottom fo active core (feet)
Note: Surveillance exclusion zone is 8% top, 8% bottom

Table 3
Part Power (74% RTP, 150 MWD/MTU) RAOC W(Z) Function
Millstone Unit 3 - Cycle 15

Mesh No	Height (ft)*	W(z)
1	12.0000	1.0000
2	11.8333	1.0000
3	11.6667	1.0000
4	11.5000	1.0000
5	11.3333	1.0000
6	11.1667	1.0000
7	11.0000	1.1952
8	10.8333	1.1907
9	10.6667	1.1913
10	10.5000	1.1837
11	10.3333	1.1734
12	10.1667	1.1618
13	10.0000	1.1487
14	9.8333	1.1335
15	9.6667	1.1190
16	9.5000	1.1093
17	9.3333	1.0993
18	9.1667	1.0862
19	9.0000	1.0717
20	8.8333	1.0641
21	8.6667	1.0633
22	8.5000	1.0649
23	8.3333	1.0687
24	8.1667	1.0742
25	8.0000	1.0791
26	7.8333	1.0858
27	7.6667	1.0926
28	7.5000	1.0977
29	7.3333	1.1014
30	7.1667	1.1045
31	7.0000	1.1066
32	6.8333	1.1080
33	6.6667	1.1083
34	6.5000	1.1078

* Distance from bottom of active core (feet)
Note: Surveillance exclusion zone is 8% top, 8% bottom.

Table 3 (Continued)
Part Power (74% RTP, 150 MWD/MTU) RAOC W(Z) Function
Millstone Unit 3 - Cycle 15

Mesh No	Height (ft)*	W(z)
35	6.3333	1.1085
36	6.1667	1.1110
37	6.0000	1.1133
38	5.8333	1.1148
39	5.6667	1.1164
40	5.5000	1.1269
41	5.3333	1.1394
42	5.1667	1.1501
43	5.0000	1.1612
44	4.8333	1.1722
45	4.6667	1.1830
46	4.5000	1.1930
47	4.3333	1.2026
48	4.1667	1.2117
49	4.0000	1.2200
50	3.8333	1.2277
51	3.6667	1.2349
52	3.5000	1.2426
53	3.3333	1.2510
54	3.1667	1.2612
55	3.0000	1.2777
56	2.8333	1.2992
57	2.6667	1.3237
58	2.5000	1.3480
59	2.3333	1.3712
60	2.1667	1.3934
61	2.0000	1.4159
62	1.8333	1.4403
63	1.6667	1.4649
64	1.5000	1.4881
65	1.3333	1.5074
66	1.1667	1.5232
67	1.0000	1.5365
68	0.8333	1.0000
69	0.6667	1.0000
70	0.5000	1.0000
71	0.3333	1.0000
72	0.1667	1.0000
73	0.0000	1.0000

* Distance from bottom of active core (feet)
Note: Surveillance exclusion zone is 8% top, 8% bottom.

Table 4
Burnup Penalty for Incore
Millstone Unit 3 - Cycle 15

Burnup	Penalty
All Burnups	1.02

3.0 Analytical Methods

The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents.

3.1 WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY," July 1985 (W Proprietary).

3.2 WCAP-10216-P-A-R1A, "RELAXATION OF CONSTANT AXIAL OFFSET CONTROL FQ SURVEILLANCE TECHNICAL SPECIFICATION," Rev. 1, February 1994 (W Proprietary).

3.3 WCAP-12945-P-A, Volume 1 (Revision 2) and Volumes 2 through 5 (Revision 1), "Code Qualification Document for Best Estimate LOCA Analysis," March 1998 (W Proprietary).

3.4 WCAP-16009-P-A, "Realistic Large-Break LOCA Evaluation Methodology Using the Automated Statistical Treatment of Uncertainty Method (ASTRUM)," January 2005 (W Proprietary).

3.5 WCAP-11946, "Safety Evaluation Supporting a More Negative EOL Moderator Temperature Coefficient Technical Specification for the Millstone Nuclear Power Station Unit 3," September 1988 (W Proprietary).

3.6 WCAP-10054-P-A, "WESTINGHOUSE SMALL BREAK ECCS EVALUATION MODEL USING THE NOTRUMP CODE," August 1985 (W Proprietary). |

3.7 WCAP-10079-P-A, "NOTRUMP – A NODAL TRANSIENT SMALL BREAK AND GENERAL NETWORK CODE," August 1985 (W Proprietary).

3.8 WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Report," April 1995 (W Proprietary).

3.9 WCAP-8301, "LOCTA-IV Program: Loss-of-Coolant Transient Analysis," June 1974 (W Proprietary).

3.10 WCAP-10054-P-A, Addendum 2, Revision 1, "Addendum to the Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code: Safety Injection into the Broken Loop and COSI Condensation Model," July 1997 (W Proprietary).

3.11 WCAP-8745-P-A, "DESIGN BASES FOR THE THERMAL OVERPOWER ΔT AND THERMAL OVERTEMPERATURE ΔT TRIP FUNCTIONS," September 1986 (W Proprietary).