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DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
CORE OPERATING LIMITS REPORT, CYCLE 17

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 17 Core Operating Limits Report (COLR).

The MPS3 COLR has been revised to incorporate the following:

1) Editorial changes to increment the Cycle number from 16 to 17.

2) The addition of a footnote to indicate that the SHUTDOWN MARGIN requirements in COLR Sections 2.4.and 2.5 are based on cycle specific analyses performed by Dominion.

3) The revision to a footnote to indicate that the requirements in COLR Section 2.14 are based on cycle specific analyses performed by Dominion.

4) Cycle 17-specific changes to the W(Z) values.

5) Cycle 17-specific changes to the burnup penalties for incore ($F_Q(Z)$) surveillance.

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,

D. B. Blakeney
Director, Nuclear Station Safety and Licensing - Millstone

A001
NRR

Enclosures: (1)

Commitments made in this letter: None.

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ENCLOSURE 1

CORE OPERATING LIMITS REPORT, CYCLE 17

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

TECHNICAL REQUIREMENTS MANUAL

APPENDIX 8.1

CORE OPERATING LIMITS REPORT

MILLSTONE UNIT 3

CYCLE 17

CORE OPERATING LIMITS REPORT

Table of Contents

List of Figures

List of Tables

Millstone Unit 3
Cycle 17
CORE OPERATING LIMITS REPORT

1.0 CORE OPERATING LIMITS REPORT

This CORE OPERATING LIMITS REPORT (COLR) for Millstone Unit 3 Cycle 17 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, $\leq 587.1°F$

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 $\geq 3.75\%$ 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 $\geq 2.14\%$ 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.[1]

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.[1]

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

[1]The SHUTDOWN MARGIN requirements in Figures 2, 3, 4 and 5 are based on cycle-specific boron dilution analyses performed by Dominion.

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)

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

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

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

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 17 burnup dependent RAOC W(Z) values are valid over the range of burnup from 0 to 21,600 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 17 burnup dependent BL W(Z) values are valid over the range of burnup from 0 to 21,600 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 17 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: $P = \frac{THERMAL\ POWER}{RATED\ THERMAL\ POWER}$

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 [2].

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

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.

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2 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.

3 Section 2.14 is based on cycle-specific boron dilution analyses performed by Dominion.

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.[4]

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[4] 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

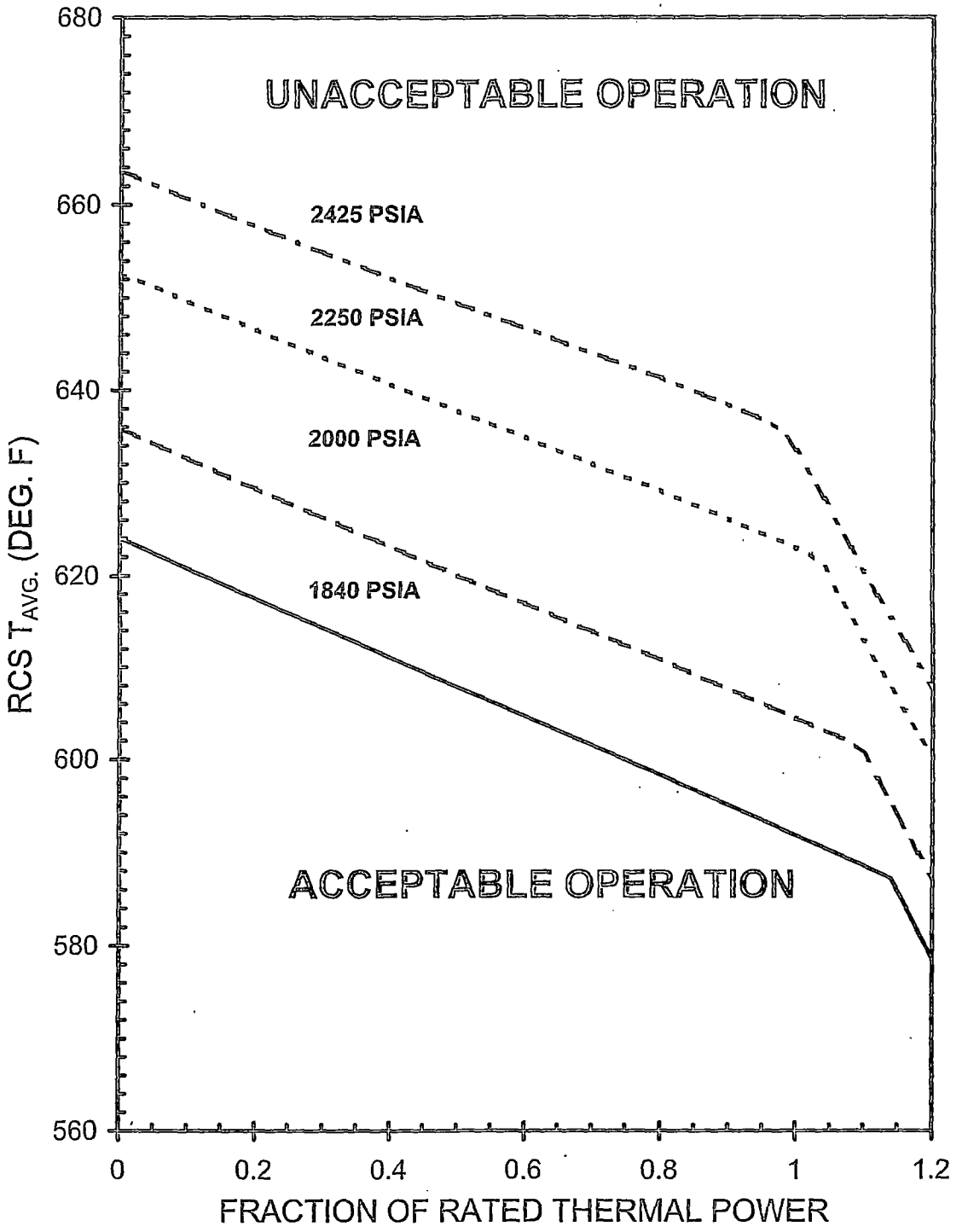

Figure 2 Required SHUTDOWN MARGIN for MODE 3

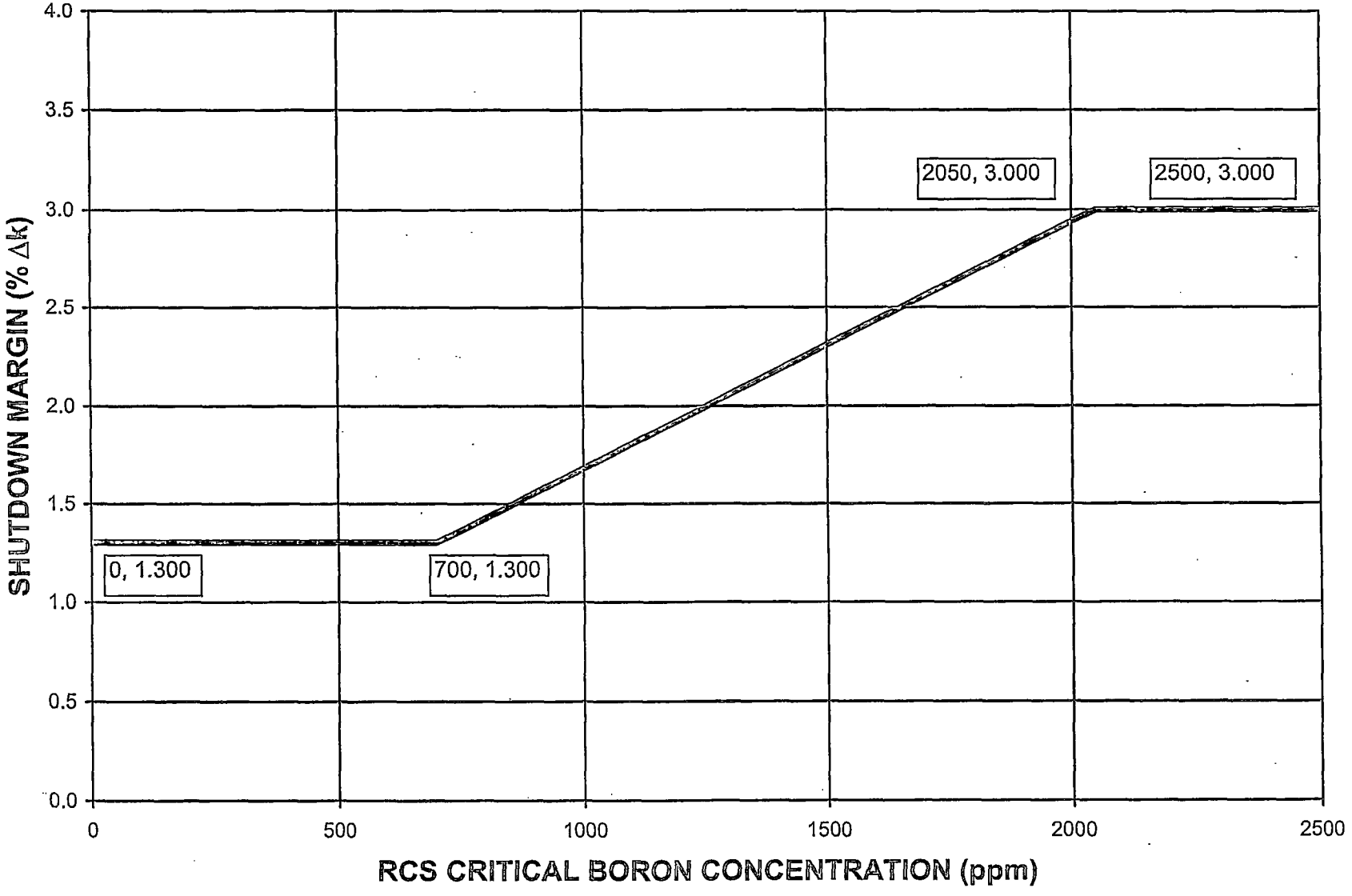

Figure 3 Required SHUTDOWN MARGIN for MODE 4

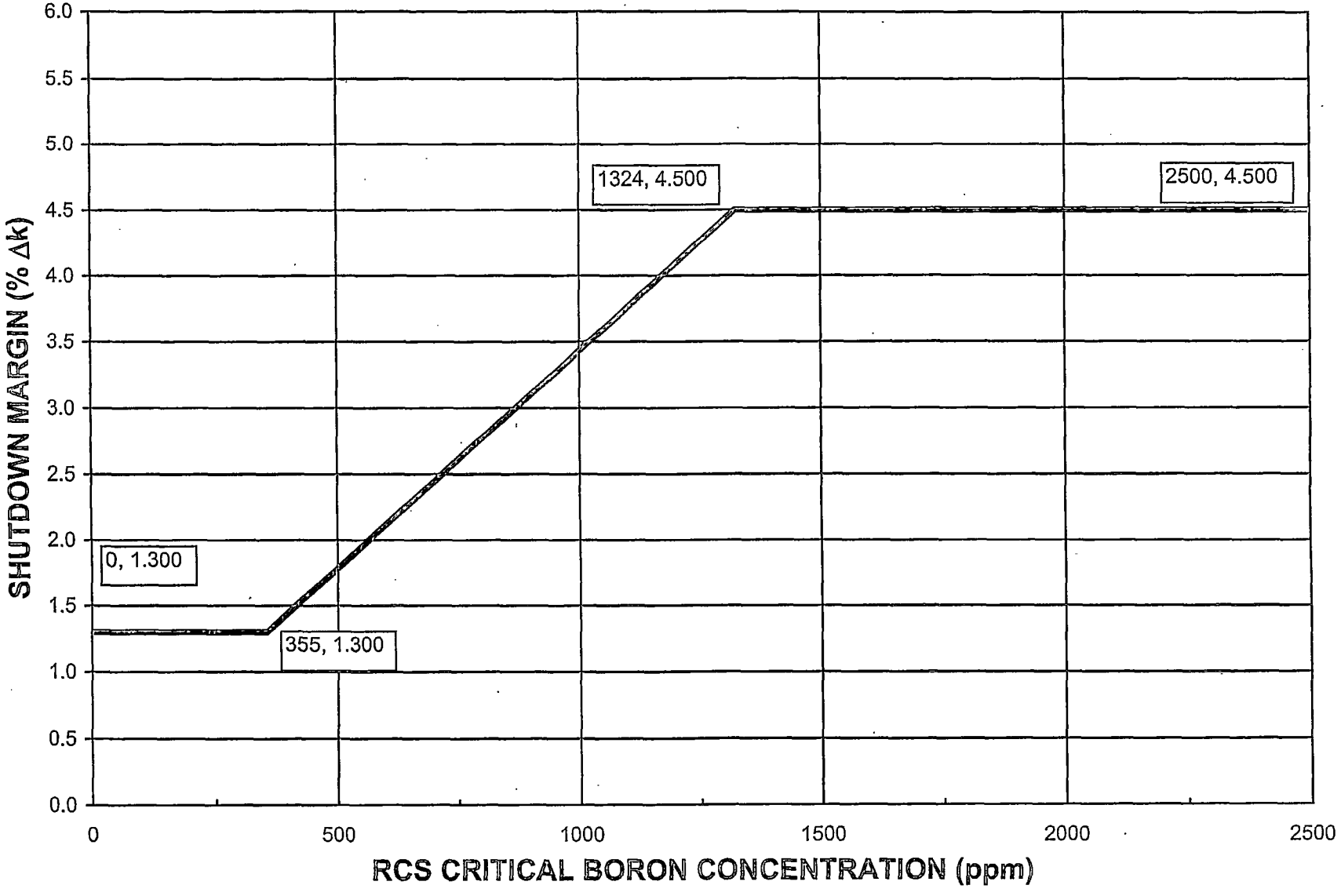

Figure 4 Required SHUTDOWN MARGIN for MODE 5 with RCS Loops Filled

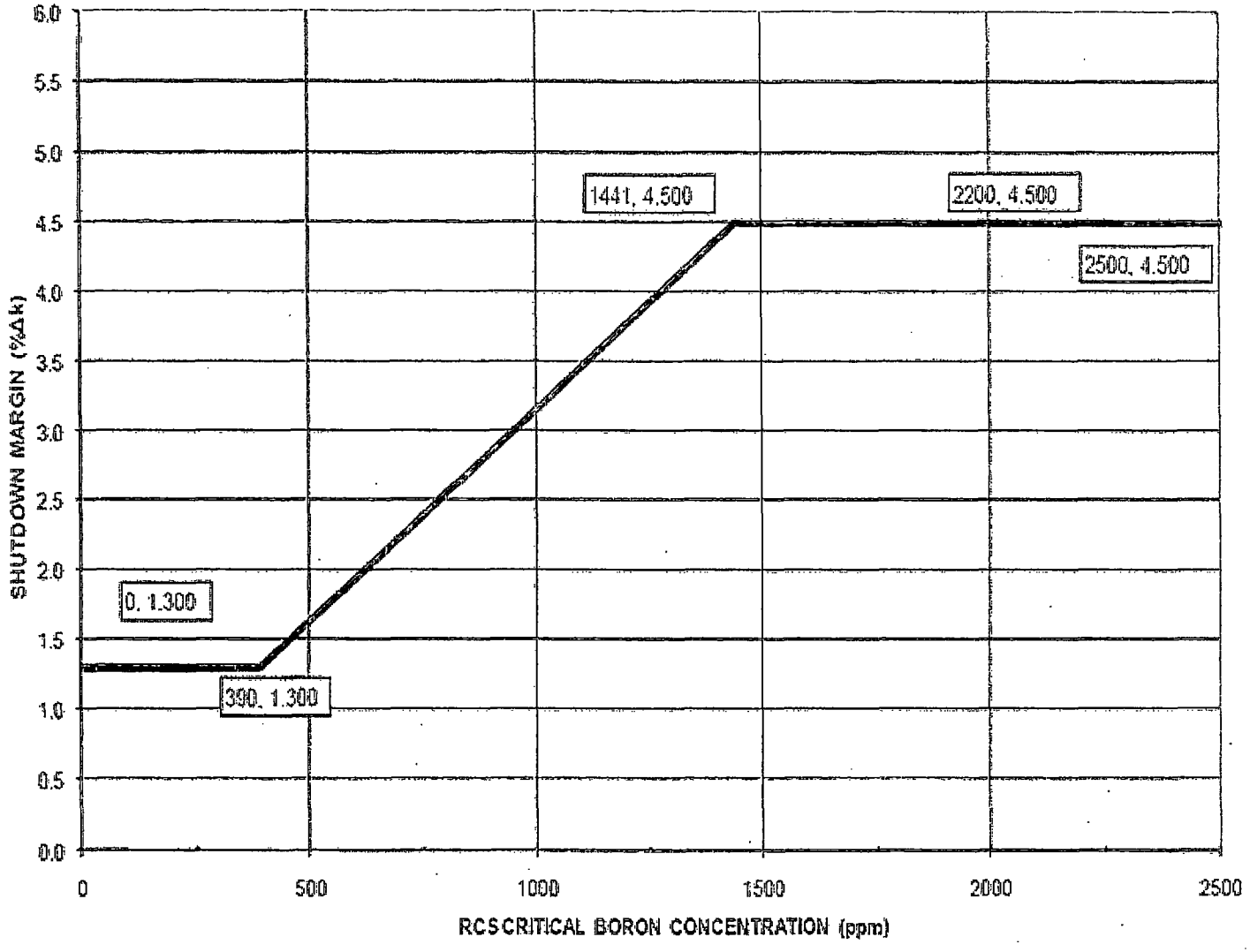

Figure 5 Required SHUTDOWN MARGIN for MODE 5 with RCS Loops Not Filled

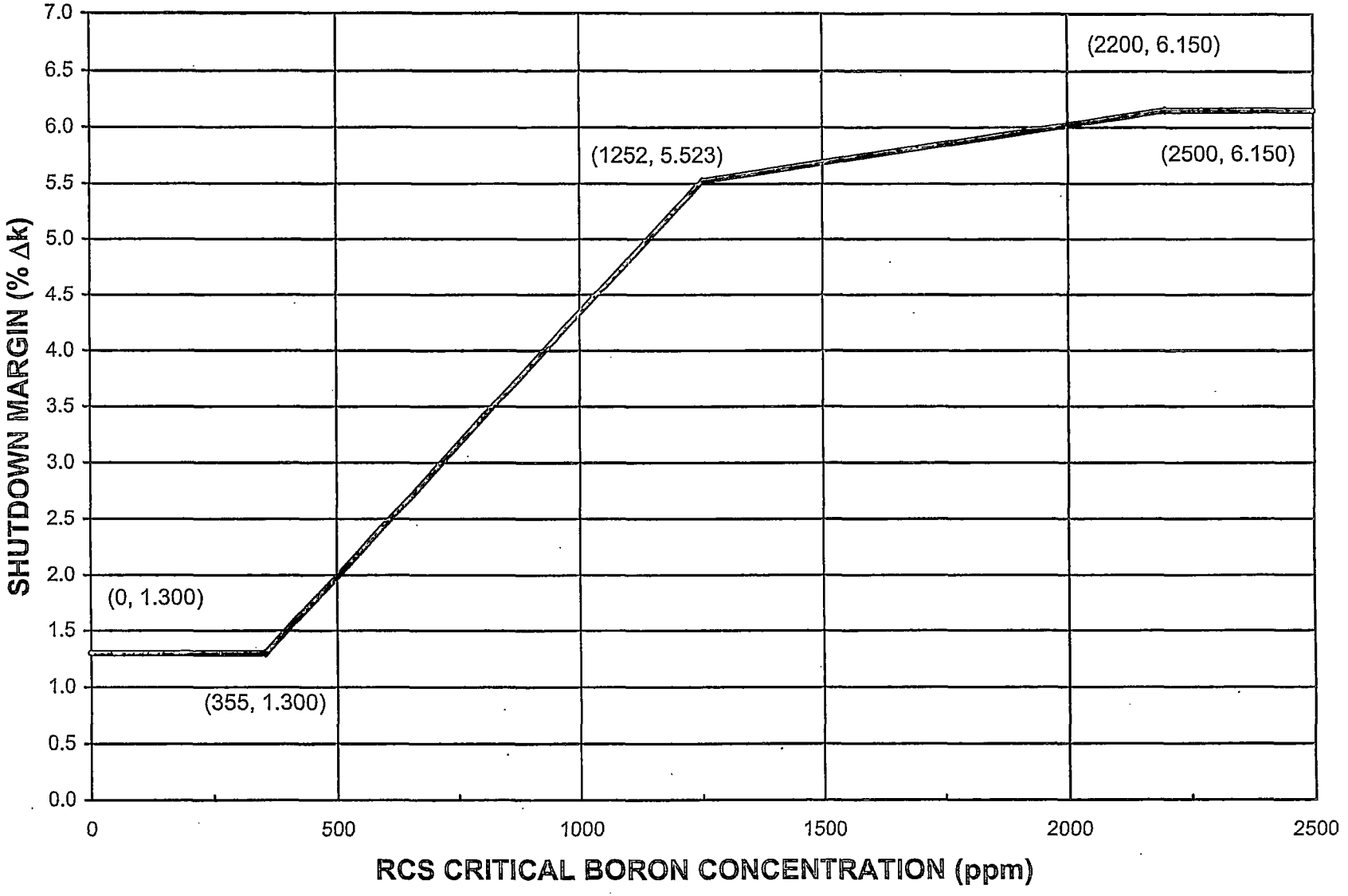

Figure 6 Control Rod Bank Insertion Limits versus THERMAL POWER

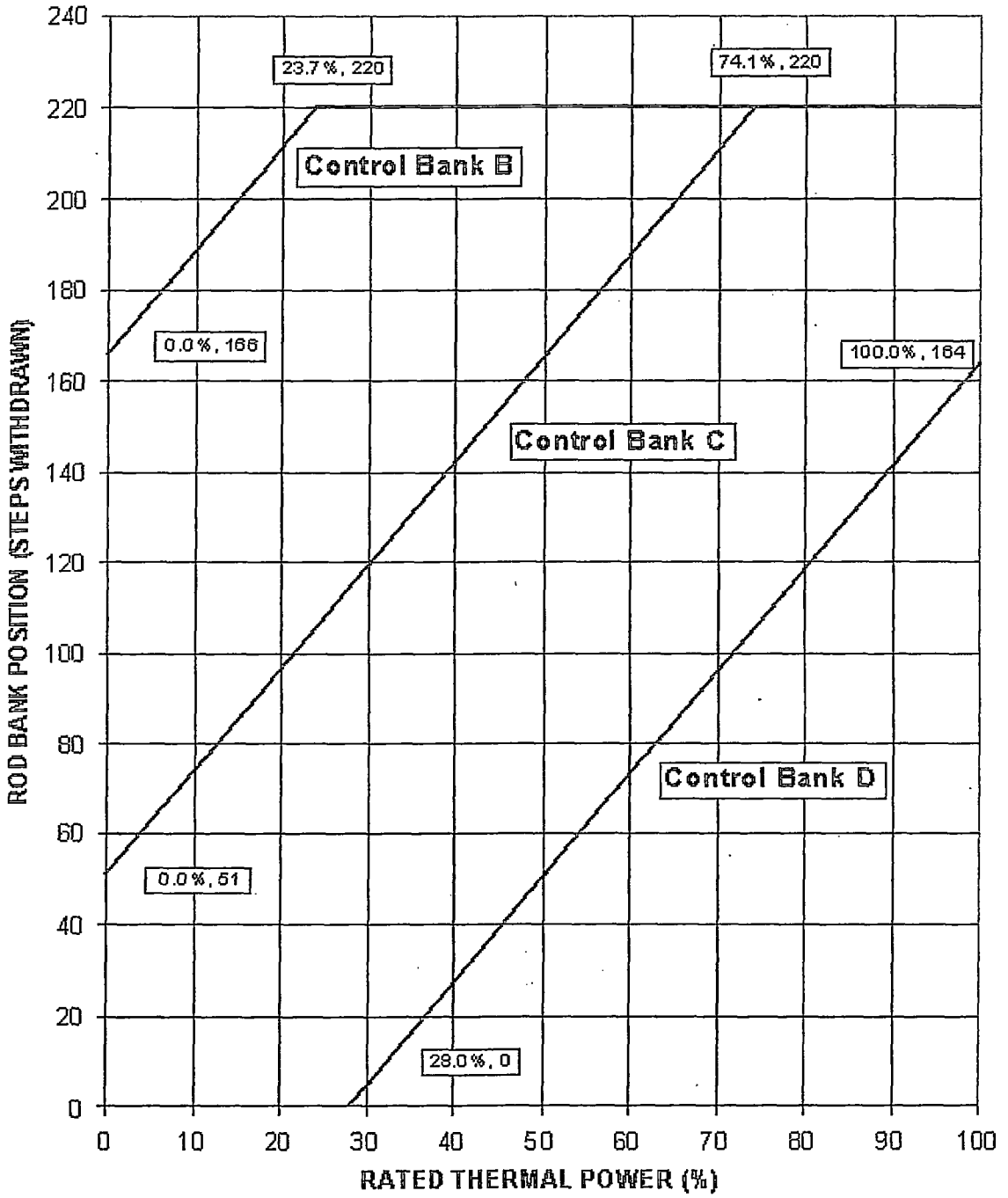

Figure 7 AXIAL FLUX DIFFERENCE Limits as a Function of RATED THERMAL POWER

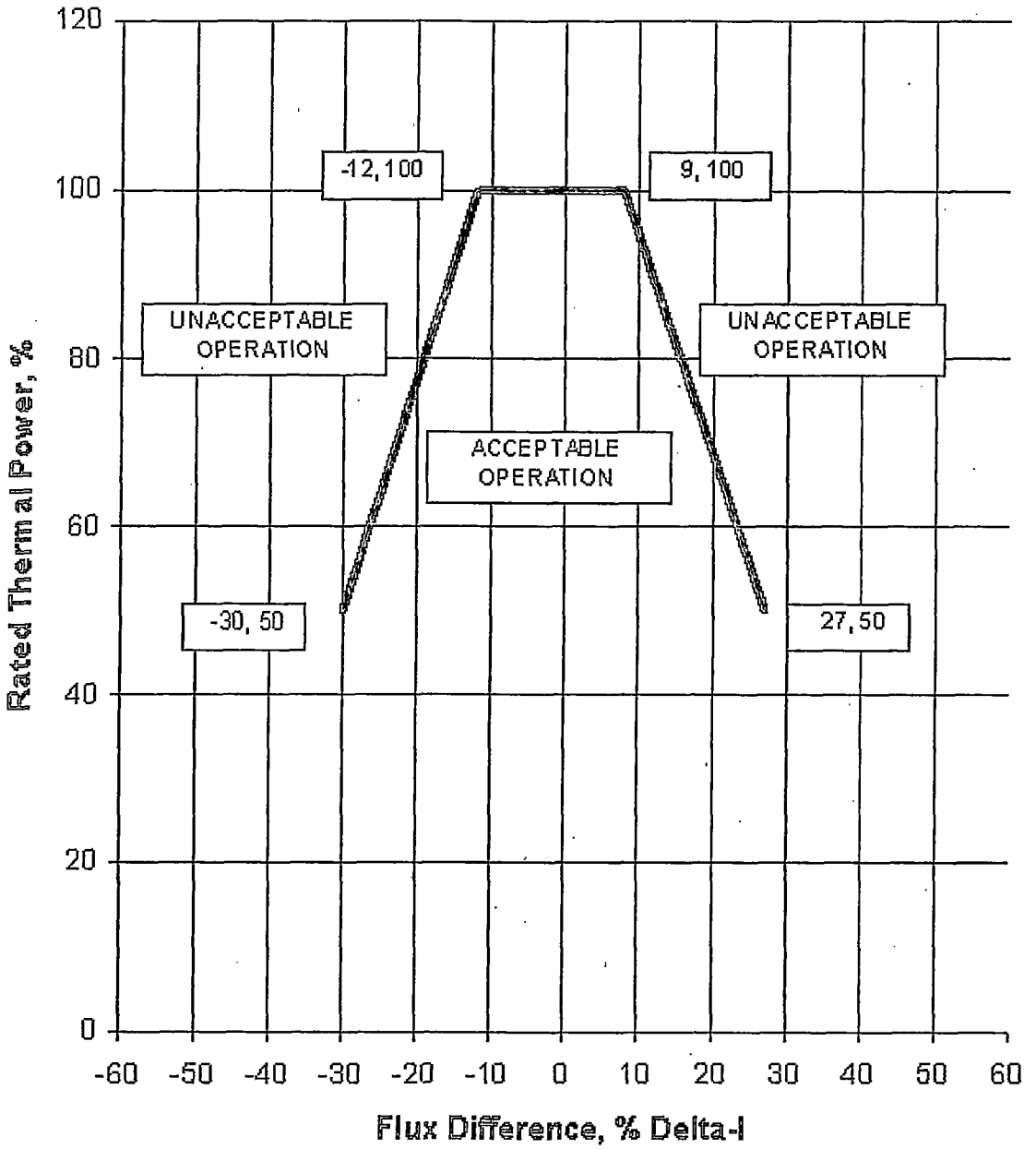

Figure 8 K(Z) - Normalized $F_Q(Z)$ as a Function of Core Height

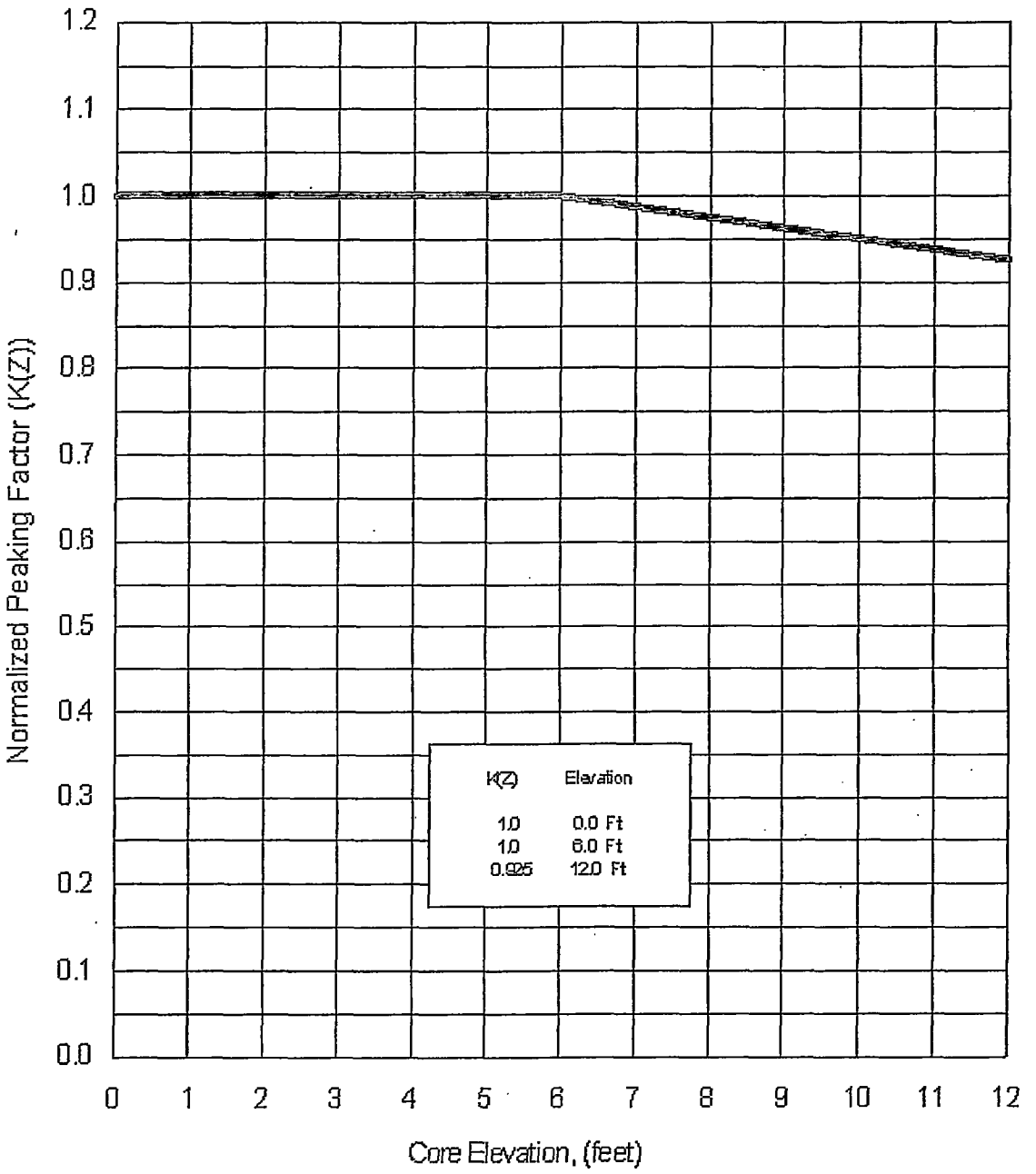

Table 1
RAOC W(Z) Function, Millstone Unit 3 - Cycle 17
-12/+9 AFD at 100% RTP

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	10000	18000
1	12.0778	1.0000	1.0000	1.0000	1.0000
2	11.9101	1.0000	1.0000	1.0000	1.0000
3	11.7423	1.0000	1.0000	1.0000	1.0000
4	11.5746	1.0000	1.0000	1.0000	1.0000
5	11.4068	1.0000	1.0000	1.0000	1.0000
6	11.2391	1.0000	1.0000	1.0000	1.0000
7	11.0714	1.2946	1.3691	1.4103	1.3092
8	10.9036	1.2917	1.3622	1.4065	1.3060
9	10.7359	1.2839	1.3502	1.4071	1.2996
10	10.5681	1.2680	1.3322	1.3955	1.2900
11	10.4004	1.2473	1.3107	1.3747	1.2780
12	10.2326	1.2266	1.2883	1.3542	1.2646
13	10.0649	1.2093	1.2651	1.3338	1.2501
14	9.8971	1.1928	1.2392	1.3107	1.2399
15	9.7294	1.1746	1.2122	1.2874	1.2345
16	9.5616	1.1577	1.1936	1.2664	1.2318
17	9.3939	1.1446	1.1806	1.2499	1.2290
18	9.2261	1.1354	1.1677	1.2378	1.2225
19	9.0584	1.1270	1.1563	1.2276	1.2133
20	8.8906	1.1239	1.1503	1.2199	1.2024
21	8.7229	1.1260	1.1491	1.2159	1.2033
22	8.5551	1.1301	1.1492	1.2135	1.2082
23	8.3874	1.1331	1.1483	1.2106	1.2137
24	8.2196	1.1352	1.1465	1.2068	1.2181
25	8.0519	1.1369	1.1481	1.2062	1.2213
26	7.8841	1.1378	1.1510	1.2060	1.2234
27	7.7164	1.1378	1.1518	1.2038	1.2242
28	7.5487	1.1368	1.1515	1.2002	1.2235
29	7.3809	1.1352	1.1503	1.1953	1.2215
30	7.2131	1.1327	1.1479	1.1891	1.2180
31	7.0454	1.1288	1.1447	1.1817	1.2134
32	6.8777	1.1263	1.1403	1.1732	1.2072
33	6.7099	1.1260	1.1350	1.1635	1.1999
34	6.5422	1.1257	1.1310	1.1529	1.1928
35	6.3744	1.1249	1.1282	1.1416	1.1859
36	6.2067	1.1235	1.1255	1.1296	1.1782
37	6.0389	1.1207	1.1214	1.1169	1.1693
38	5.8712	1.1195	1.1192	1.1072	1.1597

* 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 17
-12/+9 AFD at 100% RTP

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	10000	18000
39	5.7034	1.1208	1.1214	1.1036	1.1517
40	5.5357	1.1277	1.1279	1.1045	1.1499
41	5.3679	1.1365	1.1350	1.1066	1.1495
42	5.2002	1.1440	1.1412	1.1077	1.1493
43	5.0324	1.1510	1.1469	1.1080	1.1482
44	4.8647	1.1576	1.1521	1.1089	1.1465
45	4.6969	1.1637	1.1570	1.1111	1.1439
46	4.5292	1.1694	1.1633	1.1135	1.1409
47	4.3614	1.1746	1.1701	1.1156	1.1369
48	4.1937	1.1794	1.1762	1.1175	1.1325
49	4.0259	1.1838	1.1818	1.1192	1.1301
50	3.8582	1.1877	1.1871	1.1207	1.1301
51	3.6905	1.1914	1.1919	1.1232	1.1316
52	3.5227	1.1946	1.1967	1.1278	1.1329
53	3.3550	1.1977	1.2002	1.1321	1.1336
54	3.1872	1.2027	1.2044	1.1361	1.1343
55	3.0195	1.2145	1.2142	1.1399	1.1362
56	2.8517	1.2301	1.2320	1.1451	1.1442
57	2.6840	1.2450	1.2536	1.1532	1.1550
58	2.5162	1.2601	1.2755	1.1634	1.1659
59	2.3485	1.2749	1.2971	1.1742	1.1765
60	2.1807	1.2894	1.3186	1.1847	1.1872
61	2.0130	1.3056	1.3397	1.1950	1.1977
62	1.8452	1.3229	1.3602	1.2051	1.2079
63	1.6775	1.3397	1.3797	1.2146	1.2176
64	1.5097	1.3554	1.3978	1.2233	1.2267
65	1.3420	1.3698	1.4145	1.2312	1.2350
66	1.1742	1.3822	1.4291	1.2389	1.2421
67	1.0065	1.3917	1.4404	1.2445	1.2468
68	0.8387	1.0000	1.0000	1.0000	1.0000
69	0.6710	1.0000	1.0000	1.0000	1.0000
70	0.5032	1.0000	1.0000	1.0000	1.0000
71	0.3355	1.0000	1.0000	1.0000	1.0000
72	0.1678	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 17

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	10000	18000
1	12.0778	1.0000	1.0000	1.0000	1.0000
2	11.9101	1.0000	1.0000	1.0000	1.0000
3	11.7423	1.0000	1.0000	1.0000	1.0000
4	11.5746	1.0000	1.0000	1.0000	1.0000
5	11.4068	1.0000	1.0000	1.0000	1.0000
6	11.2391	1.0000	1.0000	1.0000	1.0000
7	11.0714	1.1567	1.1739	1.2102	1.1645
8	10.9036	1.1552	1.1768	1.2169	1.1615
9	10.7359	1.1519	1.1802	1.2246	1.1586
10	10.5681	1.1476	1.1800	1.2215	1.1544
11	10.4004	1.1425	1.1741	1.2107	1.1515
12	10.2326	1.1368	1.1691	1.2012	1.1517
13	10.0649	1.1325	1.1632	1.1953	1.1524
14	9.8971	1.1268	1.1554	1.1881	1.1523
15	9.7294	1.1201	1.1466	1.1782	1.1506
16	9.5616	1.1144	1.1376	1.1684	1.1485
17	9.3939	1.1090	1.1287	1.1570	1.1452
18	9.2261	1.1034	1.1218	1.1423	1.1392
19	9.0584	1.0981	1.1145	1.1286	1.1312
20	8.8906	1.0968	1.1115	1.1163	1.1215
21	8.7229	1.1011	1.1136	1.1128	1.1124
22	8.5551	1.1062	1.1177	1.1167	1.1078
23	8.3874	1.1109	1.1216	1.1207	1.1103
24	8.2196	1.1156	1.1252	1.1244	1.1175
25	8.0519	1.1198	1.1281	1.1273	1.1270
26	7.8841	1.1232	1.1301	1.1295	1.1374
27	7.7164	1.1257	1.1313	1.1309	1.1459
28	7.5487	1.1273	1.1316	1.1314	1.1530
29	7.3809	1.1281	1.1311	1.1311	1.1590
30	7.2131	1.1281	1.1298	1.1299	1.1637
31	7.0454	1.1270	1.1274	1.1281	1.1671
32	6.8777	1.1260	1.1253	1.1253	1.1692
33	6.7099	1.1259	1.1244	1.1218	1.1700
34	6.5422	1.1257	1.1231	1.1195	1.1696
35	6.3744	1.1249	1.1211	1.1177	1.1681
36	6.2067	1.1234	1.1183	1.1152	1.1655
37	6.0389	1.1210	1.1147	1.1120	1.1621
38	5.8712	1.1184	1.1111	1.1078	1.1573

* 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 17

		Burnup Step (MWD/MTU)			
Mesh No.	Height*	150	2000	10000	18000
39	5.7034	1.1163	1.1081	1.1031	1.1516
40	5.5357	1.1140	1.1063	1.1012	1.1477
41	5.3679	1.1120	1.1049	1.1007	1.1452
42	5.2002	1.1109	1.1030	1.0995	1.1424
43	5.0324	1.1094	1.1007	1.0978	1.1387
44	4.8647	1.1073	1.0980	1.0959	1.1343
45	4.6969	1.1050	1.0951	1.0936	1.1293
46	4.5292	1.1023	1.0917	1.0911	1.1236
47	4.3614	1.0994	1.0890	1.0884	1.1174
48	4.1937	1.0962	1.0891	1.0856	1.1108
49	4.0259	1.0928	1.0896	1.0829	1.1038
50	3.8582	1.0893	1.0904	1.0798	1.0967
51	3.6905	1.0856	1.0914	1.0775	1.0894
52	3.5227	1.0825	1.0920	1.0787	1.0822
53	3.3550	1.0805	1.0925	1.0799	1.0806
54	3.1872	1.0802	1.0928	1.0811	1.0792
55	3.0195	1.0850	1.0930	1.0816	1.0806
56	2.8517	1.0951	1.1031	1.0884	1.0861
57	2.6840	1.1062	1.1178	1.0992	1.0953
58	2.5162	1.1176	1.1331	1.1104	1.1048
59	2.3485	1.1292	1.1481	1.1215	1.1141
60	2.1807	1.1409	1.1634	1.1328	1.1236
61	2.0130	1.1524	1.1785	1.1439	1.1331
62	1.8452	1.1637	1.1932	1.1548	1.1424
63	1.6775	1.1746	1.2074	1.1653	1.1515
64	1.5097	1.1848	1.2206	1.1750	1.1599
65	1.3420	1.1940	1.2328	1.1838	1.1677
66	1.1742	1.2019	1.2433	1.1913	1.1744
67	1.0065	1.2077	1.2513	1.1964	1.1787
68	0.8387	1.0000	1.0000	1.0000	1.0000
69	0.6710	1.0000	1.0000	1.0000	1.0000
70	0.5032	1.0000	1.0000	1.0000	1.0000
71	0.3355	1.0000	1.0000	1.0000	1.0000
72	0.1678	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 3
Part Power (74% RTP, 150 MWD/MTU) RAOC W(Z) Function
Millstone Unit 3 - Cycle 17

Mesh No	Height (ft)*	W(z)
1	12.0778	1.0000
2	11.9101	1.0000
3	11.7423	1.0000
4	11.5746	1.0000
5	11.4068	1.0000
6	11.2391	1.0000
7	11.0714	1.1491
8	10.9036	1.1446
9	10.7359	1.1366
10	10.5681	1.1228
11	10.4004	1.1065
12	10.2326	1.0907
13	10.0649	1.0784
14	9.8971	1.0673
15	9.7294	1.0557
16	9.5616	1.0456
17	9.3939	1.0416
18	9.2261	1.0385
19	9.0584	1.0353
20	8.8906	1.0373
21	8.7229	1.0442
22	8.5551	1.0527
23	8.3874	1.0602
24	8.2196	1.0671
25	8.0519	1.0735
26	7.8841	1.0789
27	7.7164	1.0836
28	7.5487	1.0874
29	7.3809	1.0906
30	7.2132	1.0928
31	7.0454	1.0935
32	6.8777	1.0954
33	6.7099	1.0993
34	6.5422	1.1033
35	6.3744	1.1067
36	6.2067	1.1097
37	6.0389	1.1116
38	5.8712	1.1150
39	5.7034	1.1210

* 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 17

Mesh No	Height (ft)*	W(z)
40	5.5357	1.1327
41	5.3679	1.1461
42	5.2002	1.1584
43	5.0324	1.1702
44	4.8647	1.1818
45	4.6969	1.1927
46	4.5292	1.2029
47	4.3614	1.2126
48	4.1937	1.2218
49	4.0259	1.2307
50	3.8582	1.2394
51	3.6905	1.2475
52	3.5227	1.2551
53	3.3550	1.2626
54	3.1872	1.2719
55	3.0195	1.2883
56	2.8517	1.3087
57	2.6840	1.3283
58	2.5162	1.3484
59	2.3485	1.3685
60	2.1807	1.3882
61	2.0130	1.4094
62	1.8452	1.4316
63	1.6775	1.4536
64	1.5097	1.4744
65	1.3420	1.4940
66	1.1742	1.5118
67	1.0065	1.5262
68	0.8387	1.0000
69	0.6710	1.0000
70	0.5032	1.0000
71	0.3355	1.0000
72	0.1678	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 17

Burnup (MWD/MTU)	Penalty
1597	1.021
1919	1.025
2080	1.027
3045	1.037
3206	1.036
3366	1.036
4010	1.033
4171	1.030
4975	1.021

*Note: A Penalty of 1.02 shall be used outside of the burnup range shown in Table 4.

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 (Westinghouse Proprietary). (Methodology for Specifications 2.1.1.1—Departure from Nucleate Boiling Ratio, 2.1.1.2—Peak Fuel Centerline Temperature, 3.1.1.3—Moderator Temperature Coefficient, 3.1.3.5—Shutdown Bank Insertion Limit, 3.1.3.6—Control Bank Insertion Limits, 3.2.1—AXIAL FLUX DIFFERENCE, 3.2.2—Heat Flux Hot Channel Factor, 3.2.3—Nuclear Enthalpy Rise Hot Channel Factor, 3.1.1.1.1, 3.1.1.1.2, 3.1.1.2—SHUTDOWN MARGIN, 3.9.1.1—Boron Concentration.)

3.2 WCAP-10216-P-A-R1A, "Relaxation of Constant Axial Offset Control FQ Surveillance Technical Specification," Rev. 1, February 1994 (Westinghouse Proprietary). (Methodology for Specifications 3.2.1—AXIAL FLUX DIFFERENCE [Relaxed Axial Offset Control] and 3.2.2—Heat Flux Hot Channel Factor [W(Z) surveillance requirements for FQ Methodology].)

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 (Westinghouse Proprietary. (Methodology for Specifications 3.2.2—Heat Flux Hot Channel Factor.)

3.4 WCAP-16009-P-A, "Realistic Large-Break LOCA Evaluation Methodology Using the Automated Statistical Treatment of Uncertainty Method (ASTRUM)," January 2005 (Westinghouse Proprietary). (Methodology for Specifications 3.2.2—Heat Flux Hot Channel Factor.)

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 (Westinghouse Proprietary).

3.6 WCAP-10054-P-A, "Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code," August 1985 (Westinghouse Proprietary). (Methodology for Specification 3.2.2—Heat Flux Hot Channel Factor.)

3.7 WCAP-10079-P-A, "NOTRUMP - A Nodal Transient Small Break and General Network Code," August 1985 (Westinghouse Proprietary). (Methodology for Specification 3.2.2-Heat Flux Hot Channel Factor.)

3.8 WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Report," April 1995 (Westinghouse Proprietary). (Methodology for Specification 3.2.2—Heat Flux Hot Channel Factor.)

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

3.11 WCAP-8745-P-A, "Design Bases for the Thermal Overpower ΔT and Thermal Overtemperature ΔT Trip Functions," September 1986 (Westinghouse Proprietary). (Methodology for Specifications 2.1.1 and 2.2.1.)

3.12 WCAP-12610-P-A & CENPD-404-P-A, Addendum 1-A, "Optimized ZIRLO™," July 2006 (Westinghouse Proprietary). (Methodology for Specification 3.2.2—Heat Flux Hot Channel Factor.)