Jeffrey B. Archie
Vice President, Nuclear Operations
803.345.4214

SCE&G®
A SCANA COMPANY

November 15, 2006

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

Dear Sirs / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50-395
OPERATING LICENSE NO. NPF-12
CORE OPERATING LIMITS REPORT (COLR)
FOR CYCLE 17

In accordance with Section 6.9.1.11 of the Virgil C. Summer Nuclear Station Technical Specifications, South Carolina Electric & Gas Company (SCE&G) hereby submits the Cycle 17 Core Operating Limits Report (COLR).

Should you have any questions, please call Mr. Joel E. Ferris at (803) 345-4207.

Very truly yours,

Jeffrey B. Archie

JEF/JBA/dr
Attachment

NOTE: Attachment is on file in NL

c: Without Attachment unless noted
K. B. Marsh
S. A. Byrne
N. S. Carns
J. H. Hamilton
R. J. White
W. D. Travers (w/attachment)
R. E. Martin (w/attachment)
NRC Resident Inspector (w/attachment)
K. M. Sutton
NSRC
RTS (L-99-0150)
File (818.23-1, RR 5000)
DMS (RC-06-0201)

A001

SOUTH CAROLINA ELECTRIC & GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION

CORE OPERATING LIMITS REPORT

FOR

CYCLE 17

REVISION 0

NOVEMBER 2006

LIST OF EFFECTIVE PAGES

PAGE	REVISION
i	0
ii	0
iii	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0

Table of Contents

List of Tables

List of Figures

1.0 Core Operating Limits Report

This Core Operating Limits Report (COLR) for V. C. Summer Station Cycle 17 has been prepared in accordance with the requirements of Technical Specification 6.9.1.11.

The Technical Specifications affected by this report are listed below:

3.1.1.3	Moderator Temperature Coefficient
3.1.3.5	Shutdown Rod Insertion Limits
3.1.3.6	Control Rod Insertion Limits
3.2.1	Axial Flux Difference
3.2.2	Heat Flux Hot Channel Factor
3.2.3	RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor
3.3.3.11	Power Distribution Measurement Uncertainty

2.0 Operating Limits

The cycle-specific parameter limits for the specifications listed in Section 1.0 are presented in the subsections which follow. These limits have been developed using the NRC-approved methodologies specified in Technical Specification 6.9.1.11.

2.1 Moderator Temperature Coefficient (Specification 3.1.1.3):

2.1.1 The Moderator Temperature Coefficient (MTC) limits are:

The BOL/ARO-MTC shall be less positive than the limits shown in Figure 1.

The EOL/ARO/RTP-MTC shall be less negative than -5×10^{-4} Δk/k/°F.

where: BOL stands for Beginning of Cycle Life
ARO stands for All Rods Out
RTP stands for RATED THERMAL POWER
EOL stands for End of Cycle Life

2.1.2 The MTC Surveillance limit is:

The 300 ppm/ARO/RTP-MTC should be less negative than or equal to -4.1×10^{-4} Δk/k/°F

2.1.3 The Revised Predicted near-EOL 300 ppm MTC shall be calculated using the following algorithm from Reference 2:

Revised Predicted MTC = Predicted MTC + AFD Correction*+ Predictive Correction**

*AFD Correction is 0.05 pcm/°F/%ΔAFD.
**Predictive Correction is -3 pcm/°F.

If the Revised Predicted MTC is less negative than the SR 4.1.1.3b limit of -4.1×10^{-4} Δk/k/°F, and all of the benchmark data contained in the surveillance procedure are met, then an MTC measurement in accordance with SR 4.1.1.3b is not required.

2.2 Shutdown Rod Insertion Limits (Specification 3.1.3.5):

The shutdown rods shall be withdrawn to at least 230 steps.

2.3 Control Rod Insertion Limits (Specification 3.1.3.6):

Control Bank A and B rods shall be withdrawn to at least 230 steps. Control Bank C and D Insertion Limits are specified by Figure 2. Control rod overlap is 102 steps.

2.4 Axial Flux Difference (Specification 3.2.1):

2.4.1 The Axial Flux Difference (AFD) Limits for RAOC operation for Cycle17 are shown in Figure 3.

2.4.2 The Axial Flux Difference (AFD) target band during base load operations for Cycle17 is: BOL - EOL (0 – 23,800 MWD/MTU): ±5% about a measured target value.

2.4.3 The minimum allowable power level for base load operation, APL^{ND}, is 75% of RATED THERMAL POWER.

2.5 Heat Flux Hot Channel Factor - $F_Q(z)$ (Specification 3.2.2):

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

$$F_Q(Z) \le \frac{F_Q^{RTP}}{0.5} \times K(Z) \qquad \text{for } P \le 0.5 \qquad \text{where: } P = \frac{\text{Thermal Power}}{\text{Rated Thermal Power}}$$

2.5.1 $F_Q^{RTP} = 2.40$

2.5.2 K(z) is provided in Figure 4.

2.5.3 Elevation dependent W(z) values for RAOC operation at 150, 3000, 10000, and 20000 MWD/MTU are shown in Tables 1 through 4, respectively. This information is sufficient to determine W(z) versus core height in the range of 0 MWD/MTU to EOL burnup through the use of three point interpolation. Table 5 shows FQ margin decreases for RAOC operation that are greater than 2% per 31 Effective Full Power Days (EFPD). These values shall be used to increase $F_Q^M(z)$ as per Surveillance Requirement 4.2.2.2e. A 2% penalty factor shall be used at all burnups that are outside the range of Table 5.

2.5.4 Elevation dependent $W(z)_{BL}$ values for Baseload operation between 75 and 100% of rated thermal power with the item 2.4.2 specified target band about a measured target value at 150, 3000, 10000, and 20000 MWD/MTU are shown in Tables 6 through 9, respectively. This information is sufficient to determine $W(z)_{BL}$ versus core height for burnups in the range of 0 MWD/MTU to EOL burnup through the use of three point interpolation.

Table 10 shows FQ margin decreases for base load operation that are greater than 2% per 31 Effective Full Power Days (EFPD). These values shall be used to increase $F_Q^M(z)$ as per Surveillance Requirement 4.2.2.4e. A 2% penalty factor shall be used at all burnups that are outside the range of Table 10.

2.6 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor - $F_{\Delta H}^{N}$ (Specification 3.2.3):

$$R = \frac{F_{\Delta H}^{N}}{F_{\Delta H}^{RTP} \times \left(1 + PF_{\Delta H}^{N} \times (1 - P)\right)} \qquad \text{where: } P = \frac{\text{Thermal Power}}{\text{Rated Thermal Power}}$$

2.6.1 $F_{\Delta H}^{RTP} = 1.62$

2.6.2 $PF_{\Delta H} = 0.3$

2.6.3 The Acceptable Operation Region from the combination of Reactor Coolant System total flow and R is provided in Figure 5.

2.7 Power Distribution Measurement Uncertainty (Specifications 3.2.2 and 3.2.3):

If the Power Distribution Monitoring System is OPERABLE, as defined in Technical Specification 3.3.3.11, the uncertainty, $U_{F\Delta H}$, to be applied to the Nuclear Enthalpy Rise Hot Channel Factor $F^{N}_{\Delta H}$ shall be calculated by the following formula:

$$U_{F\Delta H} = 1.0 + \frac{U_{\Delta H}}{100.0}$$

where: $U_{\Delta H}$ = Uncertainty for enthalpy rise as defined in equation (5-19) in Reference 1.

If the Power Distribution Monitoring System is OPERABLE, as defined in Technical Specification 3.3.3.11, the uncertainty, U_{FQ}, to be applied to the Heat Flux Hot Channel Factor $F_Q(z)$ shall be calculated by the following formula:

$$U_{FQ} = \left(1.0 + \frac{U_Q}{100.0}\right) \cdot U_e$$

where: U_Q = Uncertainty for power peaking factor as defined in equation (5-19) in Reference 1.

U_e = Engineering uncertainty factor.

= 1.03

If the Power Distribution Monitoring System is INOPERABLE, as defined in Technical Specification 3.3.3.11, the uncertainty, $U_{F\Delta H}$, to be applied to the Nuclear Enthalpy Rise Hot Channel Factor $F^N_{\Delta H}$ shall be calculated by the following formula:

$$U_{F\Delta H} = U_{F\Delta Hm}$$

where: $U_{F\Delta Hm}$ = Base $F_{\Delta H}$ measurement uncertainty.

= 1.04

If the Power Distribution Monitoring System is INOPERABLE, as defined in Technical Specification 3.3.3.11, the uncertainty, U_{FQ}, to be applied to the Heat Flux Hot Channel Factor $F_Q(z)$ shall be calculated by the following formula:

$$U_{FQ} = U_{qu} \cdot U_e$$

where: U_{qu} = Base F_Q measurement uncertainty.

= 1.05

U_e = Engineering uncertainty factor.

= 1.03

3.0 References

1) WCAP-12473-A (Non-Proprietary), "BEACON Core Monitoring and Operations Support System," August, 1994.

2) WCAP-13749-P-A, "Safety Evaluation Supporting the Conditional Exemption of the Most Negative EOL Moderator Temperature Coefficient," March 1997, (Proprietary).

Figure 1. Moderator Temperature Coefficient Versus Power Level
V. C. Summer - Cycle 17

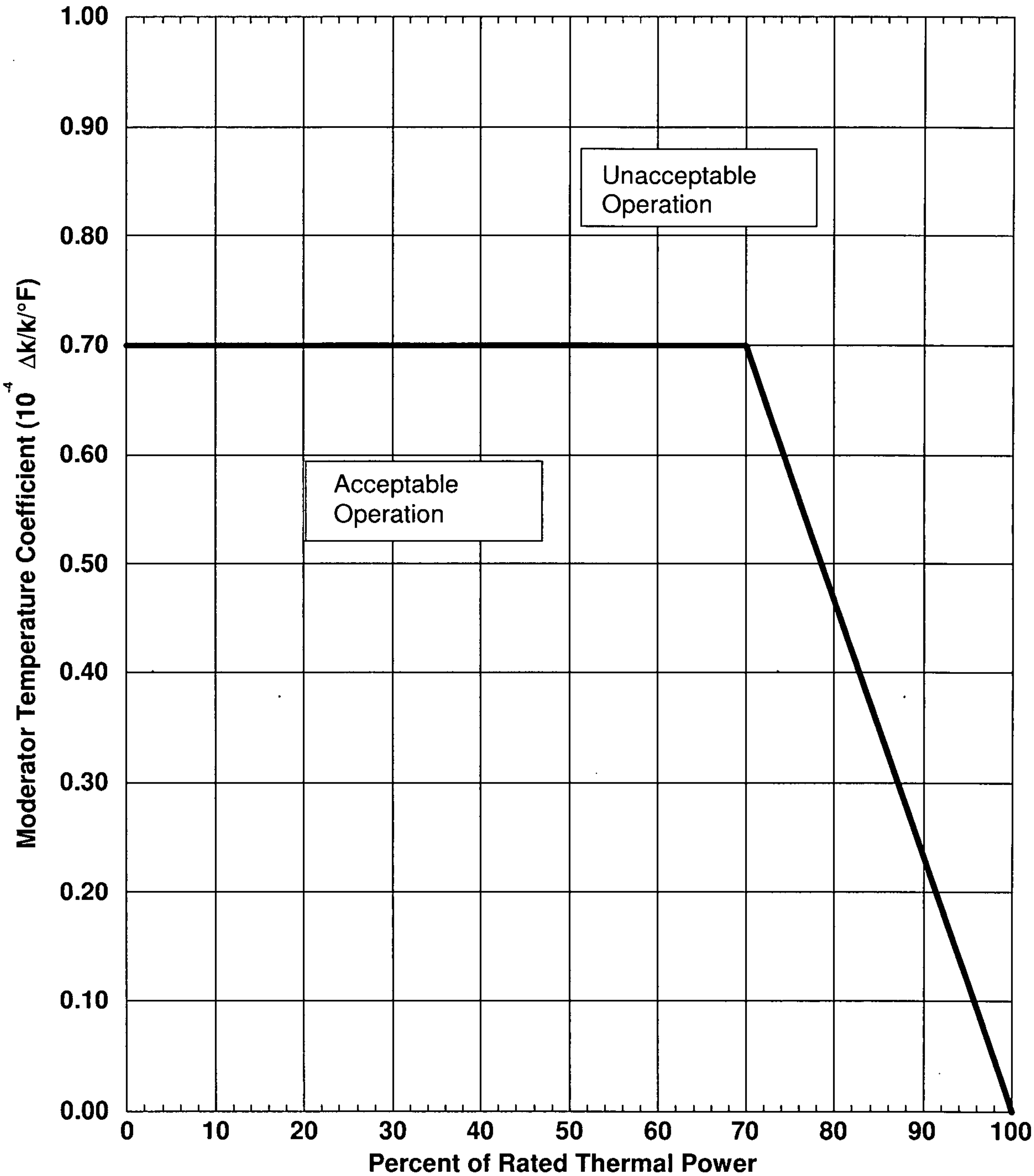


Figure 2. Rod Group Insertion Limits Versus Thermal Power for Three Loop Operation
V. C. Summer - Cycle 17

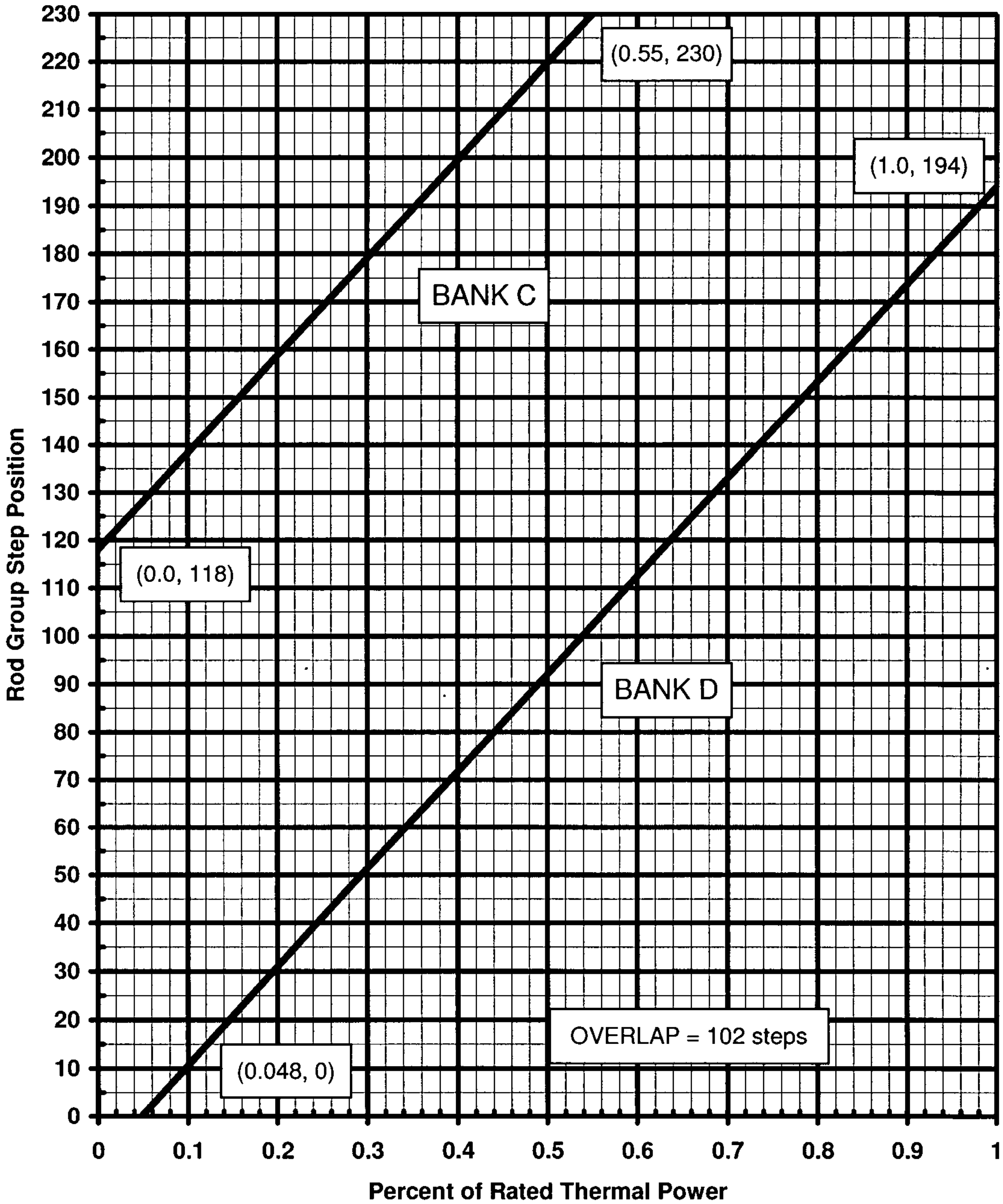


Figure 3. Axial Flux Difference Limits as a Function of Rated Thermal Power V. C. Summer - Cycle 17

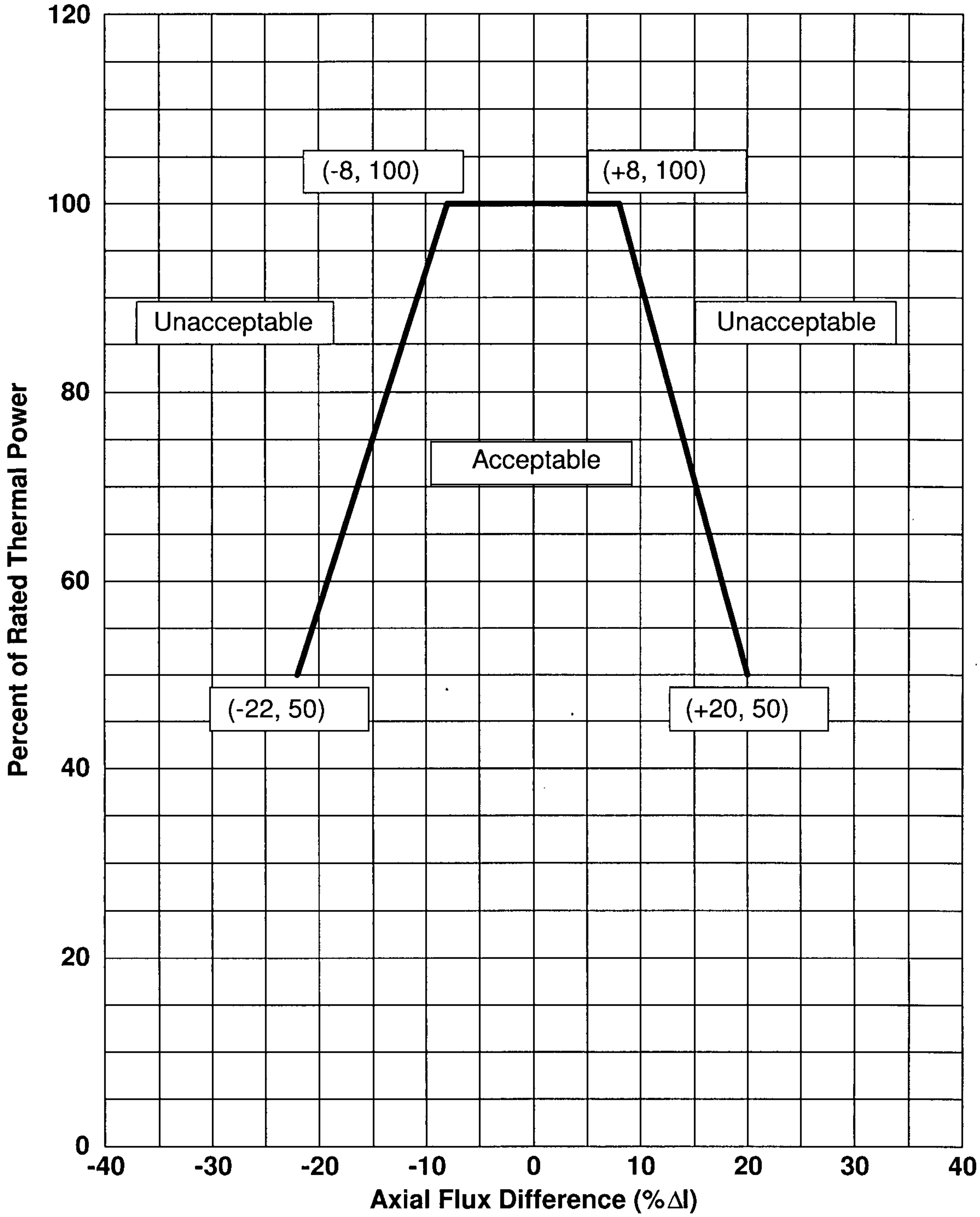


Figure 4. K(z) - Normalized $F_Q(z)$ as a Function of Core Height
V. C. Summer - Cycle 17

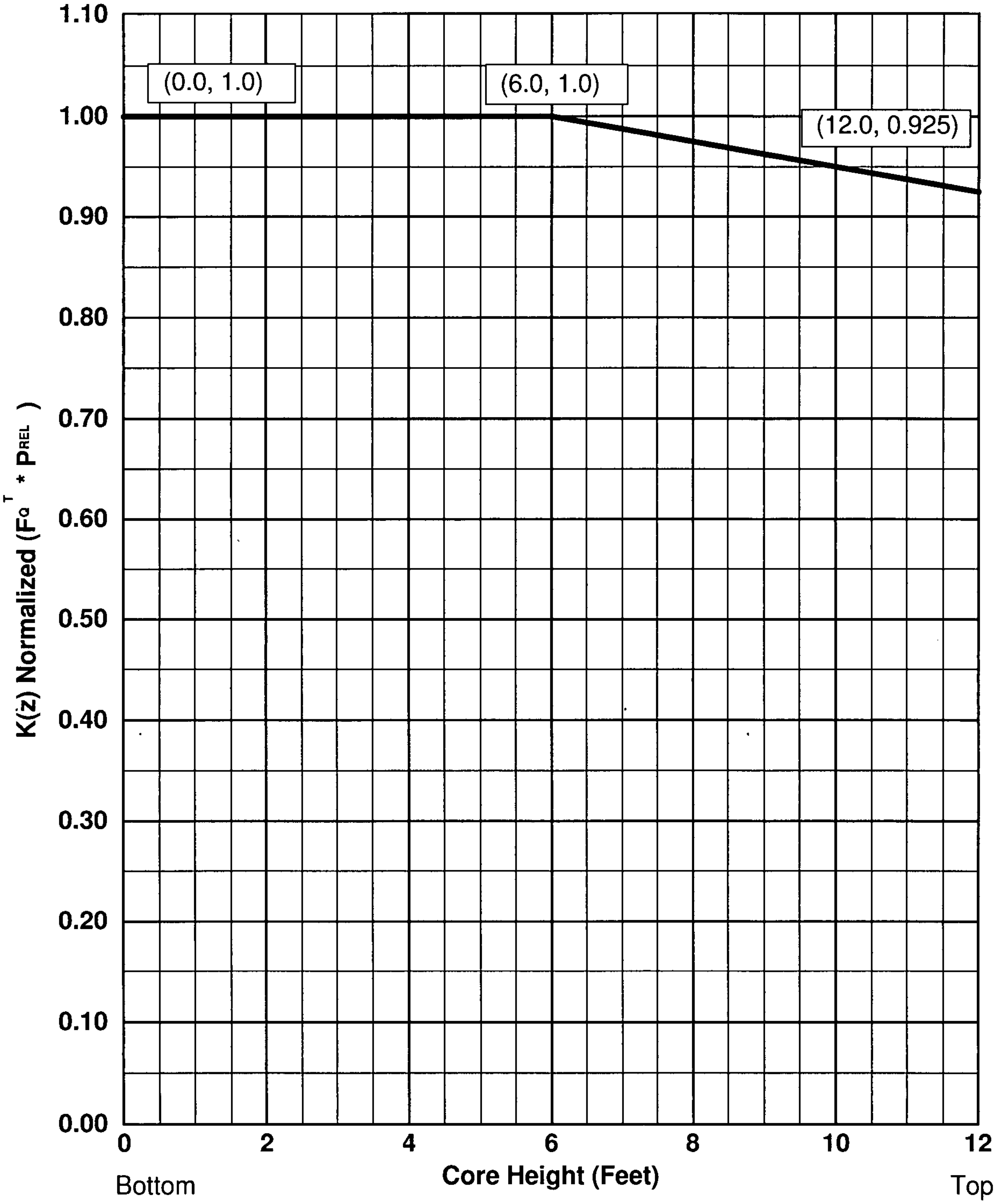


Table 1. RAOC W(z) at 150 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.222	6.140	1.143
0.140	1.221	6.279	1.151
0.279	1.226	6.419	1.159
0.419	1.238	6.558	1.166
0.558	1.253	6.698	1.173
0.698	1.259	6.837	1.179
0.837	1.256	6.977	1.185
0.977	1.251	7.116	1.190
1.116	1.245	7.256	1.194
1.256	1.237	7.395	1.198
1.395	1.228	7.535	1.201
1.535	1.218	7.674	1.203
1.674	1.208	7.814	1.204
1.814	1.196	7.953	1.204
1.953	1.185	8.093	1.204
2.093	1.173	8.233	1.203
2.233	1.161	8.372	1.201
2.372	1.149	8.512	1.198
2.512	1.137	8.651	1.192
2.651	1.125	8.791	1.188
2.791	1.112	8.930	1.186
2.930	1.102	9.070	1.187
3.070	1.095	9.209	1.188
3.209	1.091	9.349	1.191
3.349	1.091	9.488	1.193
3.488	1.090	9.628	1.193
3.628	1.090	9.767	1.194
3.767	1.091	9.907	1.196
3.907	1.092	10.046	1.201
4.046	1.094	10.186	1.206
4.186	1.095	10.326	1.211
4.326	1.096	10.465	1.215
4.465	1.097	10.605	1.217
4.605	1.098	10.744	1.219
4.744	1.099	10.884	1.220
4.884	1.101	11.023	1.222
5.023	1.103	11.163	1.224
5.163	1.104	11.302	1.225
5.302	1.106	11.442	1.222
5.442	1.109	11.581	1.208
5.581	1.113	11.721	1.192
5.721	1.118	11.860	1.179
5.860	1.125	12.000	1.167
6.000	1.134		

Table 2. RAOC W(z) at 3000 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.266	6.140	1.114
0.140	1.265	6.279	1.123
0.279	1.269	6.419	1.131
0.419	1.278	6.558	1.138
0.558	1.289	6.698	1.145
0.698	1.293	6.837	1.152
0.837	1.288	6.977	1.158
0.977	1.282	7.116	1.164
1.116	1.275	7.256	1.169
1.256	1.266	7.395	1.173
1.395	1.256	7.535	1.177
1.535	1.244	7.674	1.180
1.674	1.232	7.814	1.182
1.814	1.219	7.953	1.184
1.953	1.205	8.093	1.185
2.093	1.192	8.233	1.186
2.233	1.177	8.372	1.185
2.372	1.164	8.512	1.183
2.512	1.150	8.651	1.179
2.651	1.136	8.791	1.178
2.791	1.121	8.930	1.178
2.930	1.110	9.070	1.185
3.070	1.103	9.209	1.194
3.209	1.099	9.349	1.204
3.349	1.097	9.488	1.213
3.488	1.098	9.628	1.222
3.628	1.097	9.767	1.230
3.767	1.097	9.907	1.237
3.907	1.097	10.046	1.242
4.046	1.097	10.186	1.248
4.186	1.097	10.326	1.257
4.326	1.096	10.465	1.267
4.465	1.096	10.605	1.276
4.605	1.095	10.744	1.283
4.744	1.093	10.884	1.290
4.884	1.092	11.023	1.295
5.023	1.090	11.163	1.299
5.163	1.089	11.302	1.302
5.302	1.089	11.442	1.301
5.442	1.089	11.581	1.292
5.581	1.090	11.721	1.279
5.721	1.092	11.860	1.268
5.860	1.097	12.000	1.257
6.000	1.104		

Table 3. RAOC W(z) at 10000 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.242	6.140	1.119
0.140	1.240	6.279	1.129
0.279	1.244	6.419	1.139
0.419	1.252	6.558	1.147
0.558	1.263	6.698	1.155
0.698	1.266	6.837	1.163
0.837	1.262	6.977	1.170
0.977	1.256	7.116	1.177
1.116	1.250	7.256	1.183
1.256	1.241	7.395	1.188
1.395	1.230	7.535	1.192
1.535	1.219	7.674	1.196
1.674	1.207	7.814	1.199
1.814	1.194	7.953	1.201
1.953	1.180	8.093	1.202
2.093	1.166	8.233	1.203
2.233	1.152	8.372	1.203
2.372	1.139	8.512	1.201
2.512	1.125	8.651	1.198
2.651	1.111	8.791	1.195
2.791	1.098	8.930	1.195
2.930	1.086	9.070	1.197
3.070	1.076	9.209	1.201
3.209	1.069	9.349	1.206
3.349	1.070	9.488	1.209
3.488	1.070	9.628	1.212
3.628	1.071	9.767	1.220
3.767	1.073	9.907	1.231
3.907	1.075	10.046	1.241
4.046	1.076	10.186	1.250
4.186	1.078	10.326	1.259
4.326	1.080	10.465	1.267
4.465	1.081	10.605	1.274
4.605	1.083	10.744	1.281
4.744	1.084	10.884	1.286
4.884	1.085	11.023	1.290
5.023	1.086	11.163	1.292
5.163	1.086	11.302	1.294
5.302	1.086	11.442	1.292
5.442	1.087	11.581	1.282
5.581	1.089	11.721	1.269
5.721	1.093	11.860	1.258
5.860	1.099	12.000	1.247
6.000	1.108		

Table 4. RAOC W(z) at 20000 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.195	6.140	1.192
0.140	1.192	6.279	1.201
0.279	1.197	6.419	1.209
0.419	1.207	6.558	1.216
0.558	1.222	6.698	1.222
0.698	1.228	6.837	1.227
0.837	1.227	6.977	1.232
0.977	1.224	7.116	1.235
1.116	1.220	7.256	1.237
1.256	1.213	7.395	1.239
1.395	1.206	7.535	1.239
1.535	1.197	7.674	1.238
1.674	1.188	7.814	1.236
1.814	1.178	7.953	1.234
1.953	1.169	8.093	1.230
2.093	1.158	8.233	1.225
2.233	1.148	8.372	1.219
2.372	1.137	8.512	1.213
2.512	1.127	8.651	1.205
2.651	1.116	8.791	1.196
2.791	1.105	8.930	1.188
2.930	1.096	9.070	1.180
3.070	1.090	9.209	1.177
3.209	1.088	9.349	1.178
3.349	1.091	9.488	1.180
3.488	1.094	9.628	1.183
3.628	1.097	9.767	1.188
3.767	1.100	9.907	1.194
3.907	1.102	10.046	1.200
4.046	1.105	10.186	1.205
4.186	1.110	10.326	1.210
4.326	1.115	10.465	1.214
4.465	1.120	10.605	1.218
4.605	1.125	10.744	1.221
4.744	1.129	10.884	1.223
4.884	1.134	11.023	1.226
5.023	1.137	11.163	1.228
5.163	1.140	11.302	1.224
5.302	1.141	11.442	1.217
5.442	1.144	11.581	1.203
5.581	1.151	11.721	1.187
5.721	1.161	11.860	1.173
5.860	1.172	12.000	1.162
6.000	1.182		

Table 5. RAOC F_Q Margin Decreases in Excess of 2% Per 31 EFPD – Cycle 17

Cycle Burnup (MWD/MTU)	Maximum Decrease in F_Q Margin
665	1.0200
837	1.0222
1008	1.0221
1180	1.0201
1351	1.0200

Note: All cycle burnups outside the range of this table shall use a 1.020 decrease in margin for compliance with Specification 4.2.2.2e. Linear interpolation is adequate for intermediate cycle burnups.

Table 6. Baseload W(z) at 150 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.113	6.140	1.062
0.140	1.114	6.279	1.060
0.279	1.114	6.419	1.058
0.419	1.116	6.558	1.056
0.558	1.117	6.698	1.056
0.698	1.118	6.837	1.056
0.837	1.117	6.977	1.056
0.977	1.117	7.116	1.057
1.116	1.116	7.256	1.059
1.256	1.115	7.395	1.062
1.395	1.114	7.535	1.063
1.535	1.113	7.674	1.065
1.674	1.112	7.814	1.067
1.814	1.110	7.953	1.069
1.953	1.108	8.093	1.070
2.093	1.107	8.233	1.072
2.233	1.105	8.372	1.073
2.372	1.102	8.512	1.075
2.512	1.100	8.651	1.076
2.651	1.098	8.791	1.078
2.791	1.095	8.930	1.079
2.930	1.092	9.070	1.080
3.070	1.090	9.209	1.081
3.209	1.087	9.349	1.082
3.349	1.084	9.488	1.083
3.488	1.082	9.628	1.085
3.628	1.080	9.767	1.085
3.767	1.079	9.907	1.086
3.907	1.078	10.046	1.087
4.046	1.077	10.186	1.088
4.186	1.075	10.326	1.089
4.326	1.074	10.465	1.090
4.465	1.073	10.605	1.091
4.605	1.072	10.744	1.091
4.744	1.071	10.884	1.092
4.884	1.071	11.023	1.093
5.023	1.070	11.163	1.093
5.163	1.070	11.302	1.094
5.302	1.069	11.442	1.094
5.442	1.068	11.581	1.094
5.581	1.067	11.721	1.093
5.721	1.066	11.860	1.093
5.860	1.064	12.000	1.094
6.000	1.063		

Table 7. Baseload W(z) at 3000 MWD/MTU
V. C. Summer - Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.095	6.140	1.056
0.140	1.096	6.279	1.055
0.279	1.097	6.419	1.054
0.419	1.098	6.558	1.052
0.558	1.100	6.698	1.050
0.698	1.101	6.837	1.048
0.837	1.102	6.977	1.047
0.977	1.102	7.116	1.048
1.116	1.102	7.256	1.050
1.256	1.102	7.395	1.052
1.395	1.102	7.535	1.054
1.535	1.102	7.674	1.056
1.674	1.102	7.814	1.058
1.814	1.101	7.953	1.060
1.953	1.101	8.093	1.062
2.093	1.100	8.233	1.064
2.233	1.099	8.372	1.066
2.372	1.098	8.512	1.067
2.512	1.097	8.651	1.069
2.651	1.096	8.791	1.071
2.791	1.094	8.930	1.073
2.930	1.093	9.070	1.074
3.070	1.091	9.209	1.076
3.209	1.090	9.349	1.077
3.349	1.088	9.488	1.079
3.488	1.086	9.628	1.081
3.628	1.084	9.767	1.082
3.767	1.082	9.907	1.083
3.907	1.080	10.046	1.085
4.046	1.079	10.186	1.086
4.186	1.078	10.326	1.087
4.326	1.077	10.465	1.089
4.465	1.075	10.605	1.090
4.605	1.074	10.744	1.091
4.744	1.073	10.884	1.092
4.884	1.071	11.023	1.093
5.023	1.069	11.163	1.094
5.163	1.068	11.302	1.095
5.302	1.066	11.442	1.096
5.442	1.064	11.581	1.096
5.581	1.062	11.721	1.095
5.721	1.060	11.860	1.096
5.860	1.058	12.000	1.096
6.000	1.057		

Table 8. Baseload W(z) at 10000 MWD/MTU
V. C. Summer – Cycle 17

Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.107	6.140	1.060
0.140	1.108	6.279	1.058
0.279	1.109	6.419	1.055
0.419	1.110	6.558	1.053
0.558	1.111	6.698	1.053
0.698	1.112	6.837	1.053
0.837	1.113	6.977	1.052
0.977	1.113	7.116	1.054
1.116	1.113	7.256	1.056
1.256	1.113	7.395	1.058
1.395	1.112	7.535	1.060
1.535	1.112	7.674	1.062
1.674	1.111	7.814	1.064
1.814	1.110	7.953	1.065
1.953	1.109	8.093	1.067
2.093	1.108	8.233	1.068
2.233	1.106	8.372	1.070
2.372	1.104	8.512	1.071
2.512	1.103	8.651	1.073
2.651	1.101	8.791	1.074
2.791	1.098	8.930	1.075
2.930	1.096	9.070	1.076
3.070	1.093	9.209	1.077
3.209	1.091	9.349	1.078
3.349	1.088	9.488	1.079
3.488	1.085	9.628	1.080
3.628	1.083	9.767	1.081
3.767	1.081	9.907	1.082
3.907	1.080	10.046	1.083
4.046	1.078	10.186	1.084
4.186	1.077	10.326	1.085
4.326	1.076	10.465	1.086
4.465	1.075	10.605	1.087
4.605	1.074	10.744	1.088
4.744	1.073	10.884	1.088
4.884	1.072	11.023	1.089
5.023	1.071	11.163	1.090
5.163	1.070	11.302	1.090
5.302	1.069	11.442	1.091
5.442	1.068	11.581	1.091
5.581	1.066	11.721	1.091
5.721	1.065	11.860	1.091
5.860	1.063	12.000	1.091
6.000	1.062		

Table 9. Baseload W(z) at 20000 MWD/MTU
V. C. Summer - Cycle 17

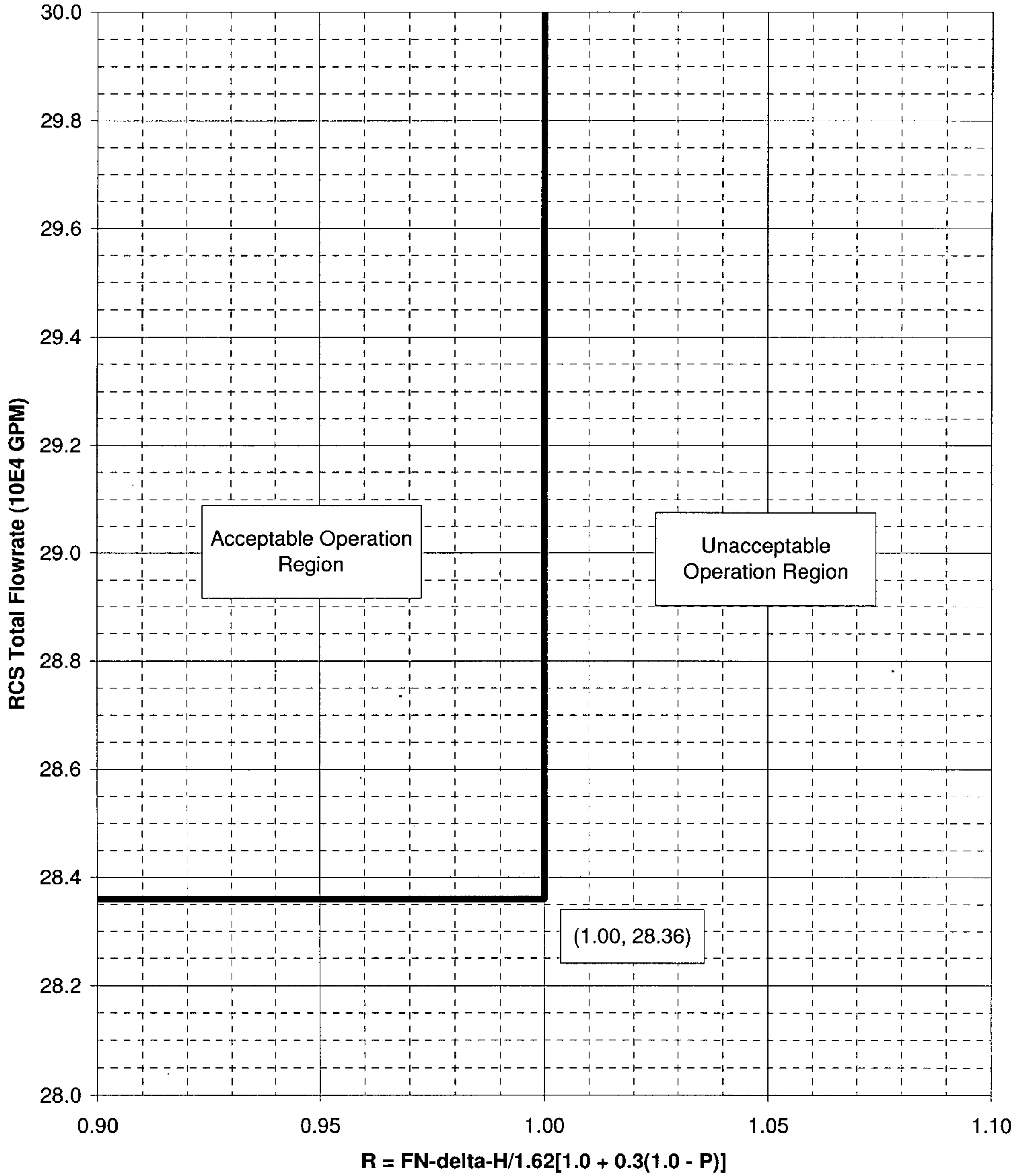
Core Height (ft)	W(z)	Core Height (ft)	W(z)
0.000	1.142	6.140	1.062
0.140	1.143	6.279	1.062
0.279	1.144	6.419	1.064
0.419	1.145	6.558	1.067
0.558	1.146	6.698	1.069
0.698	1.146	6.837	1.070
0.837	1.146	6.977	1.072
0.977	1.145	7.116	1.073
1.116	1.144	7.256	1.074
1.256	1.142	7.395	1.075
1.395	1.140	7.535	1.076
1.535	1.138	7.674	1.077
1.674	1.135	7.814	1.078
1.814	1.132	7.953	1.078
1.953	1.129	8.093	1.079
2.093	1.125	8.233	1.079
2.233	1.121	8.372	1.079
2.372	1.117	8.512	1.079
2.512	1.113	8.651	1.082
2.651	1.108	8.791	1.086
2.791	1.103	8.930	1.089
2.930	1.097	9.070	1.092
3.070	1.092	9.209	1.095
3.209	1.087	9.349	1.098
3.349	1.083	9.488	1.101
3.488	1.082	9.628	1.104
3.628	1.080	9.767	1.106
3.767	1.079	9.907	1.109
3.907	1.077	10.046	1.111
4.046	1.076	10.186	1.113
4.186	1.074	10.326	1.114
4.326	1.072	10.465	1.116
4.465	1.071	10.605	1.117
4.605	1.070	10.744	1.118
4.744	1.069	10.884	1.118
4.884	1.068	11.023	1.119
5.023	1.067	11.163	1.119
5.163	1.067	11.302	1.119
5.302	1.066	11.442	1.119
5.442	1.065	11.581	1.117
5.581	1.064	11.721	1.116
5.721	1.062	11.860	1.115
5.860	1.061	12.000	1.115
6.000	1.061		

Table 10. Baseload F_Q Margin Decreases in Excess of 2% Per 31 EFPD - Cycle 17

Cycle Burnup (MWD/MTU)	Maximum Decrease in F_Q Margin
665	1.0200
837	1.0266
1008	1.0313
1180	1.0313
1351	1.0304
1523	1.0296
1695	1.0291
1866	1.0293
2038	1.0303
2210	1.0317
2381	1.0333
2553	1.0346
2724	1.0348
2896	1.0337
3068	1.0314
3239	1.0282
3411	1.0248
3583	1.0216
3754	1.0200

Note: All cycle burnups outside the range of this table shall use a 1.020 decrease in margin for compliance with Specification 4.2.2.4e. Linear interpolation is adequate for intermediate cycle burnups.

Figure 5. RCS Total Flowrate vs. R for Three Loop Operation
V. C. Summer - Cycle 17



Measurement Uncertainty of 2.1% for Flow (includes 0.1% for feedwater venturi fouling) is included in this figure.