TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 23, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. Carl H. Berlinger, Chief
Core Performance Branch
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Berlinger:

In the Matter of the) Docket No. 50-328
Tennessee Valley Authority)

Enclosed is the peaking factor limit report for unit 2, cycle 3 operations. This report is being provided in accordance with the requirements of paragraph 6.9.1.14 of the Sequoyah unit 2 technical specificiations.

If you have any questions concerning this matter, please get in touch with Jerry Wills at FTS 858-2683.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 23rd day of Aug. 1984.

Notary Public

My Commission Expires 9-5-84

Enclosure
cc (Enclosure):
U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Director of Nuclear Reactor Regulation
Attn: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C 20555

A001
1/1

ENCLOSURE

PEAKING FACTOR LIMIT REPORT FOR SEQUOYAH UNIT 2 CYCLE 3

RAOC OPERATION

This peaking Factor Limit Report is provided in accordance with Paragraph 6.9.1.14 of the Sequoyah Unit 2 Technical Specifications.

The Sequoyah Unit 2, Cycle 3 elevation dependent W(z) values for RAOC operation at beginning, early middle, late middle, and near end-of-life are shown in Figures 1 through 4 respectively. This information is sufficient to determine W(z) versus core height for Cycle 3 burnups in the range of 0 MWD/MTU to 14500 MWD/MTU through the use of three point interpolation. W(z) was calculated using the method described in Part B of Reference 1.

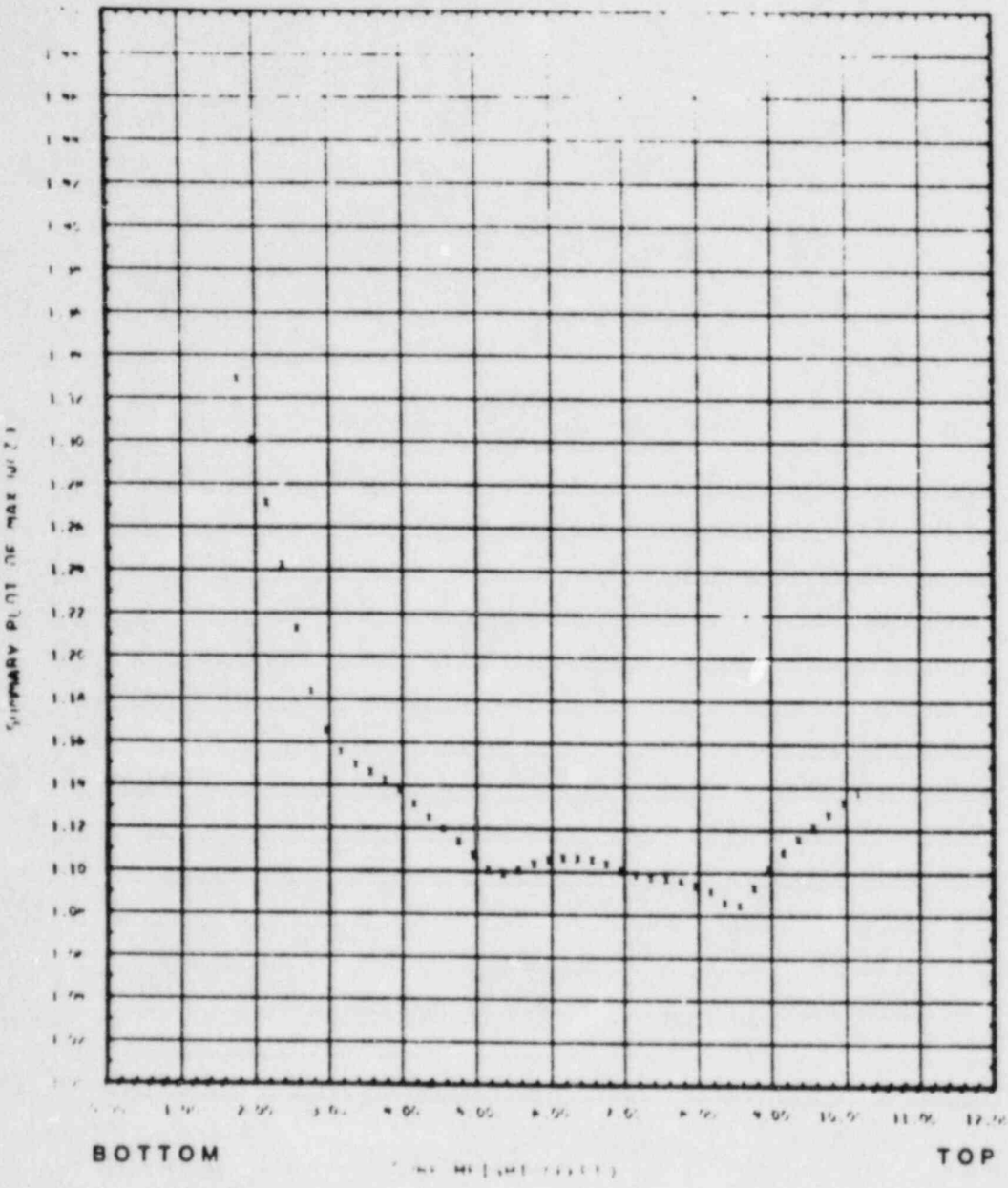
The appropriate W (z) function is used to confirm that the heat flux hot channel factor, $F_Q(z)$, will be limited to the Technical Specification values of:

$$F_Q(z) \leq \frac{2.237}{P} \quad [K(z)] \quad \text{for } P > 0.50 \text{ and}$$

$$F_Q(z) \leq 4.474 \quad [K(z)] \quad \text{for } P \leq 0.50$$

The appropriate elevation dependent W(z) values, when applied to a power distribution measured under equilibrium conditions, demonstrates that the initial conditions assumed in the LOCA are met, along with the ECCS acceptance criteria of 10CFR50.46.

(1) WCAP-10216-P-A, Relaxation of Constant Axial Offset Control - F_Q Surveillance Technical Specification

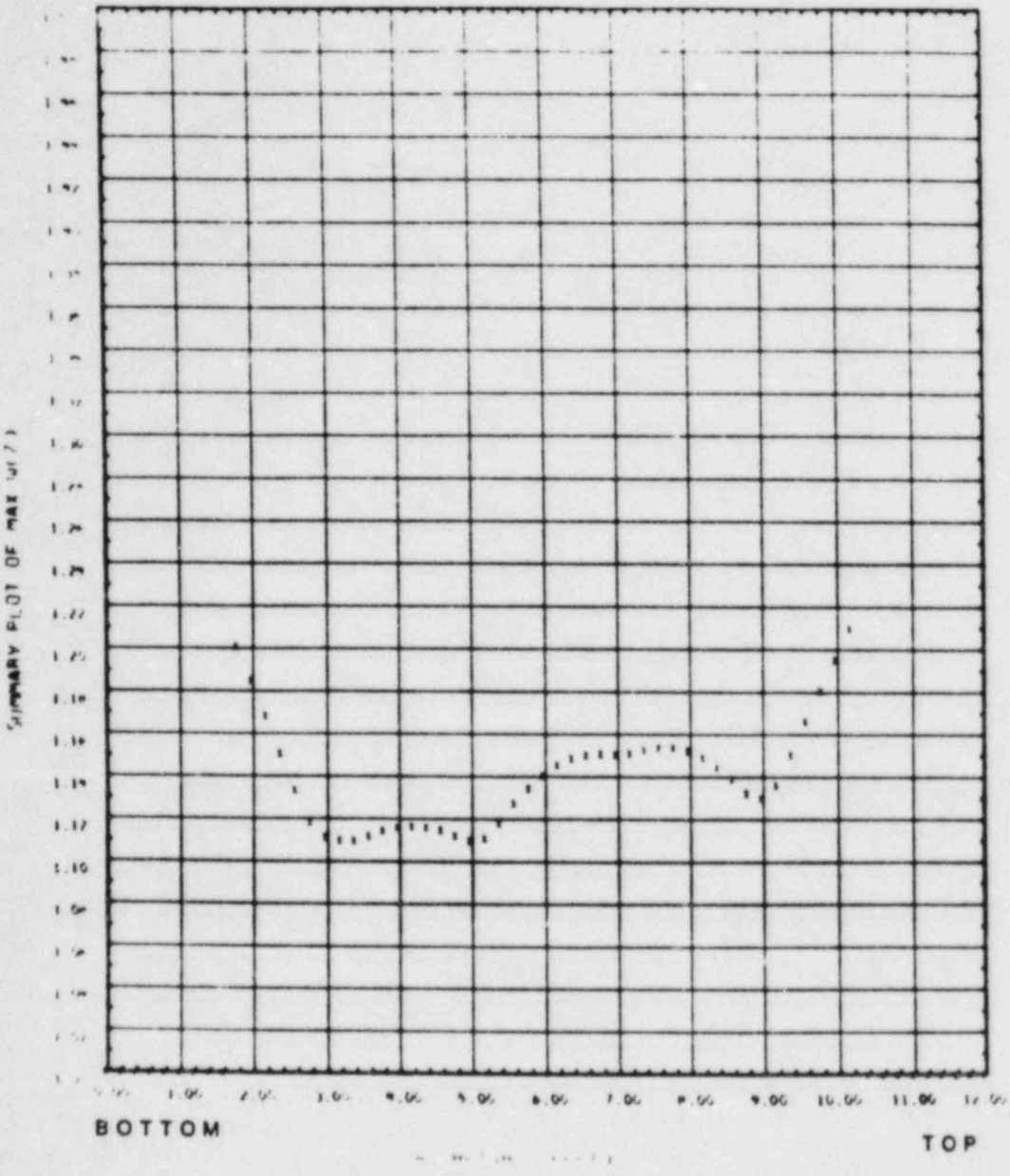


	HEIGHT (FEET)	MAX W(Z)
BOTTOM →	* 0.00	1.000
	* .20	1.000
	* .40	1.000
	* .60	1.000
	* .80	1.000
	* 1.00	1.000
	* 1.20	1.000
	* 1.40	1.000
	* 1.60	1.000
	1.80	1.330
	2.00	1.301
	2.20	1.272
	2.40	1.243
	2.60	1.214
	2.80	1.184
	3.00	1.155
	3.20	1.156
	3.40	1.151
	3.60	1.147
	3.80	1.143
	4.00	1.139
	4.20	1.132
	4.40	1.126
	4.60	1.121
	4.80	1.115
	5.00	1.108
	5.20	1.102
	5.40	1.100
	5.60	1.101
	5.80	1.104
	6.00	1.106
	6.20	1.107
	6.40	1.107
	6.60	1.106
	6.80	1.104
	7.00	1.101
	7.20	1.099
	7.40	1.098
	7.60	1.097
	7.80	1.096
	8.00	1.095
	8.20	1.092
	8.40	1.088
	8.60	1.085
	8.80	1.084
	9.00	1.102
	9.20	1.110
	9.40	1.117
	9.60	1.122
	9.80	1.128
	10.00	1.134
	10.20	1.138
	* 10.40	1.000
	* 10.60	1.000
	* 10.80	1.000
	* 11.00	1.000
	* 11.20	1.000
	* 11.40	1.000
	* 11.60	1.000
	* 11.80	1.000
TOP →	* 12.00	1.000

* Top and bottom 15% excluded as per Technical Specification 4.2.2.2.g

FIGURE 1

Sequoyah Unit 2 Cycle 3 RAOC W(z)
At 150 MWD/MTU

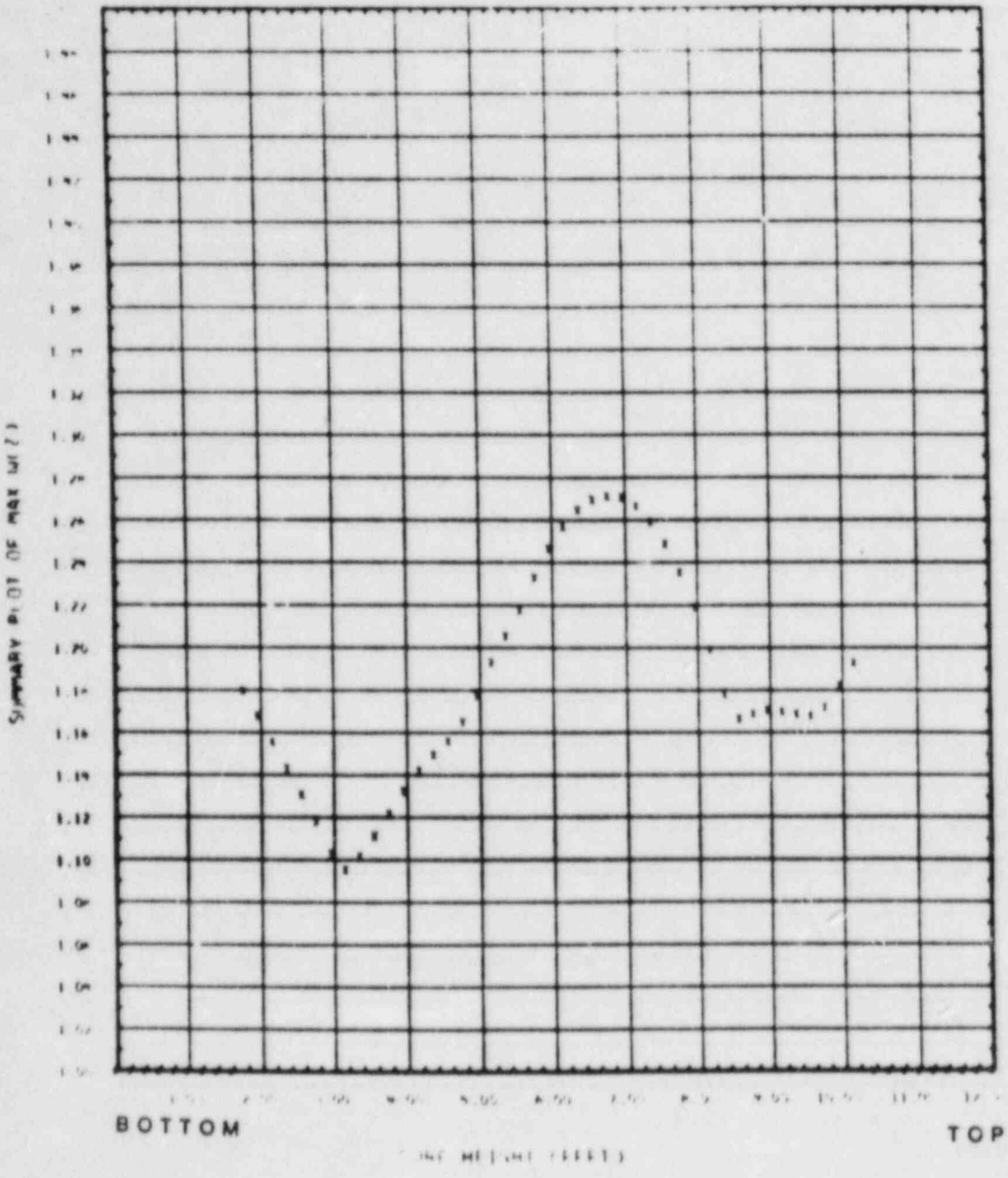


	HEIGHT (FEET)	MAX W(Z)
BOTTOM → *	0.00	1.000
*	.20	1.000
*	.40	1.000
*	.60	1.000
*	.80	1.000
*	1.00	1.000
*	1.20	1.000
*	1.40	1.000
*	1.60	1.000
	1.80	1.202
	2.00	1.185
	2.20	1.169
	2.40	1.151
	2.60	1.134
	2.80	1.119
	3.00	1.112
	3.20	1.110
	3.40	1.110
	3.60	1.112
	3.80	1.115
	4.00	1.117
	4.20	1.117
	4.40	1.116
	4.60	1.115
	4.80	1.113
	5.00	1.110
	5.20	1.111
	5.40	1.116
	5.60	1.128
	5.80	1.135
	6.00	1.141
	6.20	1.146
	6.40	1.149
	6.60	1.151
	6.80	1.151
	7.00	1.151
	7.20	1.152
	7.40	1.153
	7.60	1.154
	7.80	1.154
	8.00	1.153
	8.20	1.149
	8.40	1.145
	8.60	1.139
	8.80	1.133
	9.00	1.131
	9.20	1.137
	9.40	1.151
	9.60	1.167
	9.80	1.181
	10.00	1.196
	10.20	1.211
*	10.40	1.000
*	10.60	1.000
*	10.80	1.000
*	11.00	1.000
*	11.20	1.000
*	11.40	1.000
*	11.60	1.000
*	11.80	1.000
TOP → *	12.00	1.000

* Top and bottom 15% excluded as per Technical Specification 4.2.2.2.g

FIGURE 2

Sequoyah Unit 2 Cycle 3 RAOC W(z)
At 4000 MWD/MTU

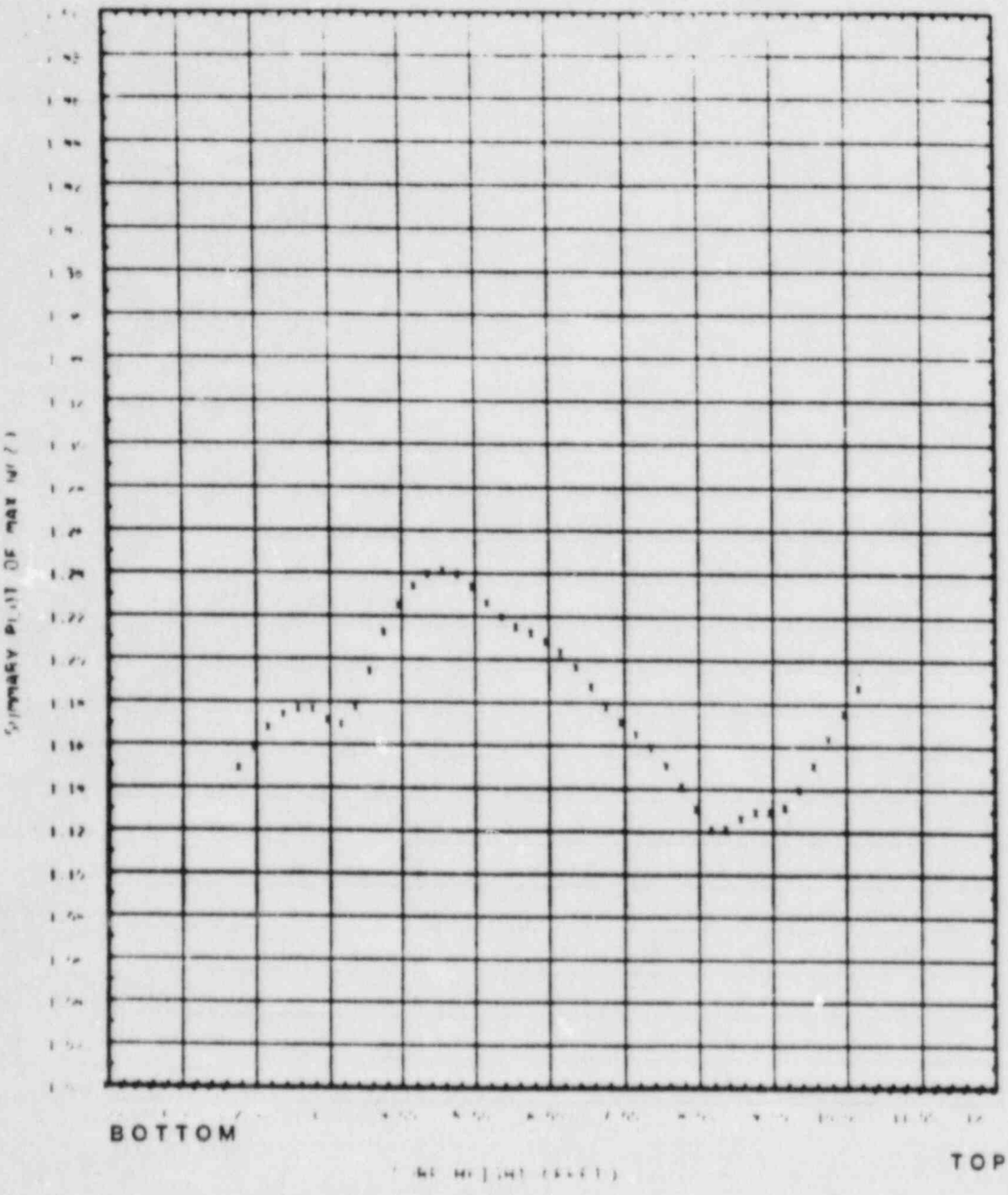


	HEIGHT (FEET)	MAX W.Z
BOTTOM →	* 0.00	1.000
	* .20	1.000
	* .40	1.000
	* .60	1.000
	* .80	1.000
	* 1.00	1.000
	* 1.20	1.000
	* 1.40	1.000
	* 1.60	1.000
	1.80	1.180
	2.00	1.168
	2.20	1.156
	2.40	1.144
	2.60	1.131
	2.80	1.119
	3.00	1.104
	3.20	1.096
	3.40	1.102
	3.60	1.112
	3.80	1.122
	4.00	1.133
	4.20	1.142
	4.40	1.150
	4.60	1.156
	4.80	1.165
	5.00	1.178
	5.20	1.194
	5.40	1.206
	5.60	1.218
	5.80	1.233
	6.00	1.247
	6.20	1.257
	6.40	1.265
	6.60	1.270
	6.80	1.272
	7.00	1.271
	7.20	1.267
	7.40	1.260
	7.60	1.249
	7.80	1.236
	8.00	1.219
	8.20	1.199
	8.40	1.179
	8.60	1.167
	8.80	1.169
	9.00	1.171
	9.20	1.170
	9.40	1.169
	9.60	1.169
	9.80	1.172
	10.00	1.183
	10.20	1.194
	* 10.40	1.000
	* 10.60	1.000
	* 10.80	1.000
	* 11.00	1.000
	* 11.20	1.000
	* 11.40	1.000
	* 11.60	1.000
	* 11.80	1.000
TOP →	* 12.00	1.000

* Top and bottom 15% excluded as per Technical Specification 4.2.2.2.g

FIGURE 3

Sequoyah Unit 2 Cycle 3 RAOC W(z)
At 8000 MWD/MTU



	HEIGHT (FEET)	MAX W Z
BOTTOM →	* 0.00	1.000
	* .20	1.000
	* .40	1.000
	* .60	1.000
	* .80	1.000
	* 1.00	1.000
	* 1.20	1.000
	* 1.40	1.000
	* 1.60	1.000
	1.80	1.150
	2.00	1.159
	2.20	1.189
	2.40	1.175
	2.60	1.177
	2.80	1.177
	3.00	1.172
	3.20	1.170
	3.40	1.178
	3.60	1.195
	3.80	1.213
	4.00	1.225
	4.20	1.235
	4.40	1.240
	4.60	1.242
	4.80	1.240
	5.00	1.234
	5.20	1.227
	5.40	1.220
	5.60	1.216
	5.80	1.213
	6.00	1.209
	6.20	1.204
	6.40	1.197
	6.60	1.188
	6.80	1.179
	7.00	1.172
	7.20	1.166
	7.40	1.159
	7.60	1.151
	7.80	1.142
	8.00	1.131
	8.20	1.122
	8.40	1.122
	8.60	1.127
	8.80	1.130
	9.00	1.130
	9.20	1.132
	9.40	1.140
	9.60	1.152
	9.80	1.164
	10.00	1.176
	10.20	1.188
	* 10.40	1.000
	* 10.60	1.000
	* 10.80	1.000
	* 11.00	1.000
	* 11.20	1.000
	* 11.40	1.000
	* 11.60	1.000
	* 11.80	1.000
TOP →	* 12.00	1.000

* Top and bottom 15% excluded as per Technical Specification 4.2.2.2.g

FIGURE 4

Sequoyah Unit 2 Cycle 3 RAOC W(z)
At 12000 MWD/MTU