Attachment 1

CORE SURVEILLANCE REPORT FOR NORTH ANNA 2 CYCLE 8

PATTERN QF

FIGURE 7 - AXIAL FLUX DIFFERENCE LIMITS
AS A FUNCTION OF RATED THERMAL POWER
FROM 9000 MWD/MTU BURNUP TO EOL
FOR NORTH ANNA UNIT 2 CYCLE 8

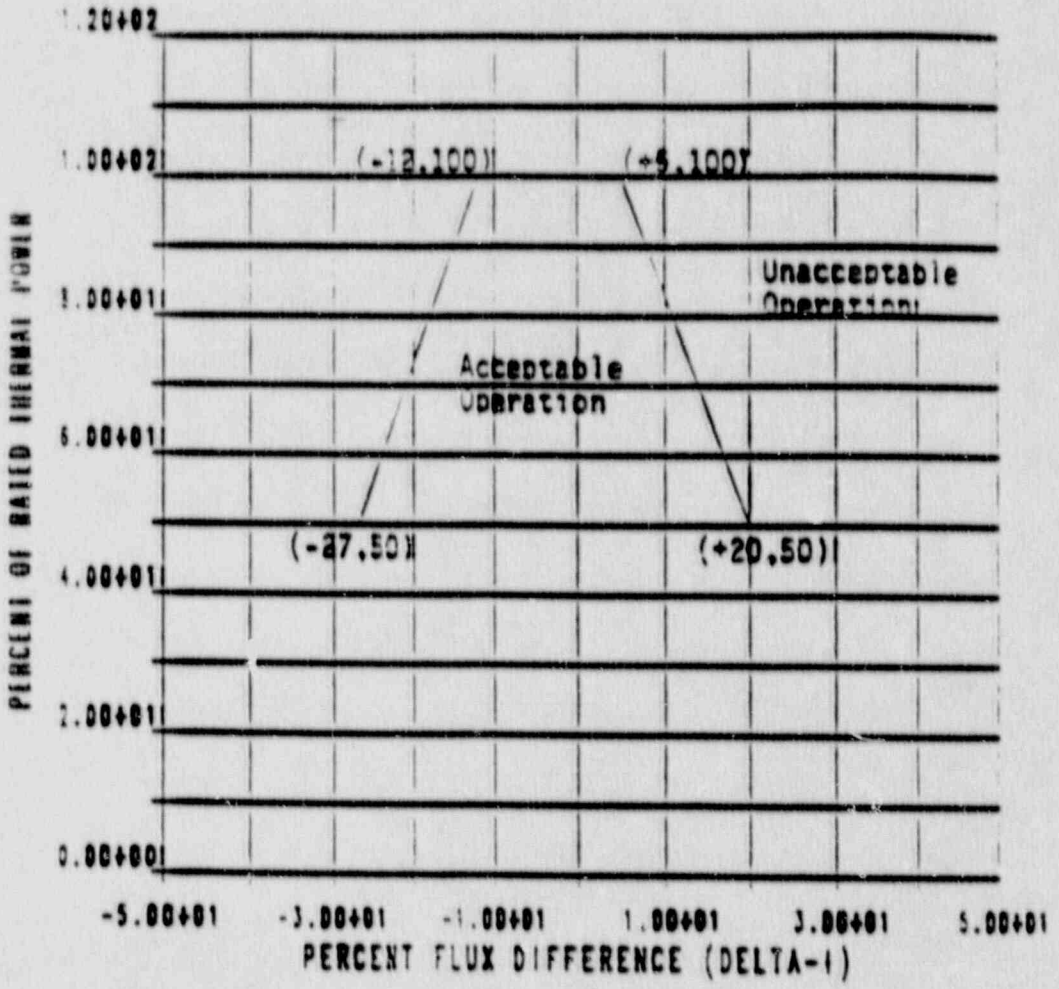


FIGURE 6 - AXIAL FLUX DIFFERENCE LIMITS
AS A FUNCTION OF RATED THERMAL POWER
FROM 150 MWD/MTU BURNUP TO 9000 MWD/MTU
FOR NORTH ANNA UNIT 2 CYCLE 8

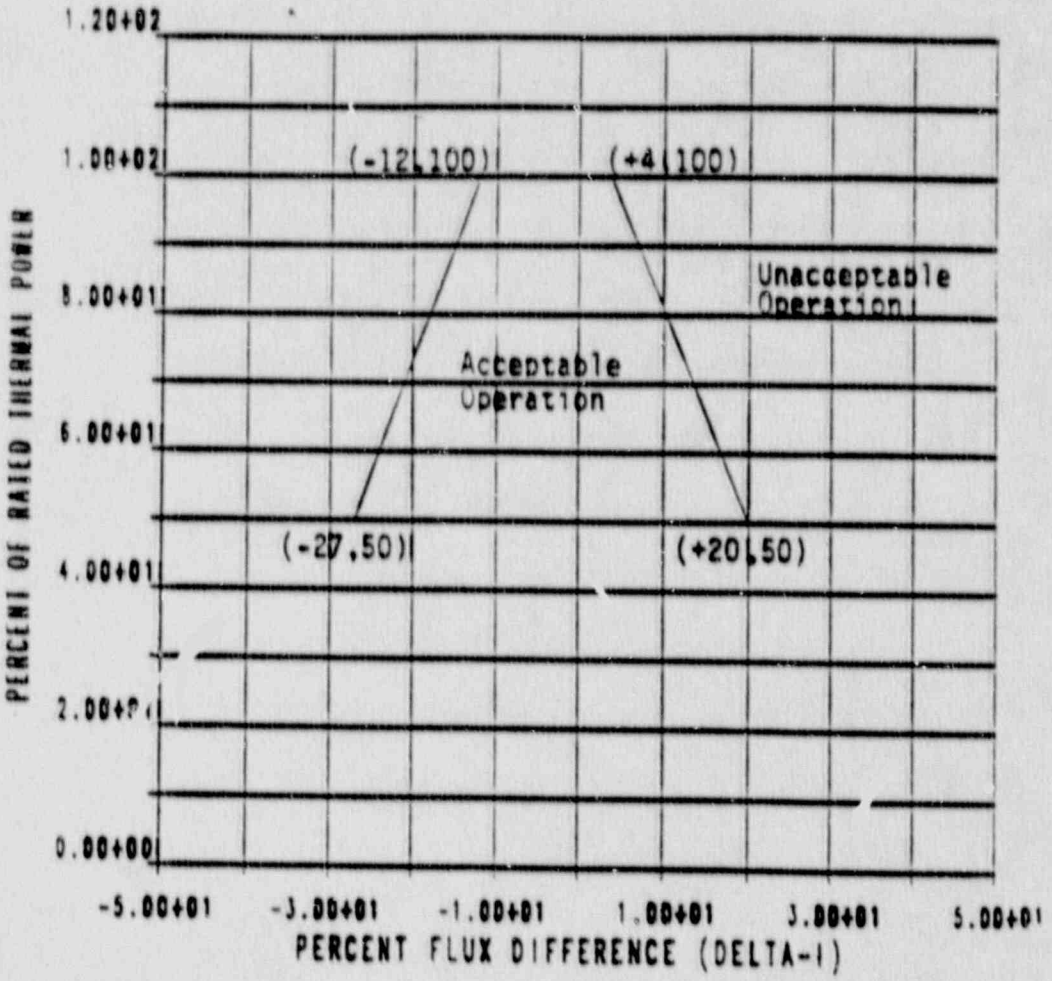
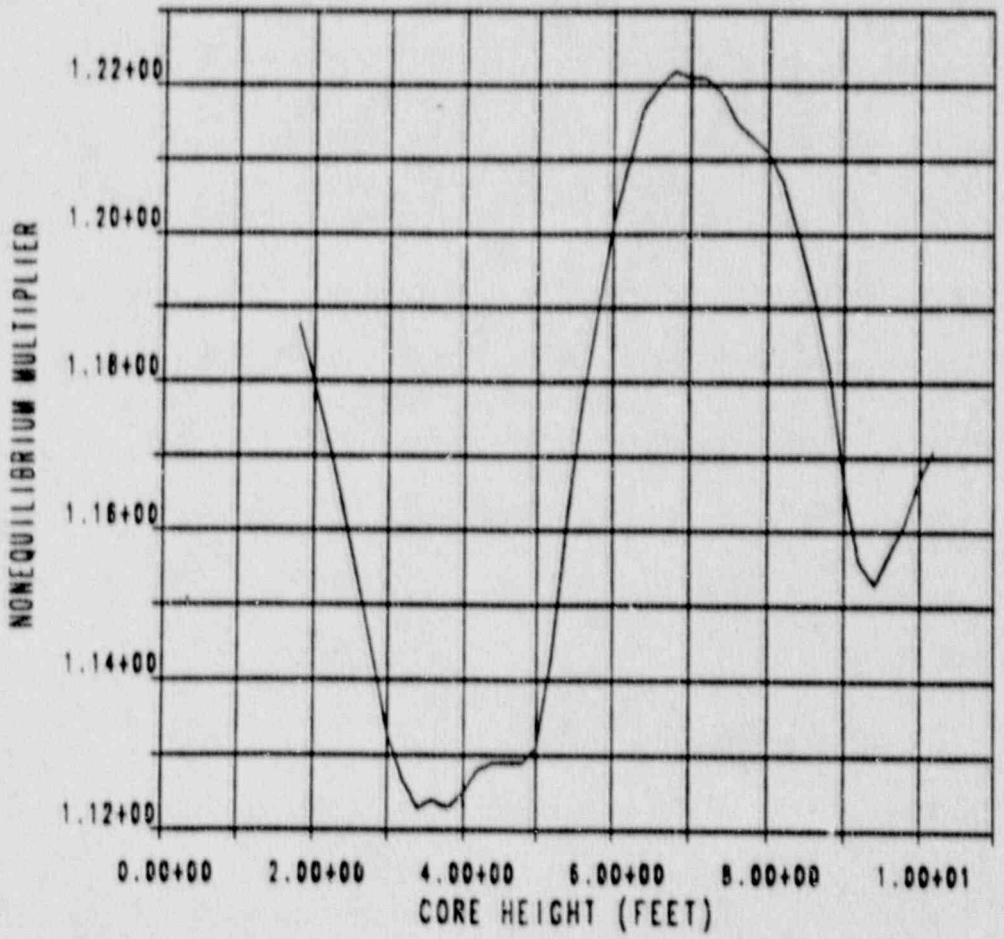


FIGURE 5 - N(Z) FUNCTION FOR N2C8 AT 2893 MW
FROM 16100 MWD/MTU BURNUP TO EOL
TOP AND BOTTOM 15 PERCENT EXCLUDED
AS PER TECH SPEC 4.2.2.2.G



HEIGHT (FEET)	N(Z)
10.20	1.171
10.00	1.167
9.80	1.161
9.60	1.157
9.40	1.153
9.20	1.156
9.00	1.167
8.80	1.182
8.60	1.192
8.40	1.200
8.20	1.207
8.00	1.211
7.80	1.213
7.60	1.215
7.40	1.219
7.20	1.221
7.00	1.221
6.80	1.222
6.60	1.220
6.40	1.217
6.20	1.209
6.00	1.201
5.80	1.189
5.60	1.177
5.40	1.162
5.20	1.143
5.00	1.131
4.80	1.129
4.60	1.129
4.40	1.129
4.20	1.128
4.00	1.125
3.80	1.123
3.60	1.124
3.40	1.123
3.20	1.127
3.00	1.133
2.80	1.143
2.60	1.153
2.40	1.163
2.20	1.172
2.00	1.180
1.80	1.188

NORTH ANNA UNIT 2 CYCLE 8 CORE SURVEILLANCE REPORT

This Core Surveillance Report is provided in accordance with Section 6.9.1.7 of the North Anna Unit 2 Technical Specifications.

The burnup-dependent Cycle 8 N(z) function for Technical Specification 4.2.2.2.C is shown in Figures 1-5. N(z) was calculated according to the procedure of VEP-NE-1-A.

The N(z) function* will be used to confirm that the heat flux hot channel factor, FQ(z), will be limited to the Technical Specifications values of

$$FQ(z) \leq \frac{2.19\ K(z)}{P}, \quad P > 0.5 \text{ and}$$

$$FQ(z) \leq 4.38\ K(Z), \quad P \leq 0.5.$$

The Cycle 8 Axial Flux Difference (AFD) limits for Technical Specification 3.2.1 are shown in Figures 6 and 7. These limits were calculated according to the methods of VEP-NE-1-A and are comparable to the previous Cycle 8 limits.

The limits on Axial Flux Difference assure that the FQ(z) upper bound envelope is not exceeded during either normal operation or in the event of xenon redistribution following power changes.

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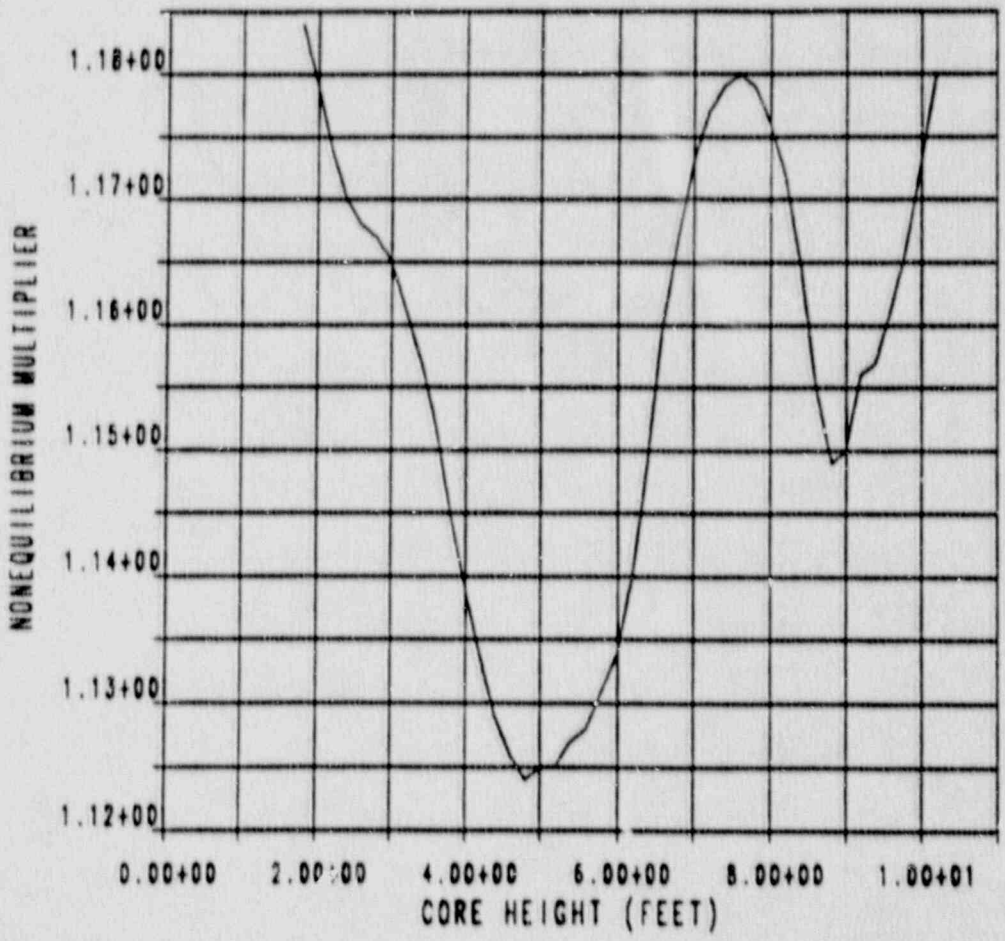
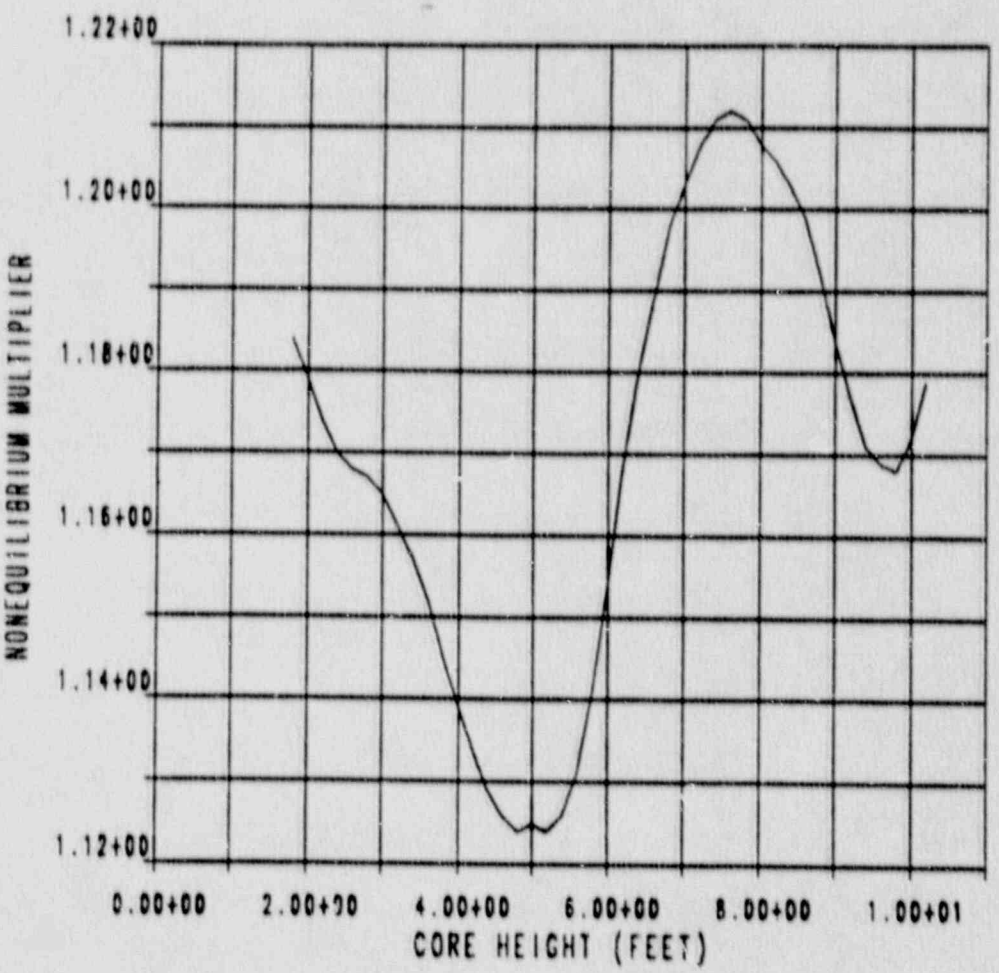
*The N(z) function, when applied to a power distribution measured under equilibrium conditions, demonstrates that the initial conditions assumed in the LOCA analysis are met, along with the ECCS acceptance criteria of 10CFR50.46.

FIGURE 1 - N(Z) FUNCTION FOR N2C8 AT 2893 MW
FROM 0 to 1000 MWD/MTU BURNUP
TOP AND BOTTOM 15 PERCENT EXCLUDED
AS PER TECH SPEC 4.2.2.2.G



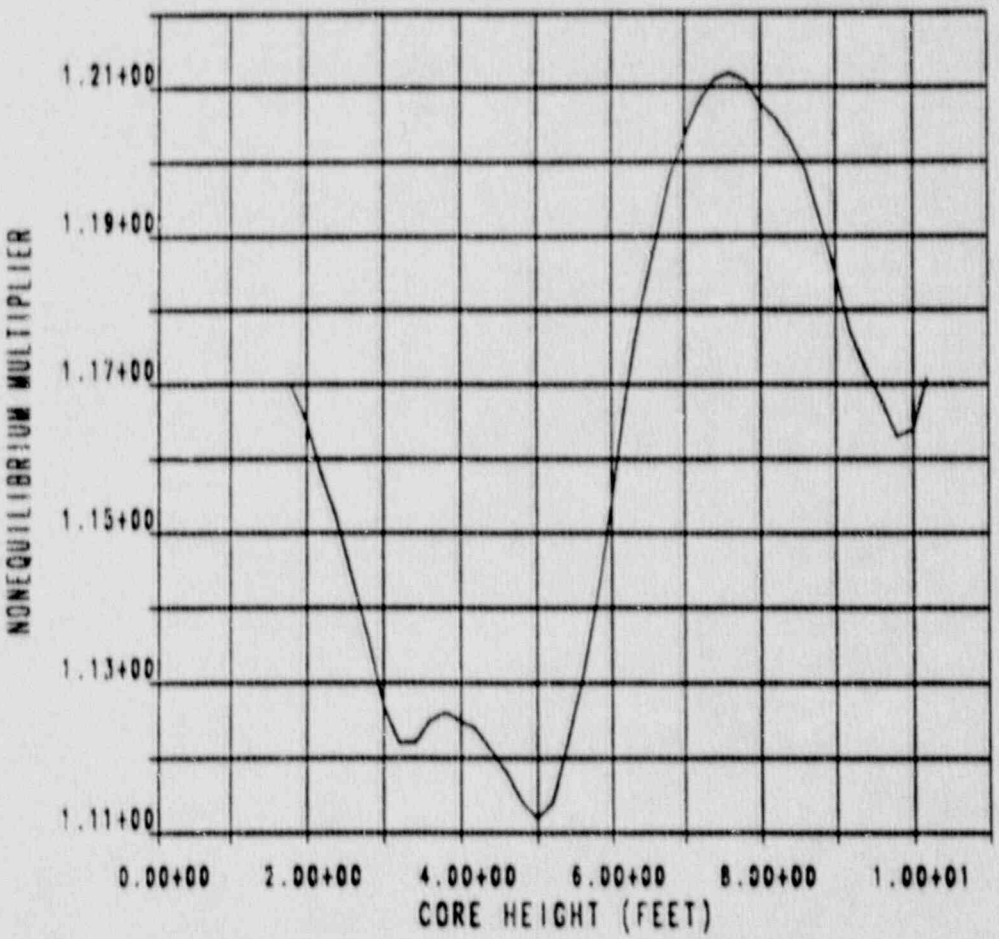
HEIGHT (FEET)	N(Z)
10.20	1.180
10.00	1.173
9.80	1.166
9.60	1.161
9.40	1.157
9.20	1.156
9.00	1.150
8.80	1.149
8.60	1.155
8.40	1.165
8.20	1.172
8.00	1.176
7.80	1.179
7.60	1.180
7.40	1.179
7.20	1.177
7.00	1.173
6.80	1.167
6.60	1.160
6.40	1.149
6.20	1.140
6.00	1.134
5.80	1.131
5.60	1.128
5.40	1.127
5.20	1.125
5.00	1.125
4.80	1.124
4.60	1.126
4.40	1.129
4.20	1.134
4.00	1.139
3.80	1.145
3.60	1.152
3.40	1.157
3.20	1.161
3.00	1.165
2.80	1.167
2.60	1.168
2.40	1.170
2.20	1.174
2.00	1.179
1.80	1.184

FIGURE 2 - N(Z) FUNCTION FOR N2C8 AT 2893 MW
FROM 1000 to 3000 MWD/MTU BURNUP
TOP AND BOTTOM 15 PERCENT EXCLUDED
AS PER TECH SPEC 4.2.2.2.G



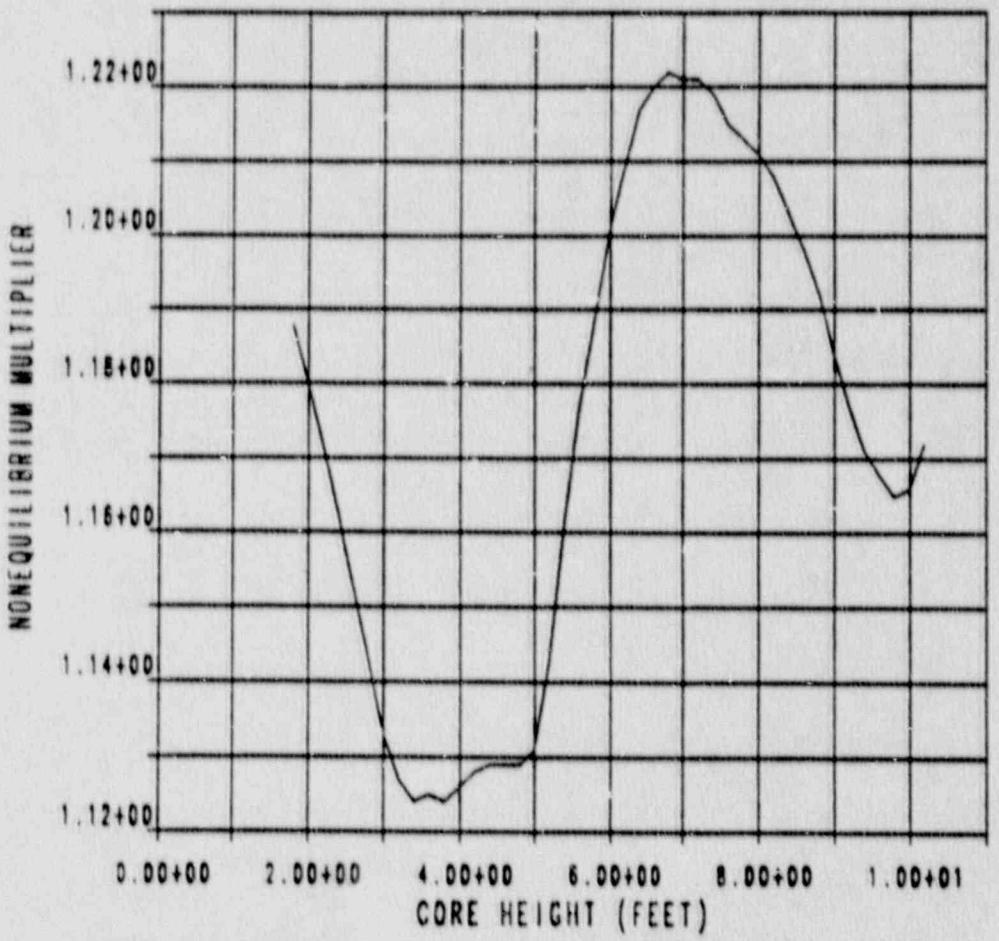
HEIGHT (FEET)	N(Z)
10.20	1.179
10.00	1.172
9.80	1.168
9.60	1.169
9.40	1.171
9.20	1.177
9.00	1.184
8.80	1.192
8.60	1.199
8.40	1.203
8.20	1.206
8.00	1.208
7.80	1.211
7.60	1.212
7.40	1.211
7.20	1.208
7.00	1.203
6.80	1.198
6.60	1.189
6.40	1.180
6.20	1.168
6.00	1.154
5.80	1.141
5.60	1.131
5.40	1.126
5.20	1.124
5.00	1.125
4.80	1.124
4.60	1.126
4.40	1.129
4.20	1.134
4.00	1.139
3.80	1.145
3.60	1.152
3.40	1.157
3.20	1.161
3.00	1.165
2.80	1.167
2.60	1.168
2.40	1.170
2.20	1.174
2.00	1.179
1.80	1.184

FIGURE 3 - N(Z) FUNCTION FOR N2C8 AT 2893 MW
FROM 3000 to 11000 MWD/MTU BURNUP
TOP AND BOTTOM 15 PERCENT EXCLUDED
AS PER TECH SPEC 4.2.2.2.G



HEIGHT (FEET)	N(Z)
10.20	1.171
10.00	1.164
9.80	1.163
9.60	1.168
9.40	1.172
9.20	1.177
9.00	1.185
8.80	1.192
8.60	1.199
8.40	1.203
8.20	1.206
8.00	1.208
7.80	1.211
7.60	1.212
7.40	1.211
7.20	1.208
7.00	1.203
6.80	1.198
6.60	1.189
6.40	1.180
6.20	1.168
6.00	1.154
5.80	1.141
5.60	1.130
5.40	1.122
5.20	1.117
5.00	1.112
4.80	1.114
4.60	1.118
4.40	1.121
4.20	1.124
4.00	1.125
3.80	1.126
3.60	1.125
3.40	1.122
3.20	1.122
3.00	1.127
2.80	1.136
2.60	1.144
2.40	1.152
2.20	1.158
2.00	1.165
1.80	1.170

FIGURE 4 - N(Z) FUNCTION FOR N2C8 AT 2893 MW
FROM 11000 to 16100 MWD/MTU BURNUP
TOP AND BOTTOM 15 PERCENT EXCLUDED
AS PER TECH SPEC 4.2.2.2.G



HEIGHT (FEET)	N(Z)
10.20	1.172
10.00	1.166
9.80	1.165
9.60	1.168
9.40	1.171
9.20	1.177
9.00	1.184
8.80	1.192
8.60	1.198
8.40	1.203
8.20	1.208
8.00	1.211
7.80	1.213
7.60	1.215
7.40	1.219
7.20	1.221
7.00	1.221
6.80	1.222
6.60	1.220
6.40	1.217
6.20	1.209
6.00	1.201
5.80	1.189
5.60	1.177
5.40	1.162
5.20	1.143
5.00	1.131
4.80	1.129
4.60	1.129
4.40	1.129
4.20	1.128
4.00	1.126
3.80	1.124
3.60	1.125
3.40	1.124
3.20	1.127
3.00	1.133
2.80	1.143
2.60	1.153
2.40	1.163
2.20	1.172
2.00	1.180
1.80	1.188